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Summary of Proceedings

1. Background

Rural community in Asia has relatively stronger community organization and trust among the village people, so called “community force.” The Integrated Community Development (ICD) Program of the APO has focused on mobilizing community force for productivity enhancement and rural life improvement. However, it is noticed that characteristic of Asian communities has been changing according to the rapid economic growth of the region. Rural transformation can be seen in the form of out migration from rural areas, diversification of agriculture/ introduction of non-agriculture activities in rural areas, feminization and aging of farming population and others. In order to assess the impact of the rural transformation and identify the implications in future ICD Program, the Survey on Redesigning Integrated Community Development (hereinafter referred to as “the survey”) was implemented in 2004. This survey tried to analyze the relationship between the strength of community force such as unity, close human relationship, trust among villagers etc in a village and development performance of community people. Statistical analysis of social capital was employed as survey method.

This is the third phase of the survey project. The first phase was the three days expert meeting to design the survey in November 2003. The second phase was actual survey implementation in respective 10 participating countries during 2004. Then, the Symposium on Redesigning Integrated Community Development (hereinafter referred to as “the Symposium”) was organized as the third phase to present and discuss the results of the survey. The survey was conducted in 10 member countries by national experts in respective countries: India, Indonesia, Iran, Japan, Lao PDR, Malaysia, Sri Lanka, Thailand, Vietnam and Taiwan. The 10 national experts, who are researchers or community development specialists in respective countries, selected study sites and conducted an interview with villagers based on the survey questionnaires. The survey questionnaires, which were modified from the standard format of “Social capital” research of the World Bank, includes a question asking participation in community organizations and community activities, and asking the trust and cooperation among villagers and with government officers. The questionnaires also include collecting a data on income/expenditure, agriculture production, health status etc. of a household. As such, Basic framework of this survey is that social capital (SC) affects welfare through facilitating collective actions. The 10 country reports were analyzed by Mr. Shigeki Yokoyama and Dr. Takeshi Sakurai, survey consultants, and the regional report of the survey was prepared. The Symposium was held as a forum to present and discuss the results of the survey, and find out the future direction of integrated community development to be promoted in respective countries and the region.

2. Participants

The Symposium was attended by 15 participants from 15 member countries (Bangladesh, Cambodia, Republic of China, India, Islamic Republic of Iran, Japan, Korea, Lao PDR, Malaysia, Mongolia, Nepal, Philippines, Sri Lanka, Thailand, and Vietnam). Nine (9) of them were national experts who conducted the Survey in their respective countries, and remaining 6 were participants who were not involved in the survey process. Therefore, there was some gap in understanding of the topic among two groups. Two survey consultants from Japan, one international resource person from Germany, and two local resource persons also attended the Symposium. Several local persons and researchers of the National Chung Hsing University also observed the discussion of the Symposium.

3. Procedures

The Symposium was consisted of resource paper presentation, field visits, regional report presentation by the survey consultant, country report presentation by 9 survey participating persons, country paper presentation by 6 non-survey participating persons, and workshop discussion. The entire sessions of the Symposium, except the field visits, were conducted in the Collage of Agriculture and Natural Resource, National Chung-Hsing University in Taichung, Taiwan.

The topics of the resource papers were: 1) Social capital and rural community development: Case of Germany; 2) Role of community in economic development: Evidence and issues; 3) Outlines of rural society and rural community development effort in Taiwan. Besides these resource papers, the survey regional report titled as “Empirical evidence on social capital: A synthesis on 10 country reports” was presented by Mr. Shigeki Yokoyama, consultant of the survey. The first two resource papers provided a common understanding on up-to-dated discussion trend of social capital in recent years by citing cases from Germany and developing countries. The third paper was presented as a preparation for the field visits of the following day. The regional report compared and classified 10 survey country reports, and tried to pick up commonalities, differences and findings from the survey country reports.

The participants had an opportunity to observe rural communities in Taiwan which is the midst of rural transformation. During the field visits, the participants visited the Dajian Mayuan Leisure Agricultural Zone, farmland consolidation projects in Sung-guan and Hsing-fu village, and the Soong-ya rural community. The Dajian Mayuan Leisure Agricultural Zone is the case that farmers diversified their agriculture from mere crop production to landscape preservation and small but attractive agriculture which visitors from the urban areas can enjoy practicing farming such as picking strawberry and pear fruits. The farmland consolidation projects enlarged agricultural plots, so that farmers can keep competitiveness in the globalization era. The Soong-ya rural community renewed its infrastructure and equipped with various facilities against the forthcoming aged society. As such, the visited sites shows how rural community has adjusted their rural life and agriculture production system according to the transformation of rural characteristic and how the government supported such community initiatives.

The country reports were presented by national experts who conducted the survey. Each presentation session consisted of 40 minutes presentation and 20 minutes discussion. The country papers were prepared by 6 participants who were not involved in the Survey. So, most of the papers mainly described the situation of rural society, major community development efforts and their problems and challenges in respective countries.

4. Summary of papers

Resource Papers and Regional Report

(1) Social capital and rural community development: Case of Germany, by Dr. Litz Laschewski

More than 15 years after the German unification rural East Germany still remains in a deep economic crisis. Despite huge financial transfers to modernize East German infrastructure and industries, rural unemployment remains on an unimagined high level. European enlargement to the East has exerted additional economic pressure on East Germany particularly because of the apparently sheer abundance of cheap labor force. The fact that both, the physical social and private infrastructure have improved significantly but with seemingly little effect on the economic performance and negative demographic trends raises the question of alternative, institutional and social explanations for the current crisis. In this context the paper explores the concept of social capital. The message of this paper is that different forms of social capital exist that may grow or decline in relation to institutional changes and policy design. However, not all forms of social capital will endure during institutional change, but new forms have to be created. Thus, for such a kind of question East Germany, that has undergone fundamental institutional changes, provides the ideal base. The

paper discusses three forms of social capital in rural areas that has vanished or has been maintained during the transition phase. It will also be argued that the given institutional framework does not offer suitable incentives for the formation of other forms of social capital that are necessary to overcome the rural crisis.

(2) Role of community in economic development: Evidence and issues, by Dr. Takeshi Sakurai

Since cash income is the ultimate means to enhance well-being of rural people, any community development has to seek for income generation in the market. Hence, the question is if there is any contribution of community in it. This paper tries to answer this question based on some empirical examples and shows the role of community in economic development. According to Hayami, communities have advantage in supplying local public goods which can be classified into three categories: (1) conservation of common-pool resources; (2) market development; and (3) social safety nets, and that all of them are based on the power of community relationship in preventing free riders who want to benefit from violating agreements or contracts. This paper presents three examples corresponding to the above-mentioned three categories above from the author's own studies: community forestry in Nepal is the case for (1); rice millers' cluster in Ghana is the case for (2); and aid distribution among villages in Burkina Faso is the case for (3). In Nepal, the structural social capital brought by the establishment of formal forest users' groups has facilitated collective actions to protect community forests. In Ghana, bonding social capital fostered among the clusters of rice millers fosters technology innovation and develops price-quality relationship. And in Burkina Faso, bridging social capital significantly enhances the probability of receiving external aid in case of emergency, implying its role as social safety net. All of them indicate that there is a clear relationship between the level of social capital and the level of income at community as well as household/individual. However, it is not enough to support and/or promote investment in social capital for community development. Finally, this paper discusses four remaining issues: (1) time required to foster social capital, (2) return to investment in social capital; (3) cost of investment in social capital; and (4) inequality of the distribution of social capital. All of them are related to the capital nature of social capital, and as an analogy to physical capital, it is important to know the optimal allocation of resources to investment in social capital. Therefore it is needed to pay more attention on the history of each community in which social capital has been accumulated, and consider the time and money required to foster it.

(3) Outline of rural society and rural community development efforts in Taiwan by Dr. Tsorng-Chyi Hwang & Dr. Kang-Tin Tsai

After long-run modernization process in urban and rural areas, the traditional communities without renewal effort have encountered bottleneck of sustainable development in recent decades. The significant problems are development imbalance between urban and rural communities, and disordered landscapes and land-uses. Against such challenges, the Government of Taiwan has initiated new programs from the viewpoint of landscape and environment such as "Transformation and Reconstruction of Landscape and Environment for Urban and Rural Areas" by the Ministry of Interior. The Council of Agriculture, on the other hand, had made great effort on rural community development itself. General development planning of agriculture villages have been actively implemented since 1987, creating convenient, comfort and prosperous village communities in rural areas. The targeted tasks include soil and water conservation, agri-business development, community and household sanitation, community organization and lifetime education, public facilities, recreation and beautification of scenery. The planning of 400 zones was completed along these policies until 2004. There are other government offices concerning community development from different focuses but supplement each others. Although the government has approved that promoting community development in major economic development policies, there are difficulties in implementing the policies smoothly in many communities. It implies that right measures are to be created and discovered for sound result of community development. Major reasons can be gathered as different voices and inconsistent thoughts among community people,

government units, community organizations, and villagers. As a result, lots of communities are still remained in need of transformation and reconstruction. In this article, some key characteristics of rural society and the various efforts of rural community development in Taiwan were introduced and discussed. Particularly, 6 concrete rural community development projects in Nan-Tou County were explained an example.

(4) Empirical evidence on social capital: A synthesis on 10 country reports was presented by Mr. Shigeki Yokoyama

Reflecting the diverse situations and policy emphasis by country, selected issues and objectives are of great variety. However, some commonalities can be pointed out. First, all the countries are in the mid of transformations. Second, globalization and trade liberalization directly/indirectly has significant impacts on rural socio-economy. Third, these changes present both opportunity and threat for local people. Thus, fourth, all country studies focus on dual goal of growth and equity. And fifth, capturing the emerging opportunities but not degrading social equity and natural environment under drastic change is the question posed. Neither government nor market alone can answer this question. The role of community became crucial in this context. Basic framework of this survey is that social capital (SC) affects welfare through facilitating collective actions. Selected dependent variables indicating welfare at individual level are agricultural productivity, income, health status, and gender issue. Individual behavior such as project acceptance and experience of conflict is used as a direct measurement of SC effect on cooperative attitude. Community level indicators to be explained by SC are development efforts, namely, performance of community activities (irrigation management, road maintenance, rural-urban exchange) and village development status. Participation in and evaluation on formal/informal organizations are measured as an indicator of structural SC. Personal attitude toward ones neighbor and an official is also common research item to measure cognitive SC. To construct a single indicator of SC by aggregating all different factors is a challenge. Many studies sum up ordinal numbers, e.g. degree of trust, of a group of variables measuring same aspect of SC to construct an indicator. Examples are organization participation, human network, cohesion and trust. Major findings are as follows. Participating in functional organization positively affects on agricultural production and innovative farming activities. Participating in bureaucratic organization negatively affects on agricultural productivity. Participation in communal organization negatively affects on health status. Participation in communal organization positively affects on income. Involvement in NGO negatively affects on income. Sharing public goods positively affects on income. Trust in bureaucratic organization positively affects on health status and household expenditure. Trust in government official positively affects on project participation. Trust in neighbor has positively affects on reducing conflict. Aggregated SC positively affects on income among the lower income population but negative among the upper income population. Participation in functional organization has clear-cut positive impact on productive activities in general. However, the impact of social or cultural gatherings is vague. Bonding, bridging and linking SCs are proved to be positive in welfare enhancement. It seems that traditional forms of SC dose not have positive impact (or have negative impact) for upper income population in a market oriented economy, suggesting a need to create new form of SC responding the changing development levels.

Country Reports (Results of the survey in respective countries)

(1) Republic of China, Dr. Shu-Chun Chang

The title of the paper is “A study on effect of structural readjustment on integrated community development: An example from Nantou county. The study aims, through an examination of structural readjustment programs in Nantou County after the 1999 earthquake, to assess the government’s programs on integrated community development and to draw policy implications. To this end, this study explores the impacts of programs implemented by the government in Nantou County communities after the earthquake. The central hypothesis of this study is that the effects of structural re-adjustments by government depend on the degree to which regional economic characteristics are identified. The term “effects” in this

study are measured by “unemployment reduction”, “infrastructure improvement” and “respondent betterment”. This hypothesis is tested by quantitative analyses of data collected from three villages in Nantou County, and through qualitative interviews. In two of the three villages programs were implemented, in the other, no programs were implemented. One hundred individuals were interviewed in each village for a total sample size of three hundred. Quantitative data analyses of the findings show that of the three measurements, “unemployment reduction”, “infrastructure improvement”, and “respondents’ betterment”, “infrastructure improvement” satisfied most respondents in the three survey areas, but in Lugu Township and Nantou City, further improvements are needed in “unemployment reduction” and “respondent betterment”.

(2) India, Dr. Perumal Thamizoli

The title of the Indian paper is “Social capital and rural development: Role of self-help groups in development.” Social capital is a requisite for collective action, applicable for an individual and for a group. It is the relationships between and within social intuitions and organizations it includes rules, networks, partnerships, associations, institutions, roles, procedures, and precedents. The present study makes an attempt to understand the impact of social capital in the role of Self-help Groups (SHGs) in Kannivadi region of Tamil Nadu, India. The influence of the group’s activities would have an impact on the practice, knowledge and perception at the household level, thus the study envisages to find out the impact of social capital at the household income, gender issues and health status. A stratified sample survey was carried and supported with qualitative methods among the households of SHGs member and non SHG members.

The results shows that majority of the respondents depend on agricultural labour and small-scale agriculture for their livelihoods. The difference in illiterates- percentage between the SHG and non SHG samples could be correlated with educational status and membership enrolment in SHGs. Primordial affiliations such as caste and kinship relations and caste identity influence the process of Self-help Group formation. Majority of the members annual earnings have not crossed Rs.20,000/(equal to US \$ 445) and a very tiny percentage of households manage to produce surplus income. The main reasons expressed for credit needs are to meet agricultural expenditures and a few important domestic needs. High attendance rate reflects the members’ involvement and interest to participate in the activities of SHGs. Majority of the groups are women and men exclusive in nature and a small percentage of them are men and women mixed groups.

Horizontal association provides collective strength, which provides a scope to develop vertical association with other organizations. The local bodies and the government departments started identifying SHGs as their partners in the community development programs. The general awareness, communication and negotiation skill have increased remarkably among the members. The members have also gained entrepreneurial skills to initiate market linked micro enterprises. SHGs have brought a considerable improvement in the social status of women both at the household and community level. With regard to the health aspect, the new forum SHG is helping the members to mutually support and discuss about the health related issues regularly. Mutual understanding and cooperation among the members help to develop a smooth working relation and problems were solved through collective action. Recognition, reciprocity and mutual commitment built trust among the members. The trust based association among the members helps them be more objective and empathetic in their approach and gain respect in the wider societal context. SHGs based networks expand the common interests, obligations or felt needs of the members beyond the traditionally identified areas and expectations. These new associations help the members to cross the caste boundaries the traditional rigid social system prevailing in the rural areas. Group helps them to have an access to other institutions and resources, their services and benefits. SHGs provide financial services to match the members’ needs. Social capital is gendered; hence it needs gender mainstreaming approach. There is a very strong positive correlation between SHG membership and Gender and development. Deeper understanding of where social capital emanates would enhance the capacity to develop a better method to facilitate informal, community based institutions at the grassroots level to promote appropriate targets for executing welfare oriented development policies.

(3) Indonesia, Ms. Sitti Bulkis Daud

The paper describes the empowerment process of the Water User Association (WUA) in the area of Saddang Irrigation in Pinrang Regency which has been conducted since 2003 and its impact on project performance and social capital formation. The attempt started with socializing the plans of WUA to government official, community leaders and the board of WUA by Staff of Institute for Community's Socio Economic Studies (LEPSEM). After socialization, the program continue to WUA problems identification as an institution and as irrigation system, carried out by facilitators of LEPSEM, government agencies and board of WUA and some of the members through meetings and mapping irrigation network. Conducted strengthening of institutional in aspect of organizational improvement consists of numbers, chart and board and the objectives are to improve affectivity and efficiency of irrigation management. And for values aspect, rules and norms have been established based on agreement made by the members of WUA through successive meetings. Organization and values improvement stated in statute that functioned as the guideline of WUA. The institutional strengthening has bring about impact to the increasing number of participation most of the WUA members in managing the WUA and irrigation. For example, participation in meetings, community works to repair and maintain the irrigation network, and to pay the water fee. The increasing of farmer participation in managing WUA and irrigation affect the improvement of "togetherness" and "knowledge about WUA, irrigation, and water usage management." With better irrigation management, the water service also improved, which in turn make impact on the increasingly sufficient of water availability for rice and, at least, increase rice production. The improvement of irrigation management brings about the enhancement of farmers' satisfaction and the needs for water supply in their farming operation are fulfilled.

The output of empowerment activity WUA is the development of social capital in cognitive and structural terms. Cognitive development is first; the transparency in WUA management including formation of committees and financial management. This is important to develop mutual trust among the association members. Second, rules were made based on the agreement among the association members, therefore it is expected to enhance their participation in association activities, on the other hand, there should be sanction enforcement mechanisms when the members disobeyed the rules, usually the members voluntarily accept the predetermined sanction involved. The structural development is the establishment of collaboration/ networking between the WUA and other institutions such as Public Works Agency, Agriculture Agency and banks. In order to develop this collaboration, the facilitators arrange the meeting between the WUA and other related institutions; assist WUA to formulate proposal of irrigation rehabilitation planning for Public Works Agency and to propose activities for the Agriculture Office; and promote WUA to save their association fund into the bank.

(4) Islamic Republic of Iran, Ms. Mirta Moazami

The title of the country report of the Iran is "the Impact of social capital on land consolidation project in Arak County." This paper reports on the relationship between social capital and land consolidation. This provides an empirical basis for assessing whether social capital has an impact on the farmer decision to participate in land consolidation. Social capital in this study is defined as social relationships that are available to an individual and offer that individual a flow of benefits. To measure social capital, two types of indicators have been used input and output indicators. The input indicators include solidarity and trust. Trust is further divided into trust to extension agents and trust among farmers. For output indicators, the number of collective activity a farmer participates and occurrence of conflict between the farmers were used. In addition to these variables, age, level of education and the size of farmer's land holdings and others have been assessed against participation in land consolidation. The study shows farmers who have more trusting relationship with extension agents are more willing to accept land consolidation. Age and size of land also have significant relationship with farmer's decision to accept land consolidation. No relationship

exists between the occurrence of conflict between farmers and participation in land consolidation.

(5) Japan, Dr. Seiichi Sakurai

This study investigates the effect of community factors on the development and diversification of rural Japan. Diversification is a matter of great concern in rural communities to revitalize their socio-economies. Many farmers are trying to utilize local resources to promote value added products and to diversify economic activities. To set up these new activities, rural residents' cooperation is indispensable. Therefore networks of residents and other social arrangements should be investigated. Social capital is a community factor which facilitates people to act collectively. Traditional factors of rural society, which may affect the current level of social capital, are also taken into consideration. Awa area was selected as a study site because various types of agro-related activities, namely, agro-tourism, rural-urban exchange, farmers' markets, have been emerged and the structure of regional agriculture was well diversified as a consequence. For collecting data and investigating general characteristics of the study site, community level survey and household level survey were conducted. The method of survey and analysis is based on previous studies, especially on the World Bank style survey, though modified to suit the local context.

The result of community survey shows that structural social capital, horizontal networks in particular which have been accumulated historically, provides the basis of collective actions, contributing to the development of rural diversification corresponding to the demands of the times. Community based organizations, in which members are tied loosely and horizontally, are the basis of collective actions with flexible mindset. It appears that each effort is isolated and little synergy effect is demonstrated. Village key persons also recognize that impacts of spontaneous efforts are limited. The effects of social capital on common regional problems, namely, poor forest management, abandoned farmland and wild animal damages, are found to be weak. Quantitative analysis based on household survey indicates that, although the impact of social capital is not significantly strong compared with physical/human capital, structural social capital affects agricultural production, while the functions of cognitive social capital are uncertain. Qualitative analysis based on group interviews with key persons suggests that diversified community activities, through facilitating networks not only among residents but also urban people have potentials to create new forms of social capital. Rediscovering rural values attracts urban tourists, providing opportunities of widening and strengthening rural-urban linkages. To promote a new linkage among and beyond regions, further mobilization of new human resources is crucial and should be investigated.

(6) Lao PDR, Mr. Ounheuan Siriamphone

The efficient provision of infrastructure services is essential to spur the growth of the real economy by increasing the flexibility in the pattern of production, distribution and consumption of goods and services through strengthened rural-urban linkages. This study aims at analyzing the relationship between rural road network development and community welfare. Special focus has been put on the examination of community participation in terms of planning, implementing, maintaining the rural roads in five villages of Phonhome Zone, Oudomxay Province. The study was implemented in cooperation with the Integrated Rural Accessibility Planning Project which aims at the capacity building in 8 provinces including Oudomxay. This study is to assess the institutional framework, legislation and economic growth to support the road maintenance and to reduce the poverty in terms of increasing income of the community people. The routine maintenance of rural roads by Village Maintenance Committee will be continued in order to increase the ownership of community and contribution their resources to the road maintenance. The good condition of roads will facilitate the transportation of agricultural products to the markets or to more frequent access of buyers to rural villages to purchase community products.

(7) Malaysia, Mr. Abu Kasim bin Ali

The report of Malaysia starts from a brief description of the country profile and a short review on the theoretical framework on social capital. The paper proceeds with empirical results and discussion from a survey of sixty household heads representing six villages in two sub-districts of Kuala Selangor, Selangor State in Malaysia. This study found that the three welfare indicators studied (rice yield obtained, health status and household expenditure per capita) are influenced by a few community factors or social capital variables as well as human capital and other household's characteristics. Based on the coefficient of the social capital variables generated from the analyses, its impact on community development in Malaysia is at most minimal, at least under the present development policies. Human capital variables, proxies with years of formal education, contribute positively to productivity as well as health status of farmers studied. Therefore, investment in education is important to enhance the livelihood of the farming community. This study revealed that in terms of the quality of life, reflected by the per capita household expenditure, they have a better standard of living. An increase of one hectare in land size (owned and rented) will swell household monthly per capita spending. Improving income level alone cannot solve some of the social problems prevailing in the study area. Thus, investment on social capital within the area is proposed for future community development. Specific policies and strategies aiming at enhancing social capitals, supported with programs and budget allocation is deemed crucial to hasten our general community development. This study does not cover the whole spectrum of the focus groups. All respondents are Malay of the Javanese stock. Their belief and cultural behavior may not provide sufficient variations for more meaningful results. Besides poverty groups based on occupation such as farmers and fisherman, there are also regional poverty issues such as those in East Malaysia, East Coast and the indigenous population of the country. A bigger and more comprehensive study covering larger samples is required to understand the effects and role played by all community factors on national community development.

(8) Sri Lanka, Mr. Palitha Ekanayake

The investigation of the effects of social capital on productivity, income and poverty reduction is the major concern of this study. The poverty in Sri Lanka remains as a critical a rural phenomenon. Rationality of this study draws from three premises: need for redesigning, rebuilding and retooling capital endowments of all poverty reduction programs through introducing the missing-link of social capital. The conceptual study framework is based on primary data collected on 540 households of 32 villages sample selected from 4 districts in Sri Lanka.

There are four significant conclusions of this study: 1) Direct impact of social capital on mutually beneficial collective action process and effectiveness as a capital endowment with new dimension for rural community development; 2) Complementary role of social capital that is essential to enhance the benefits of other factors of production including the market related infrastructure; 3) Urgent need for new form of social capital ensuring the sustainability, harnessing social capital through empowerment and partnering all stakeholders for meeting the needs for modern market economy ensuring positive income effects; and 4) Social capital element included in human and physical capital and its powerful role generating income to household units. There are ample evidence to ascertain that the households with market based societal relations are enjoying better income levels than those who are with traditional form of social capital. It's interesting to find out that the traditional form of social capital is no longer applicable enhancing the household income. Alternatively, it has already demonstrated an urgent need for new form of social capital and redesigning the whole gamut of poverty reduction programs, because the integration into the market economy has transformed into a modern society in Sri Lanka. The productivity of social capital is nothing but it is a process of enhancing the household income with integrated efforts to community-driven development, making markets work better for the rural poor. The policy implications of this study support the redesigning an integrated community development process with a new form of social capital suitable for market-oriented, resilient rural sector. The social capital by itself is not a solution for rural poverty reduction unless making it as a facilitation element of development combining with other form of natural, human and

physical capital. Therefore, the concept of complementary role of the social capital could be the major issue of the redesigning community development process. In summary, formation of new type of community organizations with wider institutional framework facilitating the needs of the markets, strengthening social capital through broad-based community development process, promotion of social capital in order to enhance the efficiency of the other capital endowments making it to pay a complementary role in the community development, ensuring stakeholder partnership, allowing village level communities to take the lead, making the redesigning process with community-driven rather than government-driven and linking the rural sector to the dynamic markets and improving the market access through market related infrastructure building.

(9) Thailand, Ms. Anchalee Jarassamrit

This study has three main objectives: 1) to analyze correlation of most influencing variables that affect the development status of villages, 2) to investigate factors affecting rural poverty, and 3) to get recommendations for improving the quality of socio-economic baseline survey for the next development period. In order to achieve those objectives, data collection was done in 2,532 villages throughout Thailand. The questions in the questionnaire consisted of questions in the previous NRD 2C and newly designed questions focusing on social capital issues. After data verification process, 120 variables and 1,504 cases left for the factor analysis.

As a result of the study, it is found that there are 15 factors that have effects on development level of the villages. Those factors include: basic characteristics of the villages, education of the villagers, health condition of the villagers, migration to work in Bangkok, working in industrial factory, rice consumption, rice production, environment, change in unemployment and poverty, fertilizer used, distance between village and TAO, public services, drought, poverty and unemployment, and community forest. Factors in higher order affect the village development more than lower ones. It can be said that basic characteristics of the village are the most influencing factor to development of the rural village. As for village classification, the 1,504 villages can be divided into two groups by the order of factor scores. First is a group of villages which have factor score bigger than 0 (above average) and the other have factor score less than 0 (below average). However, it is found from the study that some figures in the NRD 2C questionnaire are very difficult to verify, and some are less utilized for the users. Those should be considered to be eliminated from the questionnaire. Therefore, the objectives of the NRD 2C and target users should be determined clearly for improving of questions, indicators and questionnaire. Finally, the agencies concerned should more emphasize questionnaire design, data entry, data processing program, and also final output. To meet those objectives, the manual for NRD 2C utilization has to be revised.

(10) Vietnam, Mr. Mai Huu Tuyen

The title of the country report of Vietnam is “Key factors for community development programs in Vietnam.” The survey was conducted in 6 villages of Bac Giang province, where community programs on technology and environment were already conducted. The main purpose of the survey is to find out what is key factors which contribute to the success of community programs. Bac Giang province is located adjacent to the economic hub of the north. It has more than 1.5 million people, 870,000 of which are of working age. The 6 selected villages are located along the National Highway 1 and have different geography, including midland, lowland, dry land and wetland.

The survey was conducted based on a designed questionnaire. Around 10 households in each village were randomly selected for conducting the interview. The interviewed households can be divided into; 1) families with high income; 2) families with medium income; and 3) families with low income. The level of analysis was based on both community – level and household – level factors. Results of the survey show that the key factors affecting the success of community development programs, from the local community point of view include support policies, technology, capacity building, technology transfer methods, community participation, promotion and financial contribution. Technology and capacity

building are more important compared with other factors. From the household point of view, technology and financial support are more important aspects. The point of view is different between rich, medium and poor households. For rich and medium households, technology is an important aspect, while this aspect is less important to poor households. It can be seen that the households still rely heavily on financial support from the government. Through the implementation of the survey, and experiences of other development programs, awareness, investment, participation and technical assistance, are identified as most significant difficulties for successful implementation of community. Investment and technical assistance are two issues that need to be considered from the point of view of both the local community and the household level. Based on the findings of the survey, following ideas are suggested.

1) The participation of villagers during the planning period is very important since this program is developed to serve their critical needs in the community; 2) In order to persuade villagers to implement the new technologies, the benefits of these technologies should be shown through tangible results from the implementation; 3) Participation of different unions in the villages such as Farmer's Union, Youth Union, Women's Union, etc. is also very important for the success of community programs; 4) Promotion should be carried out to gradually change the habits of villagers to accept the new technologies and new concepts.

Country Papers (Papers prepared for the symposium by the participants who were not involved in the survey process.)

(1) Bangladesh, Mr. Mustafizur Rahman

The title of the paper is "International Education – An effective medium for HIV/ AIDS Awareness Raising amongst Community People." Frame up an effective and sustainable HIV/ AIDS education programs in institutions (education, religions, welfare, CBOs, NGOs etc) which need joint efforts of all concerns to reach the mass people, especially the community people, is one of the biggest issues of rural community development in Bangladesh. Against this challenge, the Program on International Education has been started in Bogra Sadar Upazilla of Bogra District. People are involved in different anti-social activities, which have made the area dangerous and alarming for HIV/ AIDS. Therefore, the organization has selected the sites as the study areas. The program has been working on the project areas for a long time and has been implementing different kinds of development activities like awareness-raising, capacity building, group-formation, health education, human rights education, prevention of HIV/ AIDS and elimination of anti-social activities, rural water and sanitation, social afforestation, skill development training etc. Apart from these, different local NGOs, cooperatives, educational institutions, religious institutions etc have been working on HIV/ AIDS prevention in the areas for the safe lives of the poor and vulnerable people. The program has been focused on developing a self-initiated peer education program with those institutions to generate intensive messages on HIV/ AIDS/ STDs, peer educators, who have been trained, are implementing education and counseling activities for the vulnerable people of the community. It is expected that mass people will be aware and knowledgeable on HIV/ AIDS and its dangerous affects. A good number of peer educators have developed in different institutions and they have been providing HIV/ AIDS prevention education among the community people, who have already been made aware. The institutional heads have been taking care of their concerned people and educating continuously. Already 5000-7000 people have been covered successfully in the collaboration with the institutional management and they participated in various community events and they themselves have accepted these activities and are demanding different types of Information, Education and Communication materials to be distributed among their groups. It is learned from the program that cooperation among all concerned and local authorities allows increased access to the community people and mass people is an effective means to reach them and sustain the HIV/ AIDS awareness continuously. Reflecting from the program experiences, it is recommended that present system should be upgraded through ensuring active participation of all levels and introducing updated and scientific information and communication means.

(2) Cambodia, Mr. Ly Savuth

This Country report introduces the poverty reduction policy in Cambodia. The policy has been conducted through out in nation wide specially in the rural areas by a rural development structure. The report starts with a brief introduction of general situation in Cambodia, then focus on the poverty reduction policy of the government and rural development structure from the national level to the local level. The following points are described as basic natures of rural development: 1) Factors affecting poverty; 2) Integrated rural development objective; and 3) Mandate of the Ministry of Rural Development. The report also presents the situation, and the historical development of last 25 years, which is process in three main approaches. The first approach is a central planning (1979-1987) that every action was arranged by the central government and the local authority. The second is individual farming approach (1987-1992) that the activities were done by each family, yet still under the arrangement of the government. The third one is integrated approach (1993-Present) that every activities are being participating by all involve agencies, civil society, private sectors and beneficiaries. It also reports on the major achievement since 1994 to 2003 and major constrains of the integrated community development, as well as the solution to overcome those constrains. The report identifies lesson learned for last 25 years in community development. As a conclusion, the report shows that in order to achieve the government policy on poverty reduction, it should be done by an integrated community development structure base on close cooperation between the government agencies, donors, civil society, private sector and the participation of the rural population.

(3) Republic of Korea, Dr. Young-Saing Kim

The report describes the trend of social and economic changes in rural community since 1982. It is essential for the integrated community development practitioners and policy makers to understand the impact of rapid industrialization and urbanization of rural communities. The industrialization has a huge impact on the direction of rural communities' social development. Firstly, the isolation of each rural community reduces, and the openness to other community increases. Secondly, numbers rural population, agricultural households, and agricultural population substantially decrease. Thirdly, the traditional family-oriented small farming style is shaking, and new corporate farming organizations which are aiming at commercialized agriculture increase sharply. Fourthly, traditional values based on the neo-Confucianism are being dismantled; therefore new modernized values and system have been introduced to rural communities, and new type of rural community is emerging. A couple of social indicators which describe the mega trends of Korean rural communities are presented, such as material and financial conditions, social openness, farming population/household, income from out of agricultural activities, farming on lease contract, urbanizing consumption pattern, commercial farming, mechanizing farming, changes of values, primary enablers of cooperation, and new communities based of industrial society. Several cases in which the mega trends are emergent are analyzed to depict the differences and commonalities of the several communities in different settings. The new framework, for which practitioners and policy makers need to understand how rural community evolves and how to make rural community better, is presented.

(4) Mongolia, Orgil Batsukh

Mongolia is developing country, moving from a centrally-planned economy to a market economy since the 1990. With 2.5 million inhabitants, it is one of the least densely populated countries in the world, 1.7 inhabitants per km². Half of the total population lives in rural areas and their life mainly depends on livestock, and the majority of them are semi-nomadic herders. In 1990, 33 percent of all workers were employed in the agricultural sector, that figure had grown to 44.5 percent in 2004. Over the same period, the national herd has increased by 30%. Despite the impressive livestock numbers, it should be noted that less than 50% of the herder households own enough number of livestock to be viable under present condition. The consecutive Zud (severe winter) of 1999-2000 and 2000-2001 have meant the

loss of some 7 million heads of livestock, and the number has not yet fully recovered from this calamity. In 1990's, at least 60% of deep water wells fell, which were built in the socialist era, are out of operation in rural area. The water shortage had also negative impact on the availability of pasture. After the transition in 1990, people had to pay for everything such as like education, veterinary service, well rehabilitation etc. This is an additional burden for poor people.

Poverty is the one of the biggest problem in Mongolia, especially in rural areas. By 1995, it was estimated that over one third of the population were below the poverty line, and more than half of the rural population belong to the poor and vulnerable groups. To alleviate or reduce poverty, it is important to address the problems causing the roots of the poverty, in other words to increase the agricultural production, which is main source for their livelihoods in rural communities. In this report, initial outputs and result of the Rural Poverty Reduction Program implemented in Arhangai, Huvsgul, Bulgan, Hentii Aimags (provinces), are presented. The purposes of the Program are to strengthen the capability of rural people to access to economic and social resources, including education, health, micro finance, and to establish social networks through rural community-herders group participatory.

(5) Nepal, Dr. Govind Prasad Dhakal

Nepal has had adopted planned course of socio-economic development so as to justify the meager resources to fulfill the ever increasing needs of the country. As a result, many areas of development are well addressed but many are still gray areas. Imbalance between gender, regions, and communities is still prevailing. To ameliorate the poverty of the majority of people and to uplift the overall condition of the country, Nepal adopted many policy measures and implementing strategies. Among them, community development model of rural development is one based on the experience of USA and India in the beginning of 1950 when the country first experienced the modern form of democratic system, then the Panchayat development model, a modified form of community development, followed by integrated development model, small farmers development model (still being run), remote area development model or target group development approach. Some of these models have successfully accrued benefits where as others remained to the ground. Recently, Nepal has initiated the rural community mobilization for the socio-economic upliftment of the rural community. Micro-credit is being attached to support the community mobilization. However, many more things have yet to get success in the socio-economic development of rural community.

This paper has tried to sketch the policy predicaments made by Nepal concerning to community development. It also tries to incorporate the decentralization efforts for the successful implementation of community development program. The paper has specially focused on the recently passed Local Governance Act to accelerate the decentralization process, so that the local community itself would be able to not only identify the issues of development around them but also would be able to address them within their own capacity. As a result, most of the functions, which are of local nature, have been already transferred to the local bodies (VDCs, DDCs and Municipalities). The paper at the end has presented a case study of a Village Development Committee's picture to assess the overall decentralization and the participation of a rural community for the development of their own area.

(6) Philippines, Ms. Julie Catherine Dacanay Paran

The paper of the Philippines is titled as "Developing Agrarian Reform Communities in the Philippines." In the 1990s, a new method of agrarian development was introduced in the Philippines that focused on *Agrarian Reform Communities* (ARCs) to support a major program of the country, the Comprehensive Agrarian Reform Program (CARP) that was implemented since 1987 up to the present. The major components of the program to develop the ARCs consisted of a project to support Land Tenure Improvement (LTI) and the Agrarian Reform Beneficiaries (ARBs), with the latter being formulated as a project to establish

economic, physical and social infrastructure. The Agrarian Reform Infrastructure Support Project (ARISP) was implemented in 1996 in 79 ARCs nationwide. Funded by the Government of Japan, it aimed to provide a range of support services to farmer beneficiaries of land distribution under the CARP that included the construction of economic infrastructure such as irrigation, post harvest facilities, farm-to-market roads and the provision of institutional development assistance addressing the requirements of the selected organizations in the community. The project was designed to improve the productivity and income levels of farmers' households in the participating ARCs. Using data from 16 out of 79 ARCs, research results indicate that ARISP 1 has had a positive impact on farmer beneficiaries and has improved the productivity and income levels of farmers' households in the communities covered. It has been shown that the immediate objectives to increase farm production, productivity and cropping intensity (irrigation component) have been achieved. Also, the farm to market roads generally resulted in reduced travel time, transport costs and improved access to markets. Solar driers contributed substantially to reducing moisture contents and have helped the farmers in getting fair prices for their produce. However, the post harvest facilities particularly the warehouses were underutilized and were not effective in reducing post harvest losses and the improvement of quality of farm produce mainly because of the deficiencies in technical design and construction of the facility. The Institutional Development Component proved insufficient and not well integrated with the other components of the project. Although, it has to a certain extent improved the capability of the recipient organizations (cooperatives and irrigators associations) in managing the facilities and the general affairs of the respective organizations, it has not been sufficient to capacitate the organizations as intended.

5. Conclusion

The modest result of the survey in 10 countries is that the degree of community force such as unity and mutual trust in a community and development performance of a community has positive co-relations to some extent. Other interesting findings are as follows:

- 1) Participating in functional organization positively affects on agricultural production and innovative farming activities. Participating in bureaucratic organization negatively affects on agricultural productivity. Participation in communal organization negatively affects on health status, but positively affects on income, while involvement in NGO negatively affects on income. This may mean that poor and/or weaker sections of a community tend to depend more on communal organizations and NGOs.
- 2) Sharing public goods positively affects on income. Trust in bureaucratic organization positively affects on health status and household expenditure. Trust in government official positively affects on project participation. Trust in neighbor has positively affects on reducing conflict.
- 3) Aggregated SC positively affects on income among the lower income population but negative among the upper income population. Participation in functional organization has clear-cut positive impact on productive activities in general. However, the impact of social or cultural gatherings is vague.
- 4) Bonding, bridging and linking SCs are proved to be positive in welfare enhancement. It seems that traditional forms of SC dose not have positive impact (or have negative impact) for upper income population in a market oriented economy, suggesting a need to create new form of SC responding the changing development levels.

The national experts who conducted the above mentioned survey, participants, and researchers of the National Chung Hsing University discussed the survey results and identified the following implications towards the future ICD Program:

- 1) Community forces, such as unity and trust among village peoples and community organizations, still play an important role even in transforming rural areas. Particularly, the poor people and the weaker section of a village more depend on community forces for

their survival. Therefore, it is worth refocusing on community forces to implement the ICD Program:

- 2) It is recommendable that public goods development projects in rural area, particularly community-level infrastructure development projects, should be implemented by promoting communal effort as much as possible. Such an effort may strengthen social safety network function of a community without spending additional financial resources.
- 3) Strengthened trust among villagers as well as between villagers and government officers may promote wider participation of community people in development projects, and consequently will contribute to improving rural life and sustainable community development. Thus, to strengthen a facilitation mechanism among stakeholders will be a challenge of the ICD Program.
- 4) Network building between rural community and urban sector or outside market should be addressed by the ICD Program in future.

Identifying a means to create and increase a new form of social capital which responds to new development stages of the member countries is a next challenge. The ICD Program will examine the results and findings of the survey and try to incorporate the suggestions of the symposium for further improvement of its program activities.

The formation and destruction of social capital - lessons from East German rural restructuring

Lutz Laschewski¹

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1 Introduction

More than 15 years after the German unification rural East Germany still remains in a deep economic crisis. Despite huge financial transfers to modernise East German infrastructure and industries rural unemployment remains on an unimagined high level. European Enlargement to the East has exerted additional economic pressure on East Germany particularly because of the apparently sheer abundance of cheap labour force. The fact that both, the physical social and private infrastructure have improved significantly but with seemingly little

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effect on the economic performance and negative demographic trends raises the question of alternative, institutional and social explanations for the current crisis.

In this context the paper will explore the concept of social capital. In recent years social capital has been identified as a key element for successful rural development. Yet, social capital is often discussed as if it could be handled like a physical entity, that has durable existence independent from the basic state institutions and that it simply can be used as an additional ingredient and precondition for externally initiated development plans and interventions. The message of this paper is that different forms of social capital exist that may grow or decline in relation to institutional changes and policy design. However, not all forms of social capital will endure during institutional change, but new forms have to be created. Thus, for such a kind of question East Germany, that has undergone fundamental institutional changes, provides the ideal base.

The paper will discuss three forms of social capital in rural areas that has vanished or has been maintained during the transition phase. It will also be argued that the given institutional framework does not offer suitable incentives for the formation of other forms of social capital that are necessary to overcome the rural crisis. Therefore, first I will discuss the concept of social capital and its relation to rural development. Second, the legacy of the socialist rural regime and its transformation during the recent years are described. Third some basic patterns of rural change in East Germany will be presented. Finally, the forms of

social capital and the trajectory of their development are discussed.

2 Social Capital and Rural Development

By very broad definition social capital can, first, be understood as the capability of social groups to act collectively. Second, social capital is also described as an individual resource resulting from somebody's social position within a particular field of action. There is no agreed definition of social capital (see Woolcock 1998, Dasgupta and Serageldin 2002). However, four common aspects of the scientific discussions can nevertheless be identified (Pretty and Ward 2001):

- Social Capital is generally associated with trust. Trust reduces the costs of control. A lack of trust makes the realisation of co-operative solutions more difficult.
- Social Capital is also associated with reciprocal exchange relations. Simultaneous exchange on the basis of roughly equal exchange is called specific reciprocity. More important in this regard is diffuse reciprocity. Diffuse reciprocity refers to exchange within lasting relationships which does not expect an immediate service in return for the service rendered, but is only connected with the expectation of a future service in return.
- Common rules, norms and sanctions are another important element of social capital and place collective interests above individual interests to the extent that it is mutually recognised. By this means, individual action is constrained

but at the same time made possible because individual rights can be safeguarded and do not have to be constantly affirmed.

- The fourth aspect comprises the nature, content and extent of social relations, the networks of the local actors themselves and their relations to other (external) actors and networks.

Network theory plays an important role for both definitions of social capital. It also relates social capital to the concept of power. First, social capital as an individual source of power derives from one's social position within a network. Centrality of a social position is among the most common measures to describe positional power. However, the most central position within a network may not always be the most powerful position (Jansen 1999, 121 ff.). A second and for our analysis even more important result of network analysis is that social capital derives also from those positions that link different networks. Such weak (social) ties (Granovetter 1973), which bridge "structural holes" (Burt 1992) constitute social capital too.

From a network theory perspective, individual social capital and collective social capital are not necessarily exclusive. The first argument in favour of this statement is that the network position can also be described for a group of actors or even of networks themselves. Second, some forms of individual social capital have clearly been identified to strengthen collective social capital too. For

instance, the structural autonomy of actors, which derives from the ability to bridge structural holes at so-called "cutpoints" (Burt 1992), is an individual form of social capital. As social capital theorists argue, the density of social linkages between networks is a form of collective social capital which is based on such actors and brings about trust and norms of reciprocity on which successful co-operation is based (Putnam 1993, 173). In this sense collective social capital goes along with structural autonomy of many people.

Many of these issues addressed by social capital theorists have been put forth by rural sociologists under the label of "endogenous" development (e.g. Van der Ploeg/Long, 1994, van der Ploeg/van Dijk 1995), and in German speaking countries as "autonomous" development (Pongratz/Kreil 1991). The main idea of this debate was to draw on internal community resources for rural development rather than to rely on external support. This general idea has been subject to further elaboration in line with Woolcock's (1998) argument that social capital is not only the ability to draw on intra-community resources, but also related to the existence of linkages to extra-community networks. A similar idea was brought forward by Lowe et al. (1995). They say that there might be the case that peripheral regions may not be able to generate development from within. Therefore, they plead to go beyond endogenous growth models and "recognise and indeed celebrate interconnections between areas and between networks" (Lowe et al. 1995, 104). They stress the issues of participation and

power within the development process. Empirical findings appear to confirm this view (Terluin 2001).

The crucial aspect of endogenous growth is that it draws on social capital as the ability to mobilise the potentials of an existing 'active society' that will generate entrepreneurs, and self-help institutions from within. In the recent debate, more and more scientists have stressed the diversity of local potentials. Related to this are two practical issues: How is social capital built and how is it related to the institutional environment provided by the state and is it affected by state interventions?

Putnam (1993) described social capital formation as a centuries lasting process. In this sense, social capital is a cultural tradition and has to be treated as an exogenous variable (Paldam/Svensen 2000, 347). It may be argued that the low rate of social capital formation is due to little rational consideration of its development effects. Currently, it appears to be an open question in how far social capital formation can be influenced at all. Often it comes about as a positive externality of activities aiming at another purpose. An optimistic view is to invest into institution building strategies and attempts to encourage co-operative movements within development policies. However, experiences indicate the huge difficulties and the slow progress made (ibid.).

One basic problem is seen in the role of external and in particular state agencies

to enforce participation. Many scientists argue that there is little or no opportunity for the state to contribute to social capital formation. Indeed, the basic idea of social capital refers to voluntary sector activities, and self-enforcement rather than third party enforcement. "Attempts by third parties - as public authorities - to enforce social capital may thus be counterproductive (Paldam/Svendsen 2000, 366). Warner (1999) questions this view. Her argument is that it depends on the local context, i.e. the local power structures, what effects will come from policy influences. Referring to Woolcooks' (1998) concept of linkage, she argues that the structure of autonomy and linkages determines how communities respond to external influences. It is, in particular, in communities characterised by hierarchical social capital and weak or patronage government systems where outside support is required. In this context, devolution may be counterproductive. The idea of hierarchical social capital itself draws on the concept of paternalism (Schuman and Anderson, 1999). Paternalism describes a particular social setting that is rather common in rural places. I think that its basic characteristics are important for the understanding of rural East Germany (and probably other Central and Eastern European countries, too).

3 Paternalism, its nature and transformation

The concept of paternalism has been used to describe a traditional form of

authority². Basic elements are the differentiation between classes, concentration of power and identification of the subordinate class with the members of the dominant class. The particular context of paternalistic systems is the industrial society starting in the late 19th century. The basic characteristic of a local paternalistic system is the *existence of a large firm in a relatively isolated geographical context*. Due to its domination of the local labour market, the firm is also dominating all other aspects of community life. However, the second feature of paternalism is an ethic of social responsibility among the dominating class. Due to this moral orientation the elite tends to provide and support a wide range of social services and facilities, such as housing, health care and schooling.

Over time more and more aspects of local life are structured around the dominant firm, either symbolically, e.g. by naming public places after the firm or their owners, or physically, for instance by developing housing areas close to the plant. The close interrelation of the firm with the local community leads to the situation that the history of many families is closely connected with the history of the firm. The recruitment of new staff is, therefore, typically oriented towards such family networks, and the identification of the employees with the firm is usually very high. Typically, we find a clear gender division of labour and a strong male domination within such a system. Private and workplace

² In the following, I refer, in particular, to Ackers and Black (1991) and Newby (1978).

relationships overlap due to family employment, the firm's influence on the community life and the existence of occupational housing.

Generally, paternalism is seen as being connected with family ownership and the idea of the owner-managed firm. However, under western style capitalism many family firms have been transformed into companies with a diversified owner structure. Furthermore, there evolved quasi-paternalistic systems in nationalised industries (e.g. coal mining in Britain). Likewise, such systems developed under socialist conditions in Central and Eastern Europe. Here, the state as a body and his representatives in persona are in the position of the dominating class of the owners.

There are different opinions on the degree of unionisation in paternalistic systems within Western economies. While, for instance, in Britain's industry, most well known paternalistic employers have long encouraged and well-organised trade unions, in the US, paternalism is widely described as a structure that fought against unionism. However, paternalism produces paternalistic trade unions. Those tend to be small and parochial locally based organisations.

In many cases, paternalism is understood as reminiscence of early industrial times. It is argued that industrial paternalism has vanished because of bureaucratisation and the withdrawal of family owners from management. However, as argued above, forms of paternalism can also be identified without

the existence of the family owner domination. Paternalism has also been identified in non-industrial sectors, such as agriculture. Hence, what appears to be more significant are social and economic changes, which undermine paternalism in western societies. On the one hand, the economic base of paternalism, which is usually connected with the primary sector or traditional industries, has come under immense pressure because of forced global competition. On the other hand, the geographical isolation has decreased in line with increasing mobility, and as a consequence geographically expanding labour markets.

In an ideal type situation, we would expect that the transformation of paternalistic local structures would allow for more independent local policies, a smaller influence of the dominating firm on the local social life, and scope for new entrepreneurial activities. In a word, the ideal development is characterised by a stronger differentiation of private, public and voluntary sector institutions and the involvement of a wider range of local actors.

However, in many cases the experiences are rather different. First, we find that the development of a small business sector, which is able to compensate for job losses and constitutes the base for an active society, is rather the exception than the rule. The arguments for that are manifold (e.g. Rees and Thomas 1991, Laschewski 2000). Some stress explicitly the subjective barriers of workers to become entrepreneurs. It is no doubt that it means a huge psychological effort to

overcome the habitus of a “Deferential Worker” (Newby 1978), and develop entrepreneurial spirit. However, the structural barriers are also huge. Many workers with similar knowledge and experiences start to seek for opportunities in an environment that does not offer many. Under such conditions, long-distance commuting or migration often offers a more realistic chance for many, while the new entrepreneurs have often been the middle managers or specialists of the former dominant firm before. As a social consequence, we observe the evolution of new middle classes and also of a large social group of losers (e.g. Schuman and Anderson 1999).

Due to the weak development of the business sector the old paternalistic firms’ (or its successors’) position remains, despite economic decline, rather dominant in the local labour market. Moreover, they have still control of important local resources, such as land, local housing estates etc. Nevertheless, those firms tend to withdraw from social activities. Therefore, voluntary activities face severe constraints due to lack of support.

In the following, it is argued that local rural structures in the former GDR can be understood as quasi-paternalistic structures. Therefore, the experiences made in East Germany are to a large extent comparable to the development in other rural areas where paternalistic local structures came under economic pressure.

4 Rural structures in the GDR

Under socialism, a system of large-firm paternalism evolved, which was specific for rural areas in the GDR since the 1970s. This system was based on:

- concentration and collectivisation of small business in large companies organised either as co-operatives or state firms (for these processes in agriculture see Laschewski 1998, for industry and service see Albach and Witt 1993).
- regulation of the labour market and also the housing market within planned economy. Due to the artificial isolation based on regulation, the type of rural paternalism, which will be described below, also existed in accessible locations.
- monopolistic domination of the socialist unity party, together with a caring ethic within the socialistic ideology.

Rural employment was largely based on agriculture and industries. The latter were located in larger rural towns. Locally there may have been other large employers, such as the army or tourist resorts. However, for most villagers there were two main employment options: either being employed by the local agricultural (co-operative or state-owned) firm or to commute to the next town. In particular in the remoter rural areas, agricultural firms employed up to a third of the labour (Rodewald and Siebert 1995). However, only about 60 percent of

the jobs in such firms were agricultural jobs. Beyond those, there was a wide range of activities such as administrative and social services, building and construction, food processing, technical services and transportation (BMELF 1991, Großkopf and Kappelmann 1994).

Agricultural firms provided a wide range of services for the community (Parade 1998). Within the rural communities a transfer of functions from the municipality to the agricultural firm took place, which in many cases was accompanied by a power transfer from communal bodies to the firm. Frequently, chairmen of agricultural firms were more influential than local mayors were (Zierold 1997). Owing to financial restrictions of the municipality and the general supply shortages under socialism, agricultural firms were the central investors in local infrastructure (e.g. local roads, village halls) and suppliers of a variety of local services. As villages were greatly dependent on agricultural firms, that infrastructure was mainly in the interest of the firm. Agricultural firms were the main users of roads, they needed halls for their own assemblies and built houses to attract workers.

For social and cultural activities, too, use had to be made of facilities provided by agricultural firms. Social and cultural funds were sponsored by firms which also provided transportation or other services. In some cases, clubs (e.g. horse riding) were founded and supported by the firms. Often, agricultural firms initiated cultural events for the community (Zierold 1997), and social events for

pensioners. Further social services that were usually provided by agricultural firms were child nurseries, canteens, holiday homes and camps. Since in almost every village family somebody was employed in an agricultural firm, a firm event was almost ever a village event, too.

Unfortunately, there has been little research on personal relationships among villagers and agricultural firms. The position of the chairman of the firm had, as already mentioned, been fairly strong. However, he or she was usually a party member, and therefore bound to party decisions. Otherwise chairmen were also mostly integrated into dense family networks within the community. Studies made after 1990 indicated that 'old peasantry' continued playing a distinctive role within many communities (Brauer, Willisch, Ernst 1996, Laschewski 1998). An important part of the population were refugees from the former Eastern parts of Germany, which had been settled in rural areas after the Second World War, and mostly started with huge difficulties as 'new peasants' after the land reform of 1945.

There has also been little research on the participatory practice within firms and villages. Formally, the democracy particularly within agricultural co-operatives was very strong. However, at the firm level, there was no realistic chance to influence economic plans made by state authorities. Representation through unions was also very weak and the labour regime comparatively rigid. Otherwise the board of the cooperative consisted of about 15 to 20 people out of

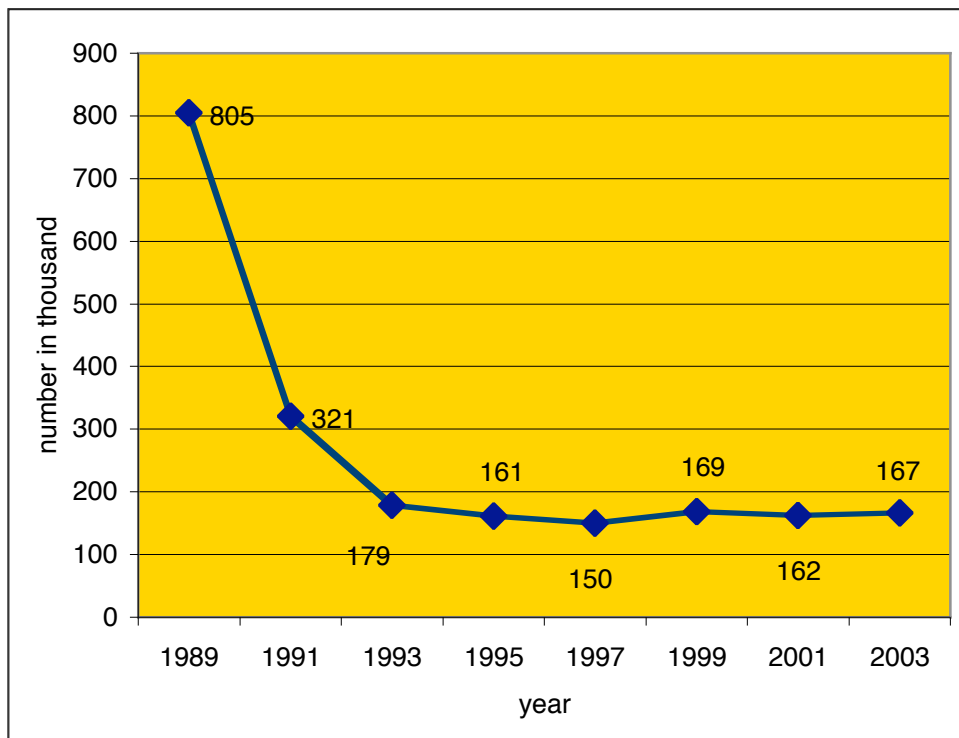
the staff, some of them nominated as women or youth representatives. Therefore, it is quite likely that social issues played an important role. There was also a wide range of committees which were at least formally open to everybody and not limited to the employees of the co-operatives. Although the power of committees might have been rather confined, it guaranteed the involvement of many.

The integrative role of agricultural firms and their undeniable social contributions may explain the high degree of identification by employees, which was expressed in 1990 (Hubatsch et. al. 1991).

5 Patterns of the rural crisis

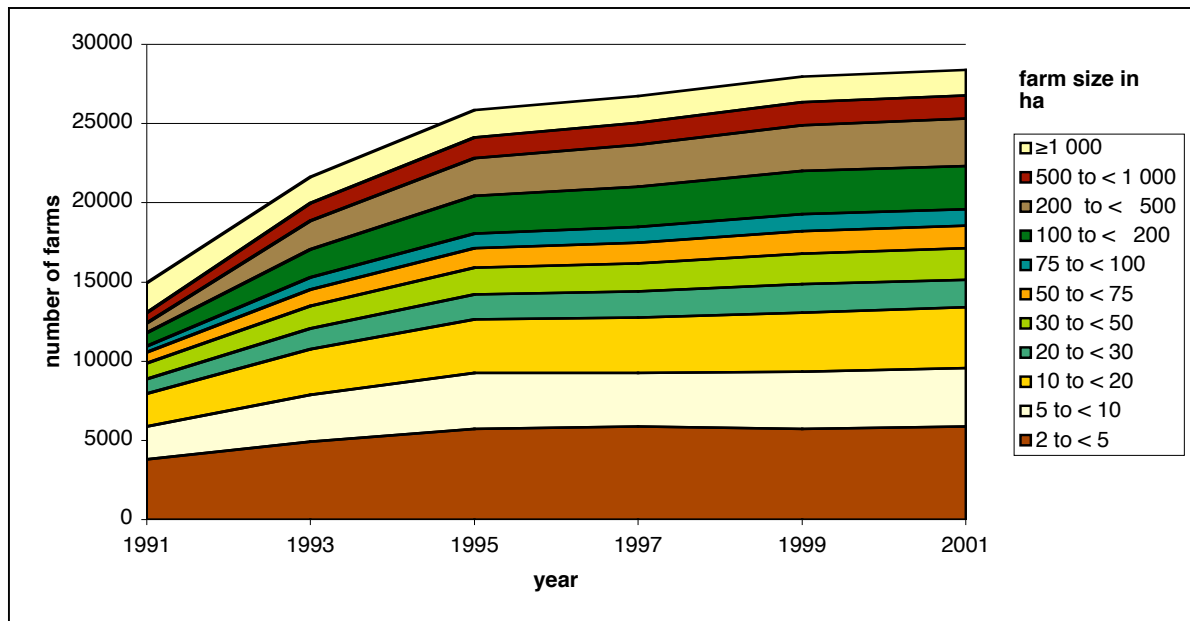
With other former socialist countries in Central and Eastern Europe, East Germany shares the experience of sudden market liberalization. Different to those countries East Germany did not create its own, new political institutions. West Germany provided an existing institutional framework, which simply had to be transferred. This could be considered to be an 'ideal' situation, if transformation from planned to market economy is the political objective. Therefore changes have been more fundamental in East Germany than in any other country, and also it was more profoundly hit by the momentum of market liberalisation that came along with the economic and monetary union in summer 1990. While the adaptation to the West German and for some policy fields such

as Agricultural Policy also European policy system needed some years to operate smoothly market liberalisation took effect right away. The highly subsidised agricultural producer and consumer prices quickly adapted to the West European level. West European agricultural producer prices were, in international comparison still high, yet still much lower than those of the GDR. In the first two years after unification this sharp price drop has lead to a dramatic reduction of agricultural production capacities. The worst could only be prevented by huge financial payments to maintain liquidity of agricultural firms, and social policy measures, in particular early retirement, to avoid mass unemployment (For a detailed analysis of these processes and their consequences for rural areas see, among others Beckmann and Hagedorn 1997, Forstner and Isermeyer 2001, Siebert and Laschewski 2001, Laschewski et al. 2002). Still, the employment effects have been dramatic and are still at the core of the rural crisis.



Picture 1: Agricultural Employment in East Germany, Statistical yearbooks.

During GDR time, as a result of socialist collectivisation and subsequent concentration processes, the number of agricultural enterprises fell, according to official statistics, from about half a million after the Second World War to just 8,668 in the year 1989. At this point about 805,000 people were employed in agriculture. Since, In the course of the restructuring resulting from German unification the number of agricultural enterprises has increased to the present figure of about 27.900 while the number of people employed in agriculture has fallen to about 166,700 (BMVEL 2002). The greater part of this dramatic loss of employment occurred in the first three years, which would have been impossible in this form without extensive social security measures.



Picture 2: Number of farms, Statistical yearbooks.

Since 1990 the farm sector was also subject to privatisation and restitution. However, collectivisation in the GDR did formally mean the expropriation of former landowners, although practically those property rights were not effective. Because of that ironically the landownership structures of the 50th were preserved under socialism. However, the reinstallation of those property rights was comparatively easy, although some problems occurred, since former borders had to be identified and solutions had to be found for constructions, which were built under socialism on private land. About a third of agriculture land was subject to socialist land reform after 1945 and partly also in the early 50th, half of which also was restituted, while about 1,4 million are privatised^[CS1]. Due to immense legal uncertainties, this process is still ongoing. Until 2004 only about a quarter have been privatised. Agricultural Policy tried to overcome the socialist farm structure with financial subsidies. Consequently the number

of farms increased continuously. However, the emerging structure is very specific (picture 2).

Characteristic elements of the current farm structure in East Germany are:

- The existence of a small number of very large agricultural enterprises that came into existence mainly as successor enterprises to agricultural production co-operatives (LPG). Usually they manage more than 800 ha.
- A certain number of highly professionalized enterprises of varied legal status which are large (100 to 500 ha) by international standards.
- Numerous smaller, part-time family farms. More than 50% of the farms use less than 50 ha.

A further element is the almost complete separation of owners and farmers, which is reflected in the high proportion of tenancies among agricultural enterprises. The "ownership problem" is the historical result of agricultural collectivisation and restitution policies after German unification. Agriculture in East Germany is first and foremost tenant farming. In addition, it is in great measure confronted with various forms of absentee ownership; that is to say it is faced with owners who are (no longer) locally resident and on occasion have not yet been identified

Despite the dramatic loss of employment, agriculture in East Germany, especially in remote rural areas, is still a significant economic activity,

accounting for a comparatively high proportion of local employment. The total value added of the agricultural sector in East Germany is in comparison to other German regions low though. The most common problem is the lack of capital, which would allow built up more animal production. At the same the farm structures seem to enforce profit (from capital) maximisation rather than value added growth.

In such a situation non-agricultural development is vital for the rural economy. Much attention has been paid to new entrepreneurship. Several studies reveal that rural areas generally show poor business formation rates (e.g. Braun/Dinesberg 2002, Laschewski/Siebert 2001). Business formation is usually urban based and located in cities and suburbs. A notable exemption here is tourism. Tourism is an important rural economic sector that utilises non-material land-use potential. In many rural areas it represents the growth sector, but it is generally still in the phase of development and can scarcely be regarded as consolidated. However, despite drastic decline agriculture and food industries remain the backbone in particular of those rural regions that show little attraction for tourism. Additionally, we find that even the potentials of touristic development have not been fully explored yet.

Finally, people, in particular in northeast Germany, respond to these problems with emigration rather than initiative. There is a lack of innovation and actors that take risk. At the same time emigration, in particular youth emigration has

caused political concern (BBR 2000). Few job offers and insufficient training opportunities are core problems, which cause significant emigration among young people between 18 to 25. There is a danger of developing a 'culture of emigration', which affects the development potentials of rural areas (Siebert 1999). Currently the situation is getting even worse. The emigration patterns in conjunction with a general ageing of the German society have already initiated a debate of infrastructure provision in remote rural areas.

6 Forms of social capital in transition

Institutional changes and economic decline have gone along with changes in the forms of social capital. Some groups were able to draw successfully on their network relations, while others could not.

Exchange networks and community based activities

Community based networks in rural villages found their institutional backbone in the social service infrastructure provided by the agricultural co-operatives, and the consumer cooperatives that run shops in almost every village. Due to the shortage of everything under socialism exchange networks also played a significant role. It was particularly useful to know somebody in a distributive position (in a shop or a store) or to have West German relatives that might send rare goods that could be used to barter. Household agricultural production has been financially made attractive under socialism in a price reform in the early

eighties. Thus, rural local life has also been structured surrounding those production activities.

Regarding this rich networking traditions it has been surprising, how quickly those social networks vanished. Indeed, a lack of civic engagement a decreasing interest in voluntary activities in rural communities has been identified as one political as well as developmental problem. On the one hand, local clubs that have survived, often suffer from a lack of interest. A typical example is the voluntary fire brigade (Rodewald 1994).

There is little doubt that higher mobility and job uncertainties have affected local networks and civic engagement. Additionally, due to working consumer markets former exchange networks lost their function, and agricultural household production was widely abandoned because of price reductions. Finally, the decline of agricultural cooperatives has affected the provision of services in rural villages. This leads to a reduction in many services. In a community study Rodewald (1994) described the situation as follows: "All social and cultural services (Health Station, Pub, Local Shop) have meanwhile been closed. Institutions such as child nursery, day home for schoolchildren and classrooms are abandoned." Community networks literally lost their place. In many localities community buildings and other places for local gatherings such as shops or the cantina of the co-operatives have been closed while new localities rarely have been established. Hence, instead of being able to draw on

existing networks, communities have to find its own, self-reliant status as a functioning unit independently of agriculture (Herrenknecht 1995).

However, according to Brauer (2001, 62), it is not a solely general lack of local initiative, but the way how local actors are treated as subjects rather than actors in the planning and development system and live by chance in the planning area. Under such circumstances, approaches of "civic participation" are to inform and teach local people rather than encourage bottom-up initiatives. Parallels to political agitation and attempts to mobilise local actors for public activities of socialist times are obvious (ibid., Laschewski & Siebert 2001, 40). Bruckmeier (2000) argues that LEADER II, a European participatory rural development initiative, in East Germany has served as a conventional rural development tool rather than a measure to integrate independent projects. The village renewal programme has been quite successful as a measure to improve the local infrastructure, but it has not been a successful tool in strengthening local participation. It appears that the sheer amount of development programmes (Brauer 2001) and the tendency to favour large-scale projects (Beetz 2001, 83) are core problems, which seem to stabilise the involvement of the few rather than the participation of many.

Social Capital and agricultural restructuring

There is one group of actors, the managerial class of the agricultural firms, that

due to its central professional position was generally able to maintain its power. As Küster (2002) has shown for the region of Thuringia in the southern parts of the former GDR in many cases they have not only managed to keep the former agricultural co-operatives in various legal structures together, but also the founders of highly professionalized agricultural firms largely came from this group. In an analysis of local participation process in Brandenburg, the area surrounding Berlin, we found the socially central role of a few large agricultural enterprises. They are well organised to press their interests and participate in numerous activities at the interface between the state and the private sector. For this reason they seem to be the ideal type of actors for the idea of public-private partnership. The big agricultural enterprises, or their management representatives, are central actors in all the relevant associations, networks and initiatives. What is especially remarkable is the continuing dominant role of the representatives of the big agricultural enterprises in the important local network structures despite the obvious decline in the economic importance of these enterprises. Their most important partner is frequently the state. The mass of the numerically significant small and very small agricultural businesses but also the non-agricultural ones which, like the tourist sector, have an interest in the public goods provided by agriculture, are scarcely integrated in these networks.

What can be assumed from that is, first, that it was not the socially central role of the managerial class in the firms alone, but also the embeddedness in

professional networks that also encompassed the agricultural administration and professional associations. This allowed the former cadres to control central information in the firm, but also to have access to rapidly changing external information during the transition phase.

As a consequence, ironically the agricultural policy designed to support family farms stabilised the agricultural sector, dominated by large farms that now turns out to be rather disconnected from the rest of the rural economy (Laschewski & Siebert 2001). Generally, exclusive elements are the bureaucratisation and professionalisation of planning procedures that, on the one hand, form a barrier for "real" participation. They encourage the development and maintenance of networks of professionals and development experts, which are only loosely coupled to the majority of local actors. However, while in the local context the farm managers remain in a stable position, inter-farm linkages and forward and backward linkages suffered because of the fundamental restructuring since 1990. Many production chains simply do not exist any more and new chains and networks had to be established.

None agricultural inter-firm networks

The agricultural experience is rather unique. For almost all other industries of the former GDR the restructuring process took a different path. One reason for this was that a small and medium size business sector did not exist. Even

classical small business industries such as the construction and service sector had been organised in large cooperatives or state firms of a much larger scale than agricultural firms. Dependent on the specifics of each sector those firms either grew, dissolved into smaller units or were taken over or even replaced by competitors from West Germany and international competitors (e.g. Kokalj et al. 1997, Brussig 2003).

Classical rural industries such as tourism, construction, and other handicrafts saw a strong growth in the number of small and micro-businesses. Meanwhile the food industries experienced a strong consolidation and were mainly taken over by external investors. For the modernization of food sector, financial subsidies were given according to master plans written by West German economists, who paid little attention to business relations, but primarily technical relations and quantities. Needless to say that those plans failed terrifically (Laschewski 1998). At the same time, due to the monetary union and the introduction of the strong German D-Mark special market linkages to Eastern Europe were suddenly lost. In sum, some economist identified “torn networks” as a basic problem of East German recovery. Rebuilding network relations therefore has become a major concern of newly founded, but also re-organised business (Nuissl et al. 2002).

The fundamental restructuring of the economy has had a huge impact on the employees. It has not only been the raising unemployment, but also the

increasing job insecurity. Losing a job has suddenly become an everyday experience. The public sector was probably the only sector that was largely excluded from that. Family networks became the last refuge for many, and also the basis for start-ups. However, social exclusion has also become an extensive rural phenomenon. “Rural ghettos” of long term unemployed, socially marginalised groups dependent from social welfare evolved as a new reality.

7 Lessons to learn

The brief description provided here, shows that in times of institutional change and economic transition social capital cannot easily be seen as a resource. In the case of Rural East Germany it was difficult for many actors to draw on network relations, simply because those networks vanished after having lost their meaning and/or its institutional and also physical basis. However, as the example of local commodity exchange networks show, occasionally the network existence is an expression of institutional deficits. In such cases the dismantling of networks does not necessarily imply a “loss” for the society. One lesson to be learnt from this is that networks cannot be separated from their social meaning or its content. The network content may be an economic, social or cultural function. The network relations and therewith the social capital related to the network do not exist without a particular content. And only if this social meaning is reproduced the social network relations are too. Because of the

concentration of so many economic and social functions in the agricultural firms the agricultural restructuring has had such devastating effects on rural society after the unification. One additional aspect may have been the absence of strong alternative, non-state institutional structures outside of the former socialist state that at least temporarily could have served as a backup. For instance, East Germany, different to other post-socialist countries such as Poland, is nowadays largely an atheistic country where churches do not play a significant role. Therefore, rebuilding social capital has to become a core concern for rural development policies.

The fact that the former cadres successfully exploited their positional power has two sides. It highlights on the one hand the centrality of those actors in the former rural regime. However, it also has to be seen as the outcome of institutional structures and in particular agricultural policies, which were transferred from the West, and simply did not fit to East German realities. The kind of problems, which have been addressed to this extent are unknown in Western Europe and therefore institutional structures to cope with such problems did not exist. Even further, because of that the institutional structures as mentioned earlier at least partially seem to increase the negative trends. Therefore the change of the rural policy process is important to avoid further negative effects on civic engagement of during transition less favoured groups.

A generalization from the East German experience could be that beside the

identification and measuring of social capital, it is important to identify its base and therewith its likely durability in times of change. If an economic, social or cultural function is lost, it is likely that social capital related to this function will be destroyed, too. Undoubtedly, this raises new questions, since social capital has been identified as crucial in particular in times of change. However, this also gives room for careful optimism, due to the fact that new economic, social or cultural activities may serve as the basis for new social capital. Finally, in times of economic transition it is important to consider other spheres of the society even because of economic reasons. Social capital encompasses a quite paradoxical element of the "usefulness of the useless" (Laschewski & Siebert 2001, 40). As already mentioned, this brings another aspect to fore, which also shows the limitations of network theory: the problem of social meaning and culture (see also Emirbayer and Goodwin 1994).

As long as local actors are perceived as 'incapable' and rural areas as 'underdeveloped' they become subjects for political intervention. The development of horizontal social capital will only be successful in connection with different understanding of rural development, which recognises the dimension of democratisation, civic engagement and local participation as development objectives and not only as another additional development factor to increase economic growth.

Such a perspective would also allow addressing the problem of social exclusion.

Rural research mostly focuses on the economic development and rarely on social integration. As some network theories argue, it depends on the nature of the social problem which form of social capital is more important. While social capital based on strong ties is more important for social integration, weak ties are mostly related to performance.

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Outline of Rural Society and Rural Community Development Effort in Taiwan

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Kang-ting Tsai

After long-run modernization process in urban and rural area of Taiwan, the traditional communities without renewal and newly developed communities have encountered bottleneck of suitable development during the most recent decade. The significant problems faced by the government are the clear imbalance between urban and rural development and disordered landscapes among township communities on the island. The transformation and reconstruction of new landscapes and natural environment were initiated by Central Government in mid 1990s.

The definition of landscape and environmental problems faced in the community was carefully studied by Construction and Planning Agency, Ministry of the Interior (CPA) and a project of “Transformation and Reconstruction of Landscape and Environment for Urban and Rural Areas” was approved by the Executive Yuan in September, 1997. In 1999, CPA released nearly 10 billion NT dollars in the support of demonstration communities of landscape and environment reconstruction for local government. CPA is in charge of urban planning, regional development, national and municipal parks, public housing, and overall construction management. The tremendous amount of investment has become the new milestone for the community development in Taiwan, R.O.C.

Before CPA adopted active movement to new landscape planning, The Bureau of Water and Soil Conservation, the Council of Agriculture (BWSC) had made great efforts on rural community planning and development. General development planning and development of agricultural villages have been actively implemented since 1987, creating a state of convenience, comfort and prosperity of villages in rural areas. The targeted tasks include soil and water conservation and treatment, agribusiness development, community environments and household sanitation, community organization and life education, public

facilities, recreation and beautification of scenery. Until 2004, the planning of 400 zones was completed, along with substantial development and an investment of 6.9 billion NT dollars.

There are other government offices concerning community development in different but supplementary ways. For example, the Council for Cultural Affairs tries hard on the recovery and preservation of cultural materials and possible applications. The Council of Indigenous Peoples supports the housing and living environment and community services for aborigines.

Although the government has approved that promoting community development is major economic development policy, there are difficulties of smooth and ideal development in many communities. It implies that right measures are to be created and discovered for sound result of community development. Major reasons can be gathered as different voices and inconsistent thoughts among community people, insufficient participation and application of community resources, and no easy consensus among government, community organizations, and villagers. As a result, there are lots of communities remaining the needs for transformation or reconstruction.

In this article, some key characteristics of rural society in Taiwan will be introduced. The efforts on rural community development will also be discussed. The community development efforts may be further explained by several proposed community development projects in Nan Tou County (prefecture).

I. Rural Society

In Taiwan, rural community can be categorized by morphology of village settlement and housing distribution situation. As a result, rural community can be grouped into aggregate communities and scattering communities. Aggregate communities are those condensed villages which are located around southern plan area. The distance between villages is on average about half kilometer. Most of the

villages are surrounded by bamboos and short walls. There are about one hundred farm houses in each village. The alleys connecting each house were built by stones. Scattering communities are those houses located in the fields and surrounded by bamboo fences, just like islands in the sea. The villages are connected by narrow roads. The three types of village forms can be shown as follows.

Table1 county type

scattering community	aggregate community	long narrow community
		

Despite of the aforementioned categorization, it cannot totally account for all the community forms or types in Taiwan. The reason is because that Taiwan has special geographic feature, villages in the mountain cannot be listed in the above two groups. The hills in Taiwan account for 75% of Taiwan's total area. A specially developed county type was developed in the hills.

Community Construction is combined the concept of Japanese "Community setting up", England "Community Building" and U.S. "Community Design". It especially focuses on community common thoughts, community participation and community culture.

The definition of community construction was proposed by Council for Cultural Affairs, Executive Yuan in 1995. Based on community common existing and common thoughts, habitants in community take part in local affairs. In promoting Community Overall Construction activities, habitants take part in local affairs actively. In this way, living area can be beautified, living standard can be upgraded and culture economics can be improved. In order to make the public understand the deep meaning of Community Overall Construction, the government promote Community

Overall Construction activities county by county. It is to inspire the habitants' identification, to motivate the habitants to join local activities and to aggregate community thought. Furthermore, it also can infuse the community's creation and shape the local characteristics and make the community be sustainable.

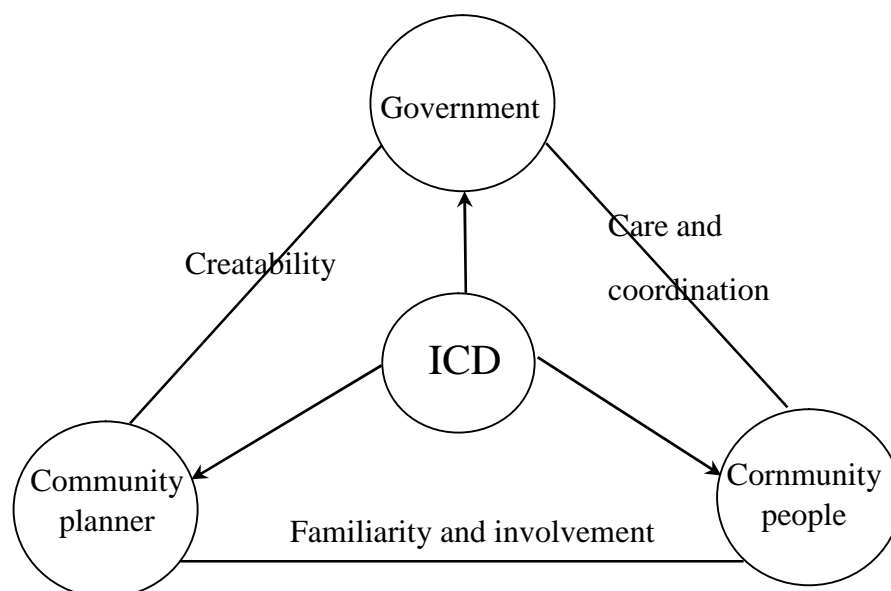


Figure 1 The Relationship of Community Reconstruction

The relationship between participation and community development can be explained by Figure 1. Participation is a process mixing with learning and identification. The planning experts and local habitants will have means to have care and coordination, communication, collaboration, and aggregation. The experts can conduct efficient way of learning professional skills and technologies for habitants, and the habitants can express the community special characteristics. Both the experts and habitants can communicate and work on community overall development under the support of

government with certain amount of budget and information.

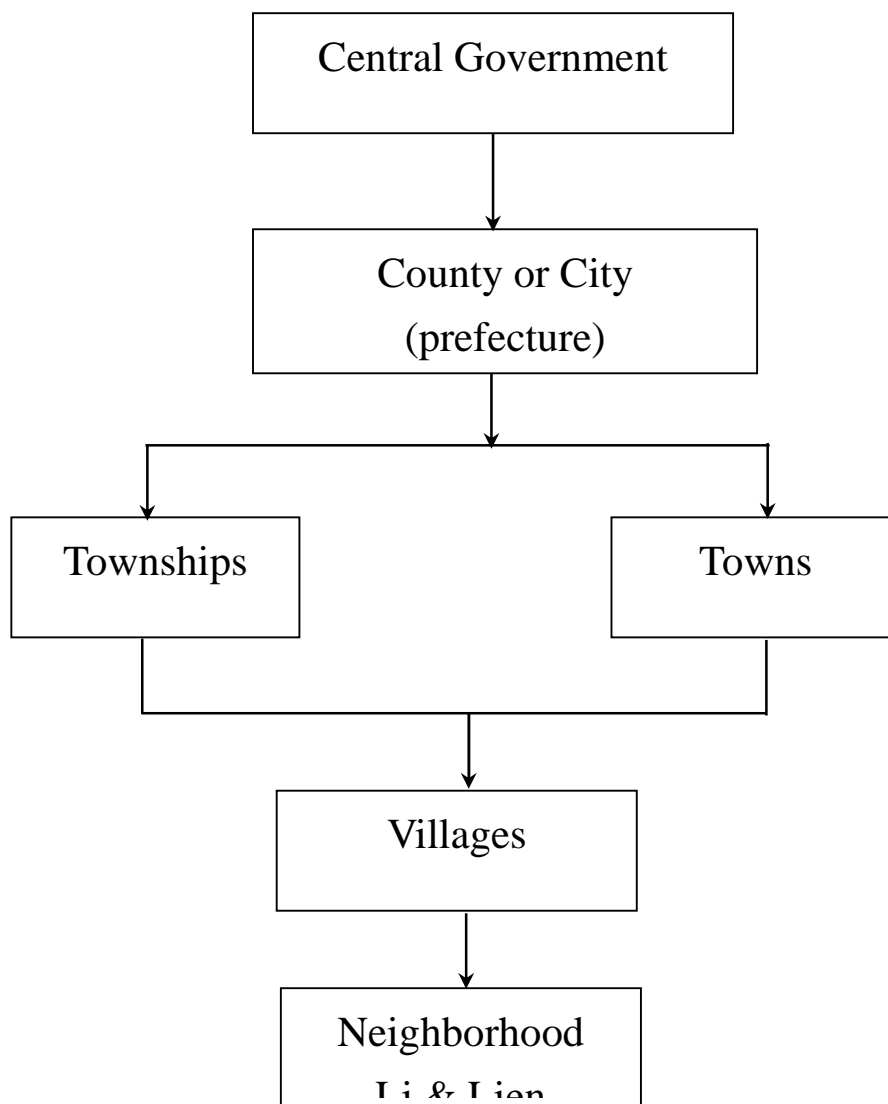


Figure 2 : Top-down Administration System in Taiwan, R.O.C.

The most important part of community overall development depends heavily on professional community planners' work. They provide habitants professional knowledge in developing the model communicating with government and community. The concerned party, including the government, experts and habitants, can cooperate to work on community construction. In addition to the community planners, the habitants also join the process in developing the community to share the responsibility with the community planners.

The purpose to set up the community agriculture unit

- Member farmers in same agriculture unit share the equipment and sources growing farm produce to reduce cost.
- Members support technology and manpower to others flexibly to increase produce efficiency
- Periodically education and activities to enrich members ability and new members
- Work together to improve agricultural environment
- Arrange appropriate producing plan to stabilize the producing volume and market price
- Set up product grading and assessment to strengthen consumers' confidence
- Work on developing new products and increasing added value on products
- Assistant government promoting new policies and express members' opinion to the government

Community planners' role

The basic skill that community planners should possess is professional knowledge. The community planner crew is especially designed for community environment construction. Their role is the intermediate between government and community habitants. They must have special affection and much familiarity to the local environment. Not only can they provide professional consultant to the habitants, but also can propose the strategies to improve the quality and outlook of the area.

Figure 2 shows the top-down administration system in Taiwan. At the Central Government level, there is Commission responsible for the planning of country community development. At the County or City level, there is Consultant General responsible for the development of landscape and environment for whole county or city and helping townships and community organizations to develop planning ideas. Of course, planning budget must be supported majorly by Central Government. Part

of the development budget must be collected by County Government and local administration offices and community organizations.

II. Government Implementation in Community Development

- Construction and Planning Agency, Ministry of Interior
 - The emphasis of Townscape Renaissance Project
 - Setting up project management
 - Holding technology activities
 - Assisting project
 - Recording townscape renaissance
- Project categories
 - Overall project-business activities in the town
 - Park and green area project-mountain and river project
 - Natural environment – natural sightseeing project
 - Country and suburb project – street and advertising
 - Country characteristics project – old buildings and local cultural assets
 - Night scene project – important buildings and public construction
 - Other project
- Council for Cultural Affairs
 - Object – County government
 - Subject – Community construction project, educate community managers
 - Project – Improve local cultural characteristics and other items
 - Qualification – Continuous project and new project
- The Soil and Water Conservation Bureau
 - Area – Non suburb area
 - Window – County or local government
 - Unit – County, Farmers' Association, Community
 - Items – Cultural activities

Education – Professional education and training

Natural environment protection and water and soil conservation

Table 1 Government Administrative Subject Area and Objectives in Community Reconstruction

	Subject area	Objectives
Construction and Planning Agency, Ministry of Interior	Urban and suburb area	The Emphasis on Urban Landscape Renaissance Project
Council for Cultural Affairs	All area	The Improvement of Local Cultural Characteristics and other Items
Bureau of Soil and Water Conservation, the Council of Agriculture	Non urban and suburb area	Natural Environment Protection and Water and Soil Conservation

III. Rural Development Planning Cases

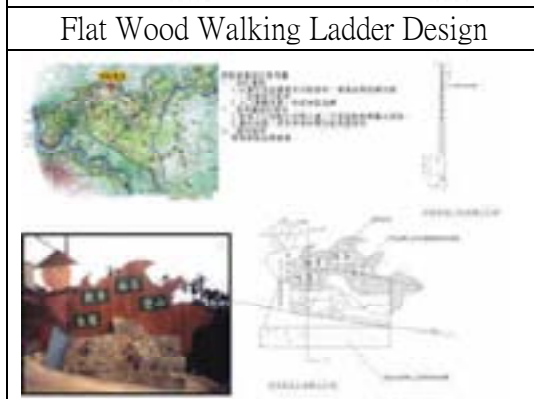
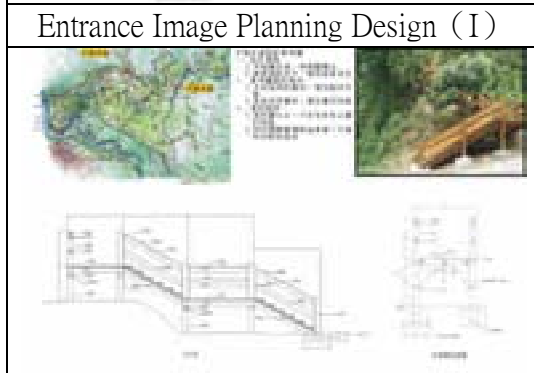
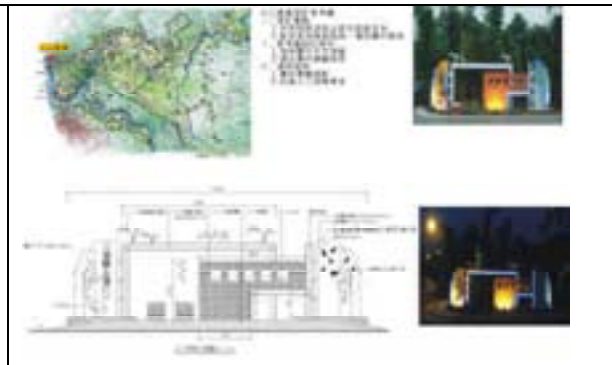
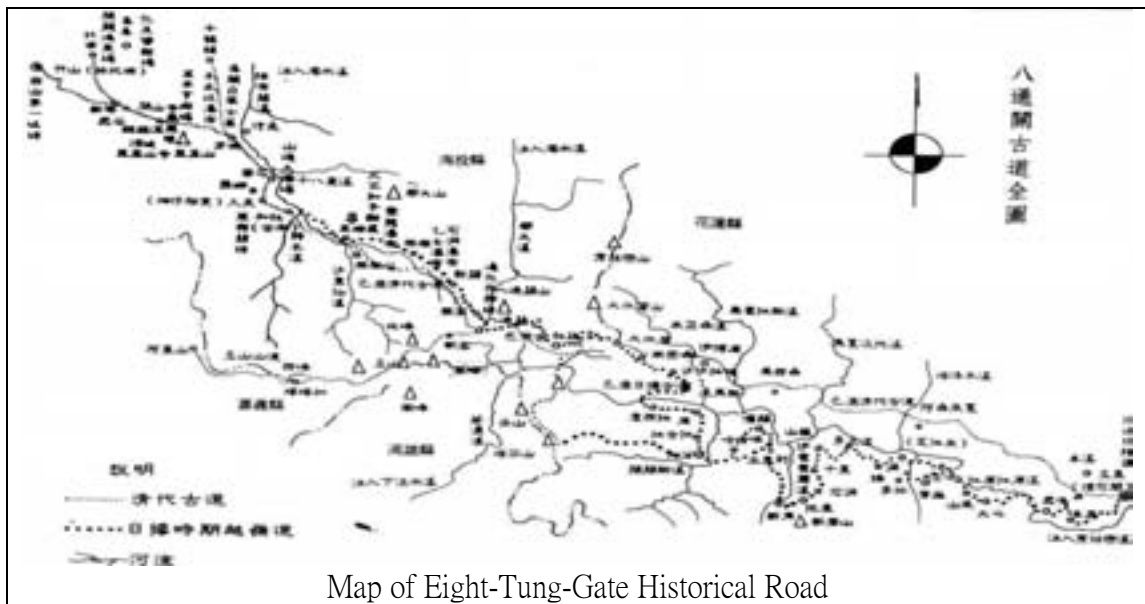
A. Eight-Tung-Gate Project



Lu-Gu Township is an important entrance to enter Nan Tou County. The famous tea products bring the business and inspire the county develop. If Taiwan enter the WTO, the agriculture industry will be affected by import tea products. In this project, tea fields and natural environment will be mixed together and generate new image. It is expected to achieve the following.

History image and country image are mixed together and develop the new image and promote sightseeing industry in Nan Tou County.

Develop natural environment protection.

Concrete community mutual interest and thoughts.



	
Green Rest Station Design	Guiding System Design

B. Bu-Ah Liao Project

The surrounding scene around Bu-Ah Liao are very good. It attracts a lot of visitors to enjoy the night scene. It can obtain very good sightseeing industry potentially. In this project, it is important to build the public equipment in Ta-Hu Mountain area. Furthermore, it is also critical to develop the new face of Ta-Hu Mountain. The project's goal is to make Ta-Hu Mountain area become a well developed community.

 <p style="text-align: center;">Site Planning Area of Bu-Ah Liao Community</p>		
❖ First Year Development Idea		
<ul style="list-style-type: none"> Entrance Guide Mark Design and Establishment 	<ul style="list-style-type: none"> Construction of Walking Road Surrounding the hills 	<ul style="list-style-type: none"> Establishment of Public Facilities



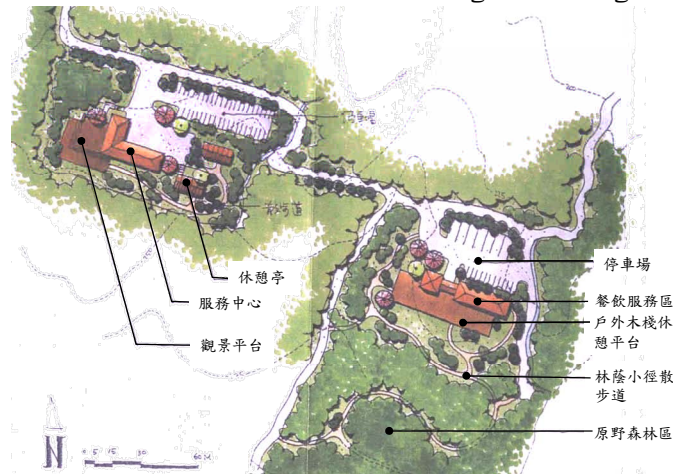
※ Second Year Development Idea

- Build up Exhibition House for Special Agricultural Products ;
- Build up multi-functional Parking Space



※ Third Year Development Idea

- Planning of Tourist Fruit Farm Area ;
- Establishing Leisure Agricultural Zone



※ Fourth Year Development Idea

- Greening and Beautification of Road Fringe








- Establishment of Explanation and Guiding System









C. Historical Street Project – Tea Magics

It is urgent for Kuang-Hsing village being a planned urban area and on major traveling Route in Lu-Gu County to explore local specialty for tourist attraction. Kuang-Hsing village has lost its culture significance inside Lu-Gu County surrounded by leisure and touring farms and cut through by county roads. Local resources of culture and businesses in Kuang-Hsing village must find ways of fitting in the particular area full of agricultural resources.

The planning focuses are of recovering historical spirits and culture with the connection to existing touring resources in whole Lu-Gu County. The planning consensus includes three folds. Firstly, completely collected historical characteristics and materials must be designed in the community development of Lu-Gu County, to generate more sightseeing activities for local people and tourists. Secondly, special characteristics of natural landscape and environment must be discovered and carefully

 <p>A map of Luogang County showing the location of the project area. The project area is highlighted in pink and yellow. A compass rose is in the top left corner.</p>	 <p>.....Planning Route - . - . Site Area</p>	 <p>.....Planning Route - . - . Site Area</p>
Location Map of Planned Project	Map of Major Planning Area	Map of Planning Area in Kung-Hsing Village
		
Historical Wafer Rice Arch Stone Bridge in East Kuang-Liao	Current Wafer Rice Arch Stone Bridge in East Kuang-Liao	

	
Beautification of Wafer Rice Arch Stone Bridge in East Kuang-Liao	Current Wafer Rice Arch Stone Bridge in East Kuang-Liao
	
Historical “Shi-Kan Shops” Street (Tong-Hsing Hotel)	Current “Shi-Kan Shops” Street (Tong-Hsing Hotel)
	
Current “Shi-Kan Shops” Historical Street	Working Team of Community Culture and History in Kuang-Hsing Community

Be maintained to achieve sustainable environment. Thirdly, the development of new community image is necessary and new definition of community spirits is possible.

III. Difficulties in Promoting Community Development Affairs

- A. Unfair community resources allocation.
- B. Self-attitude Problems of the habitants.
- C. Conflict interests among internal community organizations.

- D. Professional training problems of community planners.
- E. Constraints of government regulations existed.
- F. The community planning teams are not well organized and trained, especially that the community planners do not receive sufficient professional knowledge.
- G. Difficulties in traditional culture development.

IV. Recommendation and future Expectations

A. Recommendation

After the participation of several community planning projects, there are recommendations to be made for future works.

- a. The community resources must be used carefully for natural resource conservation, the development of touring industry, culture resource management, and the experience activity promotion.
- b. Encouragement to habitants for aggressive participation in community development meeting is necessary, especially the organization of working teams may raise the willingness to participate.
- c. The self-learning mechanism must establish for the guiding and encouraging purposes with the involvement of outside professional planning team.
- d. The necessary investment from government may effectively promote the development of cultural and production applications for communities to have added economic value.
- e. Selecting right professional planning teams with different expertise could provide sufficient support for community development.

B. Future Expectations

It has been over ten years of implementing community development for the society of Taiwan. It is important for government to further organize all interested parties in community development under clear concepts and rules. Of course, community organizations are expected to have leaders with more

planning and coordination knowledge and skills for possible solution of community reconstruction with local spirits and touring value. It is expected that the efforts on community development may create beautiful living space and economic development. New rural and urban landscapes may also be created through the energetic involvement of all communities inside Taiwan.

1. BANGLADESH

Md. Mustafizur Rahman
Chairman
Love the People & Society
Bogra

Title of Abstract Category: International Education—An effective medium for HIV/ AIDS Awareness Raising Amongst Community people (male and female).

ISSUE: Frame up an effective and sustainable HIV/ AIDS education programs in institutions (education, religions, welfare, CBOs, NGOs etc) which need joint efforts of all concerns to reach the mass people, especially the community people.

SITE: The program is in Bogra Sadar Upazilla of Bogra District, which is situated in the northern part of Bangladesh and near the Indian Border, and a very poverty stricken area in the country due to standing on the bank of river Jamuna, which is highly river eroded, so the people are very poor and highly disaster prone, where only one crop is available, as the flood water destroy the crops. So, the people are involved in different anti-social activities, which have made the area dangerous and alarming for HIV/ AIDS. Therefore, the organization has selected the sites as the study areas. LPS has been working on the project areas for a long time and has been implementing different kinds of development activities like awareness-raising, capacity building, group-formation, health education, human rights education, prevention of HIV/ AIDS and elimination of anti-social activities, rural water and sanitation, social afforestation, skill development training etc. to improve the socio-economic and cultural conditions of the poor people and to save them from different dangerous situations. Apart from these, different local NGOs, cooperatives, educational institutions, religious institutions etc have been working on HIV/ AIDS prevention in the areas for the safe lives of the poor and vulnerable people.

DESCRIPTION: Different institutions (Welfare, CBOs, NGOs, education, religious etc.) have been working in the country for the welfare of the mass people. We have been focused on developing a selfinitiated peer education program with those institutions to generate intensive messages on HIV/ AIDS/ STDs, peer educators, who have been trained, are implementing education and counseling activities for the vulnerable people of the community, because they are in dangerous situation.

EXPECTED CHANGES AND RESULTS: Mass people will be aware and knowledgeable on HIV/ AIDS and its dangerous affects, so they will educate the community people to prevent this. A good number of peer educators have developed in different institutions and they have been providing HIV/AIDS prevention education among the community people, who have already been made aware. The institutional heads have been taking care of their concerned people and educating continuously. Already 5000-7000 people have been covered successfully in the collaboration with the institutional management and they participated in various community events in their institutions and they themselves have accepted these activities and demanding different types of Information, Education and Communication materials to be distributed among their groups.

LESSON LEARNED: Cooperation among all concerned and local authorities allows increased access to the community people and mass people is an effective means to reach them and sustain the HIV/AIDS awareness continuously.

RECOMMENDATIONS: Present system should be upgraded through ensuring active participation of all levels and introducing updated and scientific information and communication means.

2. CAMBODIA

Ly Savuth
Deputy Director General
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This Country report will introduce the Government's poverty reduction policy in Cambodia. The policy has been conducted through out in nation wide specially in the rural areas by a rural development structure.

The report starts with a brief introduction of Cambodia general situation, then focus on the poverty reduction policy of the Royal Government of Cambodia and rural development structure from the national level to the local level.

The following points are describing about the nature of rural development. Factors affecting poverty; the integrated rural development objective; the mandate of the Ministry of Rural Development.

The report also descript the situation, and the historical development change of last 25 years, which is process in three main approach. The first approach is a central planning (1979-1987) that every actinides was arranged by the central Government and the Local authority. The second is individual Farming approach (1987-1992) that the activities were done by each family, yet still under the arrangement of the Government. The third one is integrated approach (1993-Present) that every activities are being participating by all involve agencies, civil society, Private sectors and beneficiaries. It also report on the major achievement since 1994 to 2003 and the major constrains of the integrated community development, as well as the solution to overcome those constrains. The report pay attention to the lesson learned for last 25 years in community development.

Come to conclusion, the report show that in order to achieve the Government policy on poverty reduction, it should be done by an integrated community development structure base on close cooperation between the government agencies, donors, civil society, private sector and the participation of the rural population.

3. REPUBLIC OF CHINA

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Effects of Structural Readjustment on Integrated Community Development: Case of Nantou County, Republic of China

Abstract

The study aims, through an examination of structural readjustment programmes in Nantou County after the 1999 earthquake, to assess the government's programmes on integrated community development and to draw policy implications. To this end, this study explores the impacts of programmes implemented by the government in Nantou County communities after the earthquake.

The central hypothesis of this study is that the effects of structural re-adjustments by government depend on the degree to which regional economic characteristics are identified. The term "effects" in this study are measured by "unemployment reduction", "infrastructure improvement" and "respondent betterment". This hypothesis is tested by quantitative analyses of data collected from three villages in Nantou County, and through qualitative interviews. In two of the three villages programmes were implemented, in the other, no programmes were implemented. One hundred individuals were interviewed in each village for a total sample size of three hundred.

Quantitative data analyses of the findings show that of the three measurements, "unemployment reduction", "infrastructure improvement", and "respondents' betterment", "infrastructure improvement" satisfied most respondents in the three survey areas, but in Lugu Township and Nantou City, further improvements are needed in "unemployment reduction" and "respondent betterment".

1. Introduction

On Sept. 21, 1999, an earthquake measuring 7.3 on the Richter scale struck Taiwan and resulted in serious damage to villages in the central part of the island. Many village houses were destroyed, many public facilities were damaged, and crops were ruined. There were also mountain collapses, landslides, and deformations in the shape of the land. Nantou County was hardest hit by the earthquake, accounting for 54 percent of the houses totally or partially destroyed in Taiwan (see Table 1). The disaster presented central and local government with the biggest challenges they had ever faced. In order to revive the villages after the disaster, the governments initiated an integrated programme of village reconstruction, especially in Nantou County.

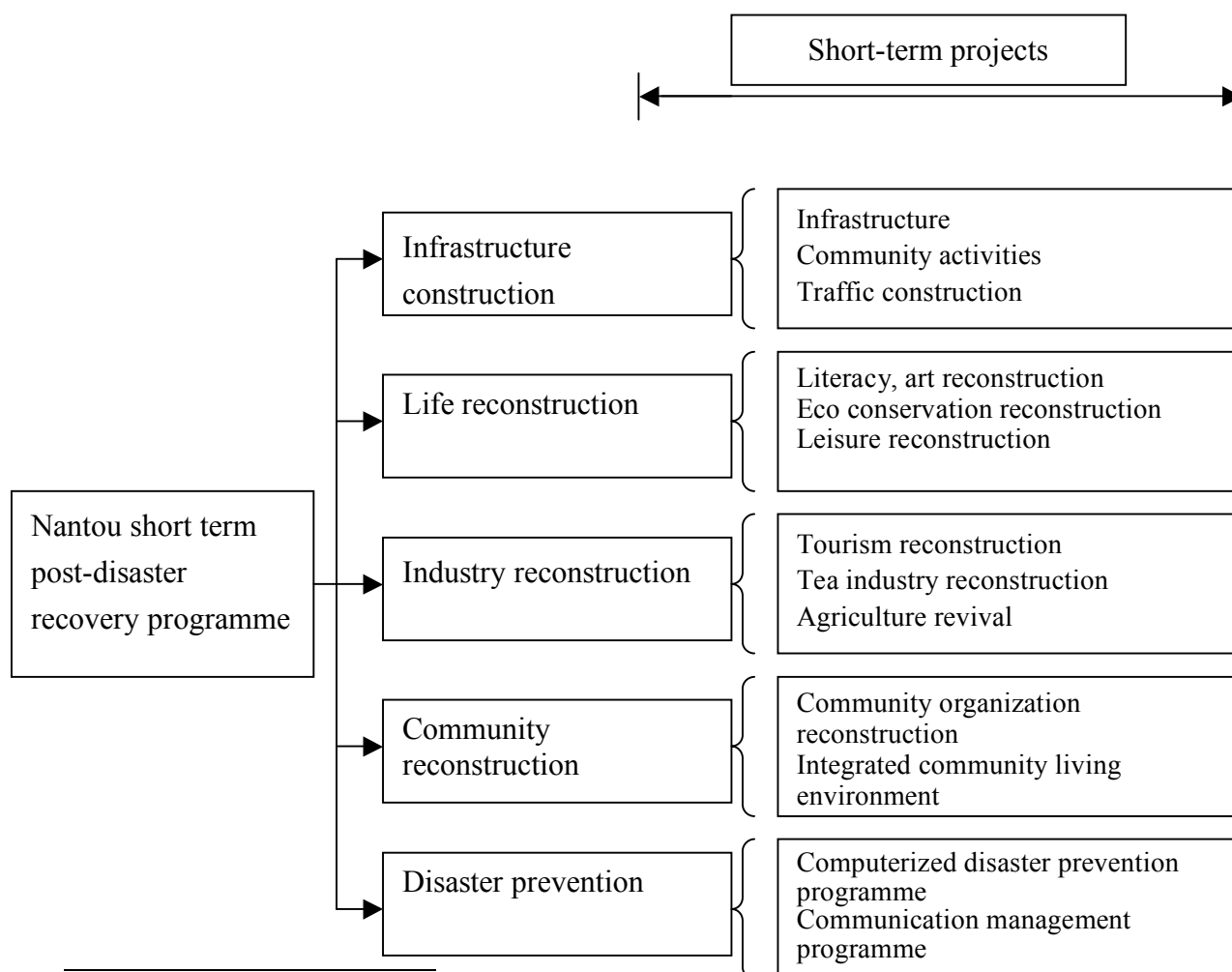
As shown in Table 1, the number of destroyed houses in Nantou county is higher than the other counties, accounting for 54 percent (57,651 in 106,685), including totally and partially destroyed.

Table 1: Damage to houses and human life by the 921 earthquake in 1999

County, city	Houses totally destroyed ¹	Houses partially destroyed ¹	Total	Dead and missing ²	Seriously injured ²
Taipei City	164	—	164	88	17
Taipei County	221	690	911	46	4
Taoyuan County	1	2	3	1	1
Hsinchu County	6	13	19	—	—
Miaoli County	624	578	1202	6	6
Taichung County	19,038	18,675	37,713	1,205	331
Changhua County	807	556	1,363	33	11
Nantou County	29,417	28,234	57,651	922	262
Yunlin County	523	472	995	83	20
Chiai County	30	91	121	6	—
Tainan County	3	3	6	1	1
Hsinchu City	—	—	-	2	3
Taichung City	2,803	3,709	6512	113	23
Chiai City	24	1	25	—	—
Total	53,661	53,024	106,685	2,506	679

Source : The 921 Earthquake Post-Disaster Recover Commission, Executive Yuan, 2004

Figures 1 and 2 present the government reconstruction programmes and schedules for Nantou County. The programmes are divided into two types: short-term, and long- and medium-term.



¹ The number of houses.

² The number of persons.

Figure 1: Short term post-disaster recovery programme for Nantou County

Source: Nantou County Government, 2004.

In general, the programmes cover infrastructure, life, industry, community reconstruction, and disaster prevention. Short-term programmes focused mainly on post-disaster recovery reconstruction in one or two years' time after the quake. Medium- and long-term programmes focused on promoting community development apart from post-disaster recovery over periods ranging from 2 years to 10 years. These proceeded step by step in order to ensure economic competitiveness with other regions, such as the programme to promote post-921 agriculture.

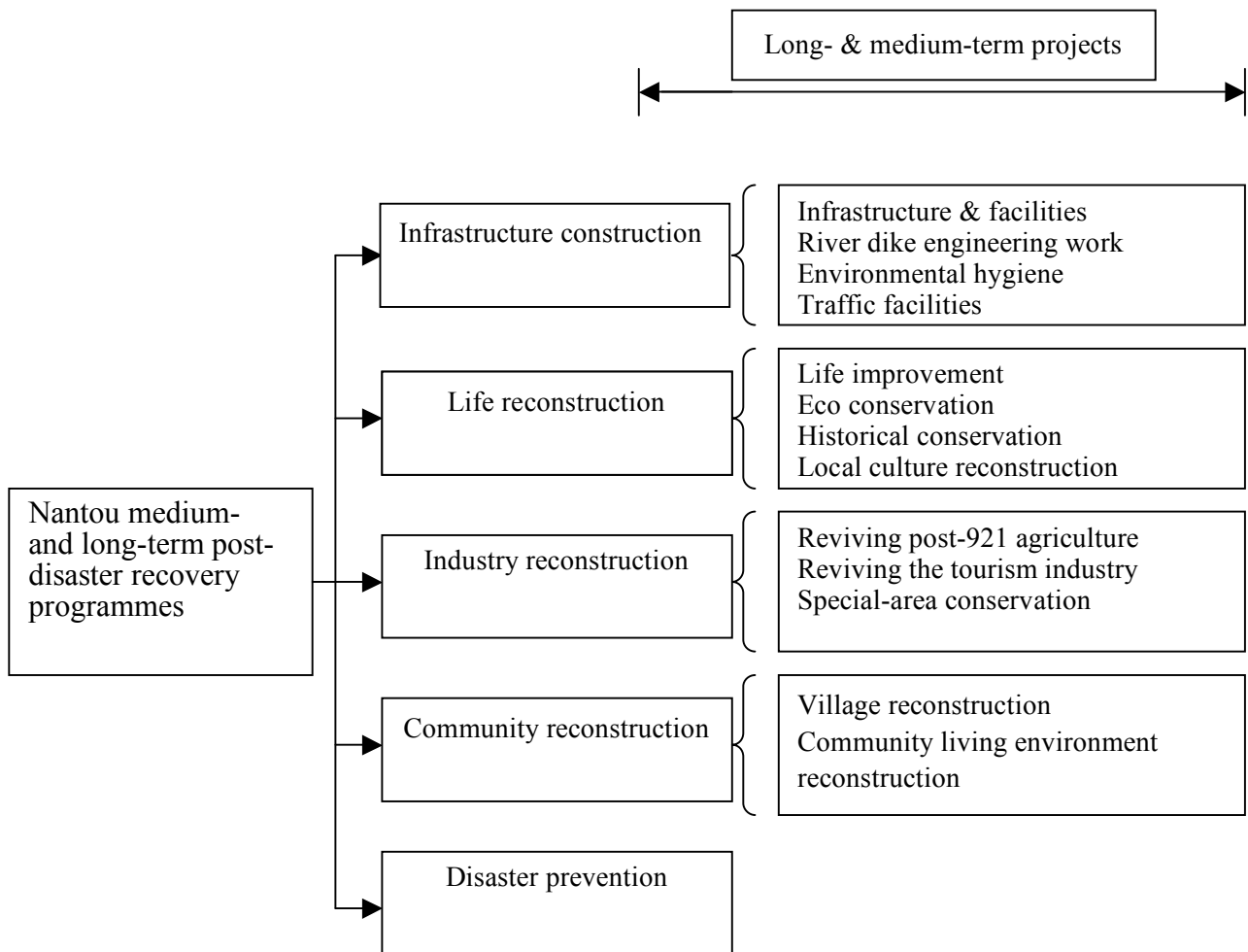


Figure 2: Medium- and long-term post-disaster recovery programmes for Nantou County

Source: Nantou County Government, 2004

This study examines government reconstruction programmes for Nantou County. The study consists of six sections, including this introduction. Section 2 describes research subjects and provides background information on the study site. Section 3 gives research questions and hypotheses. Section 4 introduces the methodology employed in this study. Section 5 presents results and analyses, and the final section gives conclusions and policy implications.

2. Survey subjects

(1) Background information on Nantou

Taiwan consists of sixteen counties and two special municipalities (refer to Figure 3). The study site, Nantou County, is located in central Taiwan, and has been likened to the heart of Taiwan; land area is

4,106 square kilometers. Nantou County had a total population of 541,292 in 2002, as shown in Table 2. Local government was initiated at Nantou City in 1950.

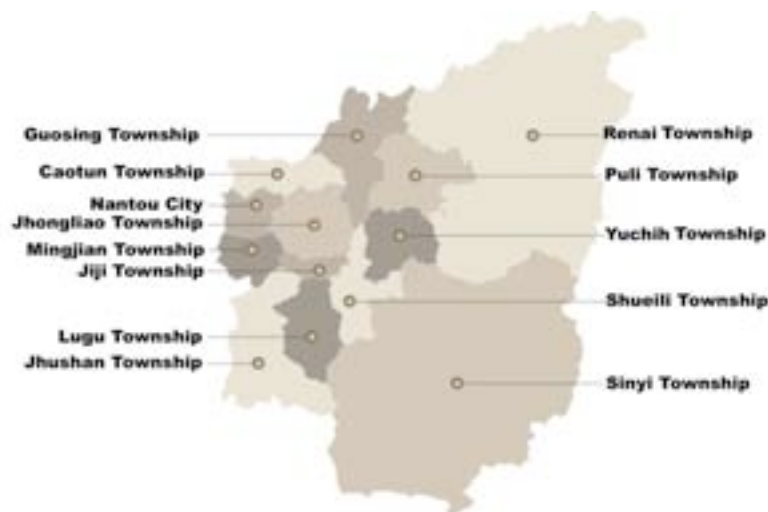


Figure 3: Map of Taiwan

Source: Dept of Land Administration, M. O.I. <http://www.moiland.gov.tw/translation/>

Nantou County has 1 city (Nantou City) and 12 townships, as shown in Figure 4. Each township area has villages and li. “Village” refers to a municipal administrative unit normally under the level of a township. The form of such villages varies according to their historical background and topographical features, but tightly nucleated patterns are common³. “Li” refers to a municipal administrative unit normally under the level of a city. There are a total of 127 villages in Nantou County, and 133 li. Each village and li consists of several liens, which are based on naturally formed residential patterns and its number is 4,228.

Comparing the periods before and after the 921 quake in 1999, we see that the population decreased slightly from 544,022 before the quake in 1999, to 537,901 in 2000, and to 541,292 in 2002 (refer to Table 2).



³ Word usage follows Fukutake (1972), p.81.

Figure 4: Map of Nantou

Source: Dept of Land Administration, M. O.I. <http://www.moiland.gov.tw/translation/>

Table 2: Nantou County population figures for 1994, 1999*, 2000, and 2002

	1994	1999	2000	2002
Nantou city	102,051	104,723	104,406	105,061
Tsau Tuen	87,493	87,933	87,526	87,417
Chung Liao	94,082	97,280	97,740	98,617
Ming Chien	62,912	61,811	61,209	60,782
Ji Ji	12,514	12,335	12,302	12,328
Ju Shan	42,895	42,752	42,791	42,774
Guo Shing	21,988	21,062	20,801	20,428
Shuei Li	19,240	17,925	17,688	17,394
Lu Gu	18,460	17,910	17,713	17,806
Pu Li	25,622	24,173	23,675	23,136
Yu Chr	25,210	22,996	22,632	22,276
Ren Ai	18,304	17,750	17,673	17,761
Hsin Yi	15,288	15,372	11,745	15,512
Total	546,059	544,022	537,901	541,292

Source: Compiled from the Nantou County Statistical Yearbook, 2003

Note: * indicates the earthquake year

(2) Site selection (reasons for the sites selected)

Nantou was the most seriously damaged county in Taiwan during the 1999 quake, and Nantou City and Puli Township accounted for nearly 50 percent (24,361) of the 57,191 buildings damaged in Nantou County (refer to Table 3). Lugu Village in Lugu Township and Taomi Village in Puli Township were selected for investigation since they were affected by government project implementations after the quake, and the two represent different parts of the County in terms of population size, economy, and administrative functions.

More important, the two townships were selected because they are so-called reconstruction successes, where some other villages are still suffering the effects of the quake.

This study is organized to enable comparisons between the two successful townships and other places where programme implementation is still lacking. Hence, Zhen-xing in Nantou City was selected because there has been “no policy implementation”⁴.

Table 3: House Damage by township in 921 earthquake

	Totally destroyed	Partially destroyed	Total
Nantou City	5,213	6,318	11,531
Puli Township	6,220	6,610	12,830
Caotun Township	2,557	4,003	6,560
Jhushan Township	2,715	2,973	5,688
Jiji Township	1,816	834	2,650
Mingjian Township	359	443	802
Lugu Township	1,140	1,016	2,156
Jhongliao Township	2,542	1,424	3,966
Yuchih Township	2,375	1,476	3,851
Guosing Township	1,913	1,871	3,784
Shueili Township	599	1,231	1,830
Sinyi Township	438	357	795

⁴ The term “no policy implementation” used in this study, indicates apart from concrete construction on some maintenance engineering works, there is no policy package or structural readjustment programme to revive the local economy.

Renai Township	330	418	748
Total	28,217	28,974	57,191

Source : The 921 Earthquake Post-Disaster Recover Commission, Executive Yuan, 2004

Lugu

Geography and public works

Geography

Lugu Township is situated in southwest Nantou County (refer to Figure 5) adjacent to Shueili Township and Sinyi Township on the east, Jhushan Township on the west and south ,and Jiji Township across the Jhuoshuei River on the north. It is about 9 km wide and 16 km long with a total area of 141.89 km². Green mountains and hills rise and fall on the east, south and north and it has a mild and pleasant subtropical climate. Mt. Lingtou, the highest peak, has an elevation of 2,025 m and the famous Fonghuan Mountain is 1,698 m high. Most of the mountainous regions in the township consist of the extended ridges of these two tall mountains, and its rectangular shape of slanting topography is higher on the south and lower on the north.

In 1999, more than one-third of its buildings (271) were destroyed, including partially destroyed, accounting for 42 percent of the 649 in Lugu Village, as shown in Table 4.



Figure 5: Map of Lugu

Source: Elofa Portal Site <http://www.elofa.com.tw/nato/>

Table 4: Background information on Zhen-xing, Lugu and Taomi

	Area	Population	No. of households	Buildings totally destroyed	Buildings partially destroyed
Lugu Village	3.2925 km ²	2243	649	109	162
Taomi Village	17.9 km ²	1262	407	168	60
Zhen-xing Li	3.6812 km ²	2416	702	68	178

Source: Nantou County Statistical Year Book, 2004

At the end of October 2003, there were about 18,000 people in this township and 45 percent of the population made its living from farming and forestry. Over half its arable land is devoted to tea gardens and tea is its most important economic crop. Delicate and fragrant Dong Ding Wu Long tea is its main product. The booming development of tea plantations brought rapid progress and prosperity to the economy and culture of Lugu Township.

Public Works (Lugu Township)

The following major public works were completed after the 921 earthquake:

1. Slope removal project on Line 151
2. Hall of Bamboo Art with first-floor fruit and vegetable distribution center in Lugu Township
3. Lugu Township Tourism Service Center
4. New pagoda construction project to preserve cinerary caskets and urns
5. Lugu Township Administration Center
6. 334 reconstruction works after the 921 earthquake
7. Senior citizen cultural & entertainment center in Lugu Township
8. Establishment of Tea Village Cultural Garden
9. Tunnel 3k+900, Nantou route No.55-1
10. Road work at Nantou No.56; road extension work at Nantou routes No.55, No.55-1 and No. 55-2
11. Humus (rotten soil) removal project in Ruei Tian
12. 56 stage-2 reconstruction projects after the 921 earthquake
13. 190 reconstruction projects after typhoons Toraji and Nari
14. 42k+000~50k+000 road expansion work, route No.131

Major public works completed after the 921 earthquake in Lugu Village:

Table 5: Lugu village post-disaster reconstruction projects from 1999 to 2004

Project title	Executive organization	Funding organization	Duration	Capital*
Lugu commercial mall and billboard design project	Lugu Township Office	Ministry of Economic Affairs (MOEA) Department of Commerce	01/2004 – 01/2005	800,000
Lugu summer house project	Lugu Township Office	Nantou County Government	06/2004 – 06/2005	500,000
Lugu commercial mall design project	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	01/2002 – 12/2003	10,500,000
Lugu Village Pei-shei River dike maintenance	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	06/2003 – 12/2004	3,000,000
Lugu elementary school construction	Tzu Chi Foundation	Tzu Chi Foundation	08/2000 – 06/2001	51,870,000

Lugu Village agricultural path maintenance	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	2000 – 12/2000	80,000
Lugu Village agricultural path reconstruction engineering work	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	2000 – 12/2000	30,000
Lugu Village sub-path block abode engineering work	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	2000 – 12/2001	84,000
Lugu Village sub-path block abode engineering work	Lugu Township Office	921 Earthquake Post-disaster Recovery Commission	2000 – 12/2002	90,000
Lugu extinguisher installation	Lugu Township Office	Lugu Township Office	2000 – 12/2002	30,000
Total				66,984,000

Source: Lugu Township Office Documentary, 2005.

Note: *NT\$

Taomi

Geography and public works

Geography

Taomi is a remote hillside village on the outskirts of Puli Township in Nantou County (refer to Figure 6). According to news reports, bamboo shoots were once the main source of income for Taomi villagers, with production sometimes exceeding 100 tons per day. Unable to compete, the town's largest industry began a steep decline in the 1990s, until by the end of the decade the village was producing no more than five tons per day. As in so many other farm towns in Taiwan, the young moved out to the big cities to find work leaving the elderly behind with little hope for the future.



Figure 6: Map of Taomi

Source: Elofa Portal Site <http://www.elofa.com.tw/nato/>

That was the situation before Taomi's fate was changed dramatically by the huge earthquake that hit Taiwan on September 21, 1999 destroying about 60 percent of the town's buildings. Huang Jin-Jyun, the village chief at the time, requested help from the New Homeland Foundation, a non-profit organization that helps communities rebuild. After several discussions, the foundation and villagers decided to rebuild by focusing on the rivers.

According to Taipei Times (2003), the devastating 921 earthquake six years ago almost ruined Taomi Village in Nantou County's Puli Township, but residents have rebounded from the catastrophe by transforming their agricultural village into an ecotourism spot. Taomi Village residents have reinvented themselves as ecological guides and investigators in a project to rebuild their homes after the earthquake.

Before the earthquake the majority of Taomi's 1,200 residents made their living from farming around this small village occupying an area of 15km² at altitudes of 430m to 800m. Surrounded by beautiful bamboo forests, wetlands, hills, waterfalls and creeks, the village seemed to stand aloof from the world.

About 56 percent of the buildings in Taomi were destroyed overnight (refer to Table 4). The bodies of 20 people buried by rubble during the quake were never found.

Residents' lives were suddenly turned upside down. They could not go back to their homes, because these had been reduced to rubble, and they could not grow vegetables due to ruined farmland.

When Taiwan joined the WTO, it led to cheaper agricultural products being imported, but it made returning to farming more difficult for Taomi residents.

Living in friends' homes or temporary housing units constructed by the government, most of the residents became unemployed and lived on a relief allowance of NT\$15,000 per month from the Council of Labor Affairs. Taomi's residents knew they had to find a new way to make a living.

With the support of the Council of Agriculture's Taiwan Endemic Species Research Institute (TESRI) and the independent New Homeland Foundation, people started attending courses on the village's history and ecosystems -- and the idea of transforming Taomi into an ecological village gradually took shape.

With various habitats and thick vegetation in wetlands, creeks, orchards and forests, Taomi possesses the most diverse variety of frogs, dragonflies, damselflies and birds in Taiwan. Especially, there are some spots such as Cao-nan Wetland, Removable Houses, Ecology Pond, Sowers Planning Field, Jhong-Lu-Keng Wetland and Mao-Pu-Keng Ecology Park etc, being famous for eco tourism.

Realizing that their village had been blessed with a unique ecosystem and diverse wildlife, residents decided to piece their lives back together by transforming Taomi from a traditional rural hamlet into a resort for ecological tourism.

Public works

Major public works completed in Taomi after the 921 earthquake:

Table 6: Taomi post-disaster reconstruction projects from 1999 to 2004

Project title	Executive organization	Funding organization	Duration	Capital*
Installation Taomi community instruction Project	New Homeland Foundation	Council of Labor Affairs	03/2002 – 08/2002	300,000
Pupil back home for part-time study	National Youth Commission	National Youth Commission	07/2001 – 08/2001	558,240
Instruction board for tourists	Development Committee of Taomi Village	Nantou Teacher's Association	2001 - 2003	400,000

Taomi Li seedbed promotion project	Development Committee of Taomi Village	Council of Labor Affairs	08/2002 – 03/2003	1,504,800
2002 promotion integrated community development project – making Taomi active	Development Committee of Taomi Village	Cultural Affairs Council	09/2002 – 02/2003	1,100,000
Restructing Taomi rural village industry project	Development Committee of Taomi Village	The Soil and Water Conservation Bureau (SWCB)	09/2002 – 06/2003	9,900,000
Protection Taomi river project (1 st project)	Development Committee of Taomi Village	Forestry Bureau	12/2002 – 03/2003	90,000
One house with a tree activity for Taomi community	Development Committee of Taomi Village	Forestry Bureau	03/2003	80,000
Protection Taomi river project (2 nd project)	Development Committee of Taomi Village	Forestry Bureau	04/2003 – 05/2003	95,000
Integrated community tourism seminar	Development Committee of Taomi Village	The 921 Earthquake Post-Disaster Recover Commission	07/2003 – 09/2003	122,000
Cultural industry Inhabitation for 921 Earthquake post-disaster recover areas	Development Committee of Taomi Village	The 921 Earthquake Post-Disaster Recover Commission	07/2003	15,000
921 Earthquake post-disaster recovery construction Engineering	Development Committee of Taomi Village	Council of Cultural Affairs	04/2003 – 09/2003	400,000
2003 Promotion integrated community development Project named “Cultivating Taomi”	Development Committee of Taomi Village	Council of Cultural Affairs	09/2003 – 12/2003	800,000
Integrated community development project	Development Committee of Taomi Village	Council of Agriculture Executive Yuan	01/2004	295,000
Integrated community development project	Development Committee of Taomi Village	The 921 Earthquake Post-Disaster Recover Commission	05/2004 – 10/2004	112,600
Total				15,772,640

Source: The Development Committee of Taomi Village, 2005

Note: *NT\$

Zhen-xing

Geography and public works

Geography

Nantou City was originally called 「Nantoushe」 aborigine. It was officially named Nantou City as a part of Nantou County in 1940, and is the seat of Nantou County Government. In 1957, the offices of the Taiwan Provincial Government were moved to Jhongsingsin Village in Nantou City. Being developed early compared to other areas in Taiwan gave Nantou City many advantages, including human and natural resources, and tradition.

Nantou City is situated in northwest Nantou County, adjacent to Jhongliao Township and Bagua Mountain on the west, Caotun Township on the north, and Mingjian Township on the south. It contains 34 lis with a total population of 104,631 in 72km² and is generally square in shape.

Zhen-xing is located on the outskirts of Nantou City and has a population of 2,416. In 1999, more than one-third (246) of its 702 buildings were destroyed, including partially destroyed buildings brings the total to 35 percent (refer to Table 4).



Figure 7: Map of Zhen-xing

Source: Nantou City office <http://www.ntc.gov.tw/>

Major public works completed after the 921 earthquake in Zhen-xing:

Table 7: Zhen-xing post-disaster reconstruction projects from 1999 to 2004

Project title	Funding organization	Duration	Capital*
Zhen-xing Li wild river engineering project	Soil and Water Conservation Bureau (SWCB)	2002	5,100,000
Zhen-xing Li sewage improvement	Soil and Water Conservation Bureau (SWCB)	2002	3,500,000
Zhen-xing Li environmental improvement	Soil and Water Conservation Bureau (SWCB)	2003	3,000,000
Zhen-xing Li environmental engineering project; sewage system	Soil and Water Conservation Bureau (SWCB)	2004	3,200,000
Total			14,800,000

Source: Nantou City Government Documentary, 2005

Note: *NT\$

3. Research questions and hypotheses

Research questions

- (1) Who benefits from structural readjustment programmes?
- (2) Are they better off after the programmes?
- (3) Are they satisfied with government's structural readjustment programmes?

The research questions above lead to two sub-questions:

- Has the infrastructure improved compared to before the quake in 1999?
- Do structural readjustment programmes influence integrated community development in terms of effectiveness and sustainability?

Hypotheses

Government structural readjustment depends on the degree to which regional economic characteristics are identified.

“Influence” in this study is measured by “unemployment reduction”, “infrastructure improvement” and “respondent betterment”. Therefore, the quantitative interview results are based on evaluations of these three by respondents.

The hypothesis at the core of this research is divided into three specific hypotheses:

- Lack of market discrimination⁵ cripples structural re-adjustment programmes.
- A lack of specialized agencies in Nantou prevented programme successes.
- The lack of a whole-county development plan⁶ leads to unbalanced regional development in terms of job opportunities, economics status, etc.

4. Methodology

This section discusses how the research was designed and implemented, and explains how sample households were chosen.

The process of selecting community household samples

Household registration has a long history in Taiwan. To make the fieldwork more manageable, the census from the Nantou County registration centre was used to sample households.

The following shows how a representative sample was obtained. It first lists the households registered in the three study sites with information on the timing and age of the head of household.

The criteria for selecting households from official registration lists were as follows.

Households in Lugu Village, Taomi Village and Zhen-xing Li: (1) those who had moved to or had lived in Nantou since 1994 till 2004, as recorded in the official Nantou Council survey, which made it possible to ensure that all those selected would have had the opportunity to establish themselves in Nantou. (2) Age at arrival in Nantou County was 16 years or more, which excluded non-decision making households. Those aged 16 or over in 1994 must have been at least 25 at the time of the survey and importantly who experienced the 1999 earthquake and still live in the same place.

⁵ “Market discrimination” in this study is defined as specialization or having specialty products.

⁶ The “whole-county development plan” referred to in this study means an integrated community development plan in which governments or planning agencies are able to integrate community resources, including natural and human resources, and to promote local specialties as distinct from other regions’ economic characteristics.

5. Results and Analyses

(1) Demographic and economic characteristics of the studied population

Figure 8 shows that of the sample of 300 subjects, 57 were male and 43 female in Lugu, 58 and 42 in Taomi, and 50 and 50 in Zhen-xing (refer to Figure 8).

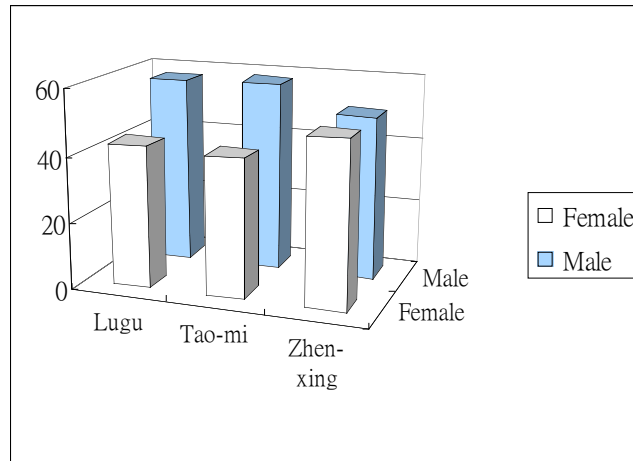


Figure 8: The study population by gender

Source: drawing based on Table 8

Figure 9 shows, that averages of respondents' age were 53, 45 and 44 in Lugu, Taomi and Zhen-xing, respectively.

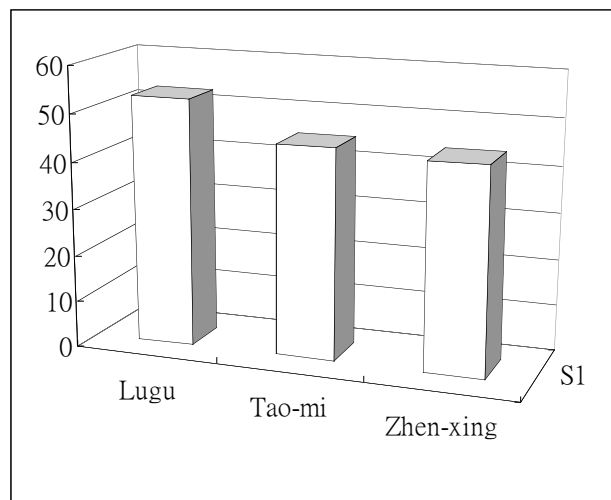


Figure 9: Averages of respondents' age

Source: results of statistics analysis

Respondents' educational attainments were higher in Zhen-xing than in the other two areas. Figure 10 shows, an average of 10.83 years of schooling for respondents in Lugu, compared to 9.13 and 11.08, respectively, for respondents in Taomi and Zhen-xing.

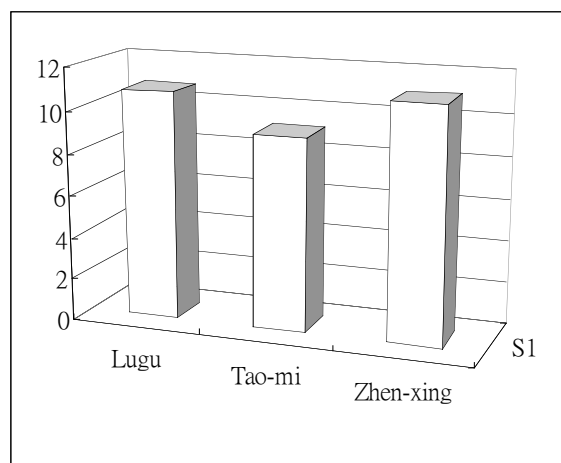


Figure 10: Average schooling of Lugu, Taomi and Zhen-xing respondents

Source: drawing based on Table 8

Table 8: Average schooling of Lugu, Taomi and Zhen-xing respondents

Schooling	Lugu		Taomi Village		Zhen-xing	
	Male	Female	Male	Female	Male	Female
6	22 (38.60)	7 (16.28)	17 (29.31)	26 (61.94)	0	13 (26)
9	7 (12.28)	0	16 (27.59)	0	12 (24)	0
12	14 (24.56)	29 (67.44)	17 (29.31)	8 (19.05)	26 (52)	12 (24)
14	0	7 (16.28)	8 (13.79)	8 (19.05)	12 (24)	12 (24)
16	14 (24.56)	0	0	0	0	13
Total	57 (100)	43 (100)	58 (100)	42 (100)	50 (100)	50 (100)

Source: Results of statistical analysis

Table 9 shows that there was a significant change in occupation by respondents between 1994 and the time of the interview in 2004. In the case of Lugu, the data indicate that 7 percent of the respondents were unemployed in 2004, compared to 0 percent in 1994 and 1999. This is partly because some areas' soil could not be cultivated after the quake and some farmers had to leave their land to seek other employment. One Case interview illustrates this point.

Case 1: Mr. Wang, aged 54

Occupation: Farmer

Mr. Wang indicates:

"I am really a victim of the 921 earthquake, and I did not get any subsidies from the government. I used to have ten hectares of land to cultivate. My own three hectares and seven hectares I rented from another landowner by contract for a ten-year period in 1996, before the 921 earthquake in 1999. However, now I am in debt as the soil is no longer fit for agricultural purposes and I had to leave and find another job to live..."

In Taomi, 8 percent, 25 percent and 9 percent of the respondents were unemployed in 1994, 1999 and 2004, respectively. The unemployment rate was high in 1999 because of the earthquake. A number of government-supported re-structuring programmes were initiated in order to revive the village after the disaster. In particular, the area was intended to specialize as an eco-community, and hence developed eco-tourism and a retreat center to significantly distinguish this village from others. Due to the job opportunities created for locals, Taomi's economy is more prosperous than most townships in Nantou.

In the case of Zhen-xing the unemployment rate is still high, 18 percent in 2004, compared to 0 percent and 25 percent in 1994 and 1999. This might be explained by respondents in Zhen-xing Li, a part of Nantou City, having jobs that differ significantly from those of other townships' respondents (refer to Table 9). After the quake, Nantou City was the second-most-damaged city in Nantou County (refer to Table 3). In a part of Nantou City, Zhen-xing, local businesses are still in a recession resulting in many private sector employees (including salaried and day laborers) being jobless. This is so first because the government does not have any rebuilding programmes to revive the local economy apart from some concrete engineering projects to maintain the infrastructure and subsidies for those whose houses were damaged (refer to Table 7), and second, because the local government (Nantou county government and lower level bureau such as city government, etc) does not have a clear vision of what Zhen-xing might be in the future.

It is also instructive to note that Table 7 shows four projects that are all infrastructure works, unlike the case in Taomi, which has quite a few integrated rebuilding programmes for the community. Above all, these programmes are not very costly when compared to the costs in Lugu and Zhen-xing: NT\$15,722,640 in Taomi, NT\$66,984,000 in Lugu, and NT\$14,800,000 in Zhen-xing (refer to Tables 5, 6 & 7). Thus, lack of market discrimination to revitalize the community and to emphasize its role in Zhen-xing has led to recession and prevented success.

Table 9: Types of respondent jobs in Lugu, Taomi and Zhen-Xing in 1994, 1999, and 2004

Variables	Lugu			Taomi Village			Zhen-xing		
	1994	1999	2004	1994	1999	2004	1994	1999	2004
1 Farmer	14	14	7	25	25	17	0	0	0
2 Tenant farmer	0	0	0	0	0	0	0	0	0
3 Part-time agricultural labour	7	7	0	0	9	9	0	0	0
4 Business owner	36	36	43	16	8	16	36	36	36
5 Public sector employee (day labour)	7	7	0	0	0	0	13	13	13
6 Public sector employee (salary)	7	7	7	0	0	0	13	13	13
7 Private sector employee (day labour)	0	0	0	9	0	0	13	0	0
8 Private sector employee (salary)	21	21	21	34	25	41	25	13	20
9 Housewife	8	8	8	8	8	0	0	0	0
10 Others	0	0	7	0	0	8	0	0	0
11 Unemployed	0	0	7	8	25	9	0	25	18
Total	100	100	100	100	100	100	100	100	100

Source: results of statistical analysis

Note: 1999 data presented here is pre-earthquake

Table 10 shows the number of landowners is higher in Taomi and Lugu than Zhen-xing. While the earthquake had no effect on land ownership in Taomi and Zhen-xing, the number of landowners in Lugu decreased in 2004. The decrease in the number of landowners in Lugu is, as mentioned above, attributable to some agricultural land being unfit for cultivation after the quake, causing some farmers to leave the land and seek other employment. The decrease in the number of house ownership in Lugu is,

probably as discussed in the qualitative data interview with Mr. Wang (refer to Case 1), some farmers need to sell their houses for paying off the debt. Or probably after the quake, their houses totally or partially were destroyed, therefore, the houses need to be rebuilt, however, they are still lack of affordability to do so.

Land and house ownership by Zhen-xing respondents is lower than in the other two survey areas, perhaps because Zhen-xing did not initiate any programmes to stimulate the local economy after the quake, resulting in a worse economic decline (in land and house ownership) than in the other two survey areas. One might suspect that housing prices in Zhen-xing are higher than in Taomi or Lugu, however, this is not the case. Zhen-xing is located on the outskirts of Nantou City and is an old community, unlike Taomi, which is quite well-developed with green fields that attract tourists. Consequently, houses are more expensive in Taomi than in Zhen-xing.

Table 10: Land Ownership in Lugu, Taomi and Zhen-xing in 1994, 1999, and 2004

Variables	Lugu			Taomi			Zhen-xing		
	1994	1999	2004	1994	1999	2004	1994	1999	2004
Yes	71	71	64	66	66	66	38	38	38
No	29	29	36	34	34	34	62	62	62
Total	100	100	100	100	100	100	100	100	100

Source: results of statistical analysis

Table 11: House Ownership in Lugu, Taomi and Zhen-xing in 1994, 1999, and 2004

Variables	Lugu			Taomi			Zhen-xing		
	1994	1999	2004	1994	1999	2004	1994	1999	2004
Yes	95	93	90	100	84	100	85	73	84
No	5	7	10	0	16	0	15	27	16
Total	100	100	100	100	100	100	100	100	100

Source: results of statistical analysis

Table 12 shows 100 percent of Taomi Village respondents indicated that infrastructure was improving, 72 percent of Lugu respondents revealed that infrastructure was improving and 63 percent of Zhen-xing respondents indicated that infrastructure was improving.

Table 12: 'Infrastructure is improving' by respondents in Lugu, Taomi and Zhen-xing

	After the quake, did you think the infrastructure is improving?			Total
	Yes	No	Others	
Lugu	72	14	14	100
Taomi	100	0	0	100
Zhen-xing	63	14	0	100

Source: results of statistical analysis

For the variable of receiving help from the government, 42 percent, 36 percent and 65 percent of total respondents in Lugu, Zhen-xing and Tao-mi had received help (refer to Tables 13, 14 and 15).

Table 13 shows that the degree of satisfaction (in terms of whether respondents had betterment while comparing their welfare in 1999 just after the earthquake and that at the time of interview in 2004) depends on whether the respondents receive help from the government or not. Table 13 reveals that the majority of Lugu's respondents regarded themselves "no differences" or even "no betterment" in 2004 compared to the situation after the earthquake in 1999.

In Zhen-xing, a majority of respondents, 75 percent, considered themselves “not better off” after the quake in 2004 as compared to 1999. This is because the majority of respondents did not get compensation for house damage and help from government rebuilding programmes for local economies either. And even if there are some respondents who received help, there is no significant relationship between the reception of help and betterment as shown in Table 15.

In Taomi Village, on the other hand, the majority of respondents, 74 percent, considered themselves “better off”. Among this group, 88 percent (65 of 74) received government help (refer to Table 14) by way of compensation and restructuring programmes. In particular, the government, especially Taomi village government intends to revive the local economy as an ecological community, which should make the local economy prosperous. The sense of belonging is also much stronger as Taomi was one of the main quake areas in Puli, which strengthened local commitment to participating in restructuring programmes and quite often, local governments promote agricultural specialties in accordance with local characteristics to assist in the development of local industry.

In Lugu, 72 percent of the respondents saw “no difference” and considered themselves “not better off” even though they received compensation for losses and help from government rebuilding programmes because some of the soil is no longer suitable for tea production after the quake. Moreover, after Taiwan joined the WTO local businesses could not compete in terms of production, pricing, and promotion.

This is supported by a qualitative data interview (refer to Case 2):

Case 2: Mrs. Lin

Working in the Lugu Farmer’s association

Mrs. Lin reveals,

“the economic situation for farmers in Lugu is getting worse and worse as quite a few farmers now cannot pay off their debts to the association. Therefore, they have to sell their land. Also after WTO entry, fruit farmers lacked the knowledge to face the so-called “Post-modern agriculture market” and compete with other regions, resulting in their situation getting worse and worse.”

One hundred percent of the farmers in Lugu (7 of 7) considered themselves “no better off” at interview time in 2004, as shown in Table 16. In Taomi, 100 percent of the farmers (26 in 26), part-time agricultural labourers (9 of 9), and business owners (16 of 16), housewives (8 in 8), and 58 percent of the private sector employees (24 in 41) consider themselves “better off”. In Zhen-xing, 100 percent of the private sector employees (20 in 20) and 66.7 percent of the business owners (24 of 36) consider themselves “not better off”.

Tables 17 and 18 show that for respondents in Lugu and Zhen-xing, the more properties they own the “better off” they feel after the quake. For example, 100 percent of Lugu respondents (14 of 14) who own land properties consider themselves better off. However, in Taomi, even though respondents do not own properties, they still seem to be very positive about their prospects.

This finding is supported by a qualitative interview (refer to case 3).

Case 3: Mr. Chiu

Working as a licensed frog guide

He says:

“I am not rich as I do not have any properties, but I never expected that my childhood love of frogs would be useful in reconstructing my village...Best of all, I can earn a living from it...In addition, in Taomi, we have the Taomi Community Development Committee which has planning professionals who guide us in developing the area, finding out characteristics from other regions. I am a volunteer on that committee, my wife is too. We are responsible for one green field in which the jobs are taking care of the trees, keeping the environment tidy, etc.”.

In Taomi, many residents can tell frog species apart by listening to their voices; they are also the owners of a guesthouse called "The Green House" that has been remodeled on their properties.

One key factor to success is that Taomi residents knew their goal was not only to rebuild their village but also to revitalize it such as with "2002 Promoting Integrated Community Development Project – Making Taomi Active" and "Cultural Industry Inhabitation for 921 Earthquake Area Post-disaster Recovery". Taomi residents also set up a committee called the Taomi Community Development Committee consisting of villagers helped by professionals from Taomi and elsewhere. With the help of experts and university professors, the residents gradually accepted the concepts of "holistic community building" and the "knowledge economy." They came to believe they could carve out new prospects if they applied their efforts in their community.

An educational programme also certified 15 residents as professional ecological guides and investigators of frogs, dragonflies, plants, and birds after they attended over 1,000 hours of educational courses, which took them about one year.

Some residents who attended tourism-related courses learned about hotel management and gastronomy and remodeled their houses into guesthouses. There are now eight such guesthouses. From August to October, more than 3,000 people visited Taomi Ecological Village, bringing in more than NT\$2 million.

In order to protect Taomi's natural resources and surroundings, the village has had to limit access to about 120 visitors a day. At present, many changes have taken place in Taomi. There is now a closer relationship among residents and, most importantly, the residents' sense of community has improved.

Comparing programmes in Taomi and Lugu, Taomi residents knew their goal and with the help of the experts to supervise them, successfully implemented government policies. Even with government policy implementation, but without knowing the most needed priority in the village, Zhen-xing did not recover much after the quake.

As stated in the hypothesis, **effects of structural re-adjustments by government depend on the degree to which regional economic characteristics are identified; "effects" in this study are measured by "unemployment reduction", "infrastructure improvement" and "respondent betterment".**

Unemployment was up in Lugu at interview time in 2004, 7 percent compared to 0 percent in 1999, but 72 percent of the respondents indicated the infrastructure was improving. However, a majority indicated "no difference" and "not better off" regarding their satisfaction with quality of life improvements. This finding is corroborated by a qualitative interview with Mr. Wang who claims his land cannot be cultivated anymore, forcing him to leave it and find other employment in Lugu (refer to Case interview 1). Quantitative data analyses show that fewer respondents owned land and houses in 2004 than in 1999, which accounts for the "no difference" and "not better off" results.

In Taomi, the unemployment rate was 9 percent at interview time in 2004, compared to 25 percent in 1999, 100 percent of the respondents indicated that the infrastructure was improving, and 74 percent considered themselves "better off" compared to before the quake in 1999. This finding is supported by the increase in house ownership.

In Zhen-xing, the unemployment rate only decreased by 7 percent from 25 percent in 1999 to 18 percent in 2004, and 63 percent of respondents indicated the infrastructure was improving. However, a majority (75 percent) considered themselves "not better off", even though house ownership increased by 11 percent.

Quantitative data analyses show that most respondents in the three survey areas were satisfied with all government construction programmes, as measured by "infrastructure improvement". However, Lugu Township and Nantou city need more progress in "unemployment reduction" and "respondent betterment". This finding is corroborated by qualitative interviews.

Analyzing government long-, medium- and short-term post-disaster recovery programmes (refer to Figures 2 and 3) makes local government (Nantou county government) intentions on community development crystal clear. However, the question raised here is what priority do communities like Taomi have for central government subsidies when they have their own community development committees that can search for better chances to revitalize local economies and request subsidies from government? In other words, the participatory approach by specialized local agencies with local people, that is, the so-called “bottom-up” system for planning, is necessary.

The results were in accordance with the findings of previous research:

The effects of structural readjustment by government depend on identifying regional economic characteristics. That is to say, lack of market discrimination in revitalizing villages leads to crippling of structural readjustment programmes. In addition, the lack of skilled or specialized agencies in Nantou led to prevention of programme successes. It was also confirmed that the effectiveness and sustainability of structural readjustment programmes for community development depend on identification of regional economic characteristics.

Table 13: ‘Received help’ vs. ‘better off’ for Lugu respondents

Did you receive any help from the government after the quake in 1999?	Do you think yourself better off now than after the quake in 1999?			Total
	Yes	No	No difference	
Yes	21 (0.75)	7 (0.24)	14 (0.33)	42
No	7 (0.25)	22 (0.76)	29 (0.67)	58
Total	28 (100)	26 (100)	43 (100)	100

Source: results of statistical analysis

Note: $X^2 = 17.899$, $p > 0.05$. The obtained P-value is above 0.05; we may confidently reject the null hypothesis that this sample came from a survey population in which whether respondents received help or not and whether they think themselves better off now than after the quake in 1999 are unrelated.

Table 14: ‘Received help’ vs. ‘better off’ for Taomi respondents

Did you receive any help from the government after the quake in 1999?	Do you think yourself better off now than after the quake in 1999?		Total
	Yes	No	
Yes	65 (87.84)	0	65
No	9 (12.16)	26 (100)	35
Total	74 (100)	29 (100)	100

Source: results of statistical analysis

Note: $X^2 = 65.25$, $p < 0.001$. The obtained P-value is below 0.05; we may confidently reject the null hypothesis that this sample came from a survey population which whether respondents received help or not and whether they think themselves better off now than after the quake in 1999 are related.

Table 15: ‘Received help’ vs. ‘better off’ for Zhen-xing respondents

Did you receive any help from the government after the quake in 1999?	Do you think yourself better off now than after the quake in 1999?			Total
	Yes	No	No difference	
Yes	12 (48.0)	24 (32.0)	0	36
No	13 (52.0)	51 (68.0)	0	64
Total	25 (100)	75 (100)	0	100

Source: results of statistical analysis.

Note: $X^2 = 2.083$, $p < 0.05$. The obtained P-value is below 0.05; we do not reject the null hypothesis that this sample came from a survey population in which whether respondents received help or not and think themselves better off than after the quake in 1999 are related.

Note: “Y” indicates better off; “N” indicates not better off; “N.D” indicates no difference

Table 16: “Better off” after the quake vs. job type for Lugu, Taomi and, Zhen-xing respondents

Variables	Lugu					Taomi					Zhen-xing				
	1994	1999	2004			1994	1999	2004			1994	1999	2004		
			Y	N	N.D			Y	N	N.D			Y	N	N.D
1. Farmer	14	14		7		25	25	17							
2. Tenant farmer															
3. Part-time agricultural labour	7	7					9	9							
4. Business owner	36	36	14	15	14	16	8	16			36	36	12	24	
5. Public sector day labour	7	7									13	13		13	
6. Public sector salaried	7	7	7								13	13	13		
7. Private sector day labour						9					13				
8. Private sector salaried	21	21	7	7	7	34	25	24	17		25	13		20	
9. Housewife	8	8			8	8	8	8							
10. Others					7										
11. Unemployed					7	8	25		9			25		18	
Total	100	100	28	29	43	100	100	74	26	0	100	100	25	75	0
			100					100					100		

Source: results of statistical analysis

Note: “Y” indicates better off; “N” indicates not better off; “N.D” indicates no difference

Table 17: “Better off” after the quake vs. landownership for Lugu, Taomi and Zhen-xing respondents

	Lugu					Taomi					Zhen-xing				
	1994	1999	2004			1994	1999	2004			1994	1999	2004		
			Y	N	N.D			Y	N	N.D			Y	N	N.D
No	29	29		14	22	34	34	25	9		62	62	25	37	
Under 0.5	36	36	14	8	7	41	41	32	9		13	13		13	
0.5-1	28	28	14		14	8	8	8			12	12		12	
1-2	7	7				9	9	9			13	13		13	
More than 5						8	8		8						
Total	100	100	28	29	43	100	100	74	26		100	100	25	75	

Source: results of statistical analysis

Note: “Y” indicates better off ; “N” indicates not better off; “N.D” indicates no difference

Table 18: “Better off” after the quake vs. house ownership for Lugu, Taomi and Zhen-xing respondents

	Lugu					Taomi					Zhen-xing				
	1994	1999	2004			1994	1999	2004			1994	1999	2004		
			Y	N	N.D			Y	N	N.D			Y	N	N.D
No	5	7		7	7		16				15	27	4	10	2
1	67	58	21	15	22	84	68	58	18		61	55	3	38	20
2	28	35	7	7	14	16	16	8	8		24	18	2	16	5
4								8							
Total	100	100	28	29	43	100	100	74	26		100	100	9	64	27

Source: results of statistical analysis

Note: “Y” indicates better off; “N” indicates not better off; “N.D” indicates no difference

6. Conclusion and policy implications

Conclusion

After the 921 earthquake in 1999, integrated community development became a focus of people’s attention. Although the government of Taiwan has been advancing structural readjustment programmes and promoting agricultural specialties for the central part of the island to assist in the development of local industry, its short-term promotion is only of limited help to local producers. Without specific assistance and economic discrimination for the region, development results were sure to be inadequate and unproductive, as in the case of Zhen-xing or the case of Lugu, two areas from which the productive population is still out-migrating to other regions. However, the government of Lgu township needs more progress to prevent their productive population to out-migrate to other regions and to revitalize the local economy.

Government surely affects integrated community development. However, the effects of structural readjustment by government depend on the degree to which it identifies regional economic characteristics. For example, in Lugu, which used to be a tea-producing community, the government should have sought to develop the tea industry in a creative post-modern agricultural manner after the quake in order to discriminate it from other regions’ structural readjustment programmes. In other words, the greater the degree of identification of regional economy discrimination from other regions, the more effective the structural readjustments from the government are. However, the government of Lugu township needs more progress to prevent its productive population from out-migrating to other regions and to revitalize the local economy.

Our findings show that most respondents in the three survey areas were satisfied with all government construction programmes, as measured by “infrastructure improvement”. However, Lugu Township and Nantou City need more progress in “unemployment reduction” and “respondent better off”. This finding is corroborated by qualitative interviews with Mr. Wang, Miss Lin, and Mr. Chiu (refer to Cases 1, 2 and 3).

Policy implications

The conclusions above suggest the following policy implications:

1. More training courses should be provided.
Farmers lack economic knowledge and fear market changes. For example, after Taiwan joined the WTO their prices of agricultural products fell (refer to Case 2). Therefore, the government should provide more “post-modern agriculture” technique programmes to upgrade their competitive skills by emphasizing “quality” over “quantity”.
2. Train specialized agencies for local community development.
Rural community development projects in Taiwan have for some time now, been implementing rural development projects. Sector agency projects are initiated by the COA and other related ministries. Integrated community development project are implemented at the village level (as shown in Tables 5, 6, and 7), however the governments concerned with local community development lack specialized agencies to promote and discriminate the local economies from others.

3. A whole-county development plan is needed.
As shown in Figures 2 and 3, the 921 long-, medium- and short- term post-disaster recovery programmes are for the whole county. However, each area had a unique type of disaster in terms of geography, agriculture, etc. Therefore, the government should have programmes focused on each area in order to develop individual economic characteristics.

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4. INDIA

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Social Capital and Rural Development in India: Role of Self-Help Groups in Development

Abstract

This paper is to understand the social capital through Self Help Group (SHG) membership and the result of it as a source of development at household level. Data for this study were collected from 138 SHG members of 36 SHGs and 138 non-SHG members in 15 villages selected in Reddiarchathram Block, in Dindigul District of Tamil Nadu, India. With respect to social capital, this study does not attempt to measure the level of social capital. Rather, it is assumed that working for the common objectives in close association develops social capital. Then, the effect of social capital on the improvement of people's livelihood is evaluated by the comparison between SHG members and non-SHG members with respect to the following three aspects: income and credit support, gender issues, and health status at the household level.

With respect to income and credit support, SHGs are found to facilitate savings among members and ensure timely credit to the members. Not only those financial aspects, SHGs also enhance members' skills and capacity for income generation. As a result, SHG members perceive that SHG has direct impact on the household income. Such opportunities are not available to non-SHG members, and therefore the differences are quite significant. As for social status of women, SHGs have brought a considerable improvement both at the household and the community levels. Among the non-SHG members the changes are relatively low and slow. However, in terms of health status there is no significant difference between SHG members and non-members. But SHG members benefit from membership: for example, receiving financial support to meet health-related expenses. In sum, all the empirical evidence supports the significant, positive role of social capital fostered by SHG activities in the improvement of rural households' livelihood. Considering that the linkages with other SHGs, banks, and local government are crucial for the success of SHGs, policy interventions to support their networking need to continue.

Introduction

The wide spread prevalence of poverty and under nutrition in India is due to the non-availability of productive employment to the large number of people. The rural employment opportunities are declining due to a general decline in the rural economy. While the GDP growth rate has increased in India, there was a sharp decline in the employment growth rate from 3.8% to 2% between 1992 and 2001, especially in the sector of agriculture, which is the primary sector contributing to a significant proportion of the total employment in India. Small scale enterprises are the second largest employment provider to the Indian workforce after agriculture, but only 13 % of them are located in rural areas and serving rural communities. Hence it is essential to generate employment opportunities in the rural sector especially among socially and economically disadvantaged groups. To this end, Self Help Groups (SHGs) are expected to play an important role.

SHG is a group of rural people usually with not more than 20 members. In several parts of India during the mid 1980s, non-governmental organizations (NGOs) adopted the SHG as an appropriate local institution which provides the poor with opportunities to improve their life through group activities like saving and

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loan. Subsequently National Bank for Agriculture and Rural Development (NABARD) in collaboration with NGOs, experimented the concept of banking with rural poor households, and found that the reimbursement rate from the groups was more than 90%. The launching of a pilot phase of the SHG bank linkage program in February 1992 could be considered as a landmark development in banking with the poor, in which 500 SHGs were financed. In 1994, India came out with wide ranging recommendations on internalization of the SHG concept as a potential intervention tool in the area of banking with the poor.

The number of poor women and men enrolled in SHGs all over rural India has been increasing remarkably since 1992. As of March 2003, the number of SHGs that are linked with banks amounts to 717,360. The recent statistics shows that 1,079,000 SHGs are instrumental in channelling bank finance to 16.7 million poor families all over the nation. Despite the quick progress, SHGs have reached only 22.3 percent of poor families in the country as a whole (11.6 million out of 52 million families). The SHGs have found a place in the Nations Budget (2003-2004) that indicates a target to bridge 585,000 SHGs through credit linking with formal financial institutions during the period up to March 31, 2007. In spite of all this, in most of the cases it is a 'number game', which may lack the quality of self-sustenance of the self-help movement. Hence, it is necessary to examine if SHGs are really effective to improve rural people's livelihood.

Although SHGs' primary activities are thrift and credit, nowadays they have become involved in natural resource management, development work, literacy, participation in local body governance, common property resource management, and so on. Moreover, there are a considerable number of SHGs that have taken up group enterprises thereby generating income. With this regard, social capital should be a critical factor for successful SHG activities, because social capital is a requisite for collective action, applicable for an individual and for a group. Be it formal or informal, interrelationships and interactions between members can foster social capital.

The works on social capital have made an effort to identify particular social conditions that lead to good economic conditions and improve the conditions of the society (Coleman 1988; Putnam 1993). They also refer trust and norms of civic-minded behaviour as manifestations of social capital.⁷ A study conducted by Narayan (1997) shows that ownership of social capital by households in Tanzania has strong effects on household's welfare. Chopra (2002) discusses the precise nature of the creation of social capital and the role it plays in furthering development interventions at local levels as well as the nature of interaction between new institutions and older formalized networks. The study by D'Silva and Pai (2002) in Adilabad district of Andhra Pradesh shows that the presence of social capital is crucial for the successful functioning of participatory programs such as Joint Forest Management (JFM) and Watershed Development (WD).

As presented above, some of the studies on social capital have demonstrated that social capital is important in the context of development projects. However, it has not yet demonstrated what the implications of the presence of social capital are for the welfare of households and whether social capital helps the poor and the poorest. Hence, the present study makes an attempt to understand the impact of social capital at a micro context. Instead of measuring social capital, this paper assumes that social capital has been fostered among SHG members by being involved in group activities, and examines the impact of such social capital on the

⁷ This paper does not discuss the definitions of social capital in detail, but as Fukuyama (1999) points out, many of the definitions refer to manifestations of social capital rather than to social capital itself: that is, "Trust, networks, civil society, and the like which have been associated with social capital are all epiphenomenal, arising as a result of social capital but not constituting social capital itself." Lin (2001) defines social capital as resources embedded in a social structure, which are accessed/mobilized in purposive actions. Haris (2001) in his critical reflection upon the popular conception of social capital says that it systematically obscures power, class and politics. DeFilippis (2001) argues in the same line that there is a need to understand issue of power in the production of communities because it is divorced from economic capital. Moreover, Sobel (2002) points out that social capital, as an attribute of an individual, cannot be evaluated without knowledge of the society in which the individual operates. The extent to which an individual has access to resources through social capital depends on the person's connections (whom they know, but also connections through common group membership), the strength of these connections, and the resources available to these connections. He adds further that the institutional and cultural frameworks that foster trust may be different in different countries. Controlling for these features may therefore have different implications in different settings. While the authors of this present paper accept their arguments, the analyses in this paper are not necessarily based on them.

practice, knowledge and perception at the household level through the comparison between households in SHGs and those not in SHGs. Specifically, the impact is investigated in terms of the following three aspects: income and credit support, gender issues, and health status at the household level.⁸

Method and Data

Reddiarchathram block is selected for the study site, where M.S. Swaminathan Research Foundation (MSSRF) has been facilitating SHGs. The block is located in the District of Dindigul, in the central part of Tamil Nadu, South India. Agro-ecologically this block belongs to the semi-arid zone. Residential localities of 244 settlements are situated in this block with the total population of 107,123. The number of females per 1,000 males amounts to 994.

Land utilization of the block is: 19,534 ha of net area sown, 1,620 ha of current fallow, 902 ha of cultivable waste, 2,006 ha of forest, 1,789 ha of barren land, 2,223 ha of non-agricultural land, and 135 ha of land planted to miscellaneous tree crops. Out of the total area under crop 5,676 ha is irrigated and 13,858 ha are un-irrigated. The crops that are cultivated in the irrigated area are rice, sorghum, groundnut, coconut, cotton, sugarcane, chilli, tobacco, banana, tapioca, vegetables, and floricultural crops. The crops cultivated in the un-irrigated area are sorghum, pearl millet, red gram, black gram, green gram, Bengal gram, groundnut, ginger, sunflower, cotton, coriander, and plantation crops like black pepper, coffee, cardamom, and banana. The area of major crops in the block comprises of 605 ha of paddy, 3,624 ha of sorghum, 4,250 ha of maize, 547 ha of groundnut, 1,844 ha of coconut, 987 ha of sugarcane, and 723 ha of banana.

The primary unit of the study is villagers who are members of SHG and villagers who are not members of SHG. First, fifteen villages were selected, whose names are shown in Table 1. They are intentionally chosen since in those villages a number of SHGs have been established by the facilitation of MSSRF. Total number of SHGs in the 15 villages amounts to 109, out of which 36 SHGs were selected for the survey. They are the SHGs that have been functioning for at least three years. The number of SHGs selected in a village varies from one to six. Then, about 30% of the total members in a SHG were taken from each SHG as samples, but the minimum number for one SHG was fixed at four. As a result, a total of 138 SHG members were selected for interview. Moreover, an equal number of villagers who do not belong to a SHG but with similar socio-economic status were selected from the same villages where SHG members were samples.⁹ Hence, the survey covered 276 (SHG and non-SHG) people.

The questionnaires were designed to address the variables relevant to the objectives of the study. They are broadly categorized under the following sub-divisions.

- Household's general socio-economic conditions
- On the Self Help Group

⁸ Another important issue that this paper does not deal with is how to create social capital. With this regard, a study undertaken by Krishna (1999) in the state of Rajasthan indicates that the highest levels of social capital arise when beliefs about participation are reinforced by the village rules that are clear to follow and are implemented fairly. An evolving and increasing stock of social capital forms a necessary input for sustained development. According to Manor (1999), the experiment with democratic decentralization of the People's Campaign for Decentralised Planning in 1996 in the state of Kerala has a concrete example of 'social capital' and 'civil society'. It has shown the way for 'constructing social capital' through which has drawn people into what are clearly 'civic endeavours' and it has 'consolidated civil society'. It has increased 'participation' by involving more people in decision-making about matters of public concern (Haris 2001). John (2002) in the study of a village panchayat in Kottayam, Kerala look at the objectives and trends that characterize 'institutional revolution' and assesses its implications for social capital formation and the building up of a vibrant civil society capable of playing a vital role in local governance. Social capital of these groups is a gateway for decentralized planning and governance. Building social capital focuses on strengthening of local institutions, directly through training, capacity building, and deploying resources and indirectly through creating an open and democratic environment.

⁹ The number of members to be interviewed in a SHG was informed to each SHG in advance. Then, each group decided which specific members to be interviewed. Hence, the sampling is not random. And for the samples of the non-SHG category, the parameters for the selection of non-SHG households were briefed to SHG members and their help was taken to introduce households that were not SHG members.

- Intra-household perception
- Impact on economic conditions
- Impact on the social conditions
- Impact on health status
- Village or community level conditions
- Perception of the respondent on the role and responsibility of SHG on other activities

The same questionnaires were used for non-SHG respondents except for the questions on the SHG. The survey was carried out for a period of twenty days.

Some of the questions are about the household where the respondent belongs, but the others are about personal perception that the respondent possesses. Moreover, questions on SHG are asking about SHG in which the respondent participate, and are specifically posed to SHG members. That is, there is variation in terms of the level of question. This paper uses SHG households and non-SHG households in the case of household level questions, and SHG respondents and non-SHG respondents in the case of individual level questions. Even in the case of SHG level questions, the responses are based on personal opinion or perception, and hence either SHG respondents or SHG members is used.

Results and Discussion

Socio economic details of the sample households

Numerically dominant caste groups among the SHG households are: *Parayar* (15.9%), *Udayar* (12.3%), *Moopanar* (9.4%), *Chakliar* (11.6%), *Pallar* (8.7%), *Devar* (8.7%), and *Vanniar* (8.0%), as shown in Table 2. The non-SHG households are more or less represent in the same percentage except for the higher share of *Moopanar* (22.5%). At the block level, *Moopanar* and *Vettuva Goundar* are demographically dominant, and therefore the caste composition of the SHG households is not necessarily representative of the block. As per the Indian constitutional status *Parayar*, *Chakliar* and *Pallar* are classified as Scheduled Castes (SC). Those groups are at the lowest level of the caste hierarchy and traditionally work in the field of the higher caste groups as labourers. Rest of the caste groups mentioned above are classified as Backward Communities (BC) and Most Backward Communities (MBC).

The occupational classification is shown in Table 3: 34% of the SHG households depend exclusively on agricultural labour, and the share of next largest category is 12.3%, which depends on agriculture followed by 8.7% of employment in both agriculture and private sectors and another 8.7% of private sector employment only. In the case of non-SHG households 36% depend on agricultural labour, 8.7% on agriculture, 11.6% on private sector employment. The result clearly shows majority of the sample households either SHG members or non members, depend on agricultural labour and small-scale agriculture for their livelihoods.

With reference to literacy level 21.7% of the SHG respondents have educated up to high school, which is the highest category (Table 4). Among non-SHG respondents the highest category is illiterate (27.5%), followed by high school educated (16.7%). The difference in illiterate rate between SHG and non-SHG respondents indicates that relatively educated people are more likely to join in SHGs.

The income range of the sample households varies (Table 5). The largest number of the SHG households (18.8%) falls between Rs. 15,001 and Rs. 20,000, and the second largest number of them (13.8%) comes in the range of Rs. 20,001 - 25,000. A considerable percentage of the SHG households (11.6%) make their annual earnings less than Rs.10,000. Non-SHG households seem to have lower income than SHG households: the largest number of them (20.3%) earn between Rs. 10,001 and Rs. 15,000, followed by the category below Rs. 10,000. However, more than 90% of sample households, either SHG members or non members, do not make any surplus of their annual income, according to the survey.

Activities of self help groups

According to the sample from SHG members, more than two third of them (68.8%) have become members by their own choice, but 26.8% of them were persuaded by others to join in the group. With regard to membership status 94.9% of them are holding membership from the inception of the group.

In principle, irrespective of gender difference, both female and male members are encouraged and mobilized to form SHGs. But the survey shows that 65.9% of the SHG respondents belong to all women groups, 26.8% of them belong to all men groups, and the remaining (7.2%) belong to men and women mixed groups. Regarding the nativity, almost all the SHG respondents are natives of the same village (97%). Kinship relationships and caste affiliation have influenced the formation of SHGs to some extent (24.6% and 37.7% respectively), but such influences are not dominant. In fact, 93.5 % of the SHG respondents say that they mingle equally without the feeling of any caste-based discrimination. But in the village context the situation is different: while 65.2% of the SHG respondents believe there is no discrimination on the basis of caste, 16.7% still feel that discrimination of lower caste people prevails.

Attending monthly SHG meeting is mandatory, and majority of the SHG respondents (87%) are regular in attending irrespective of the occupational variations. Apart from regular meetings, SHGs hold meetings based on the following reasons: whenever there is a need (17.4%), when receiving visitors from outside (5.1%), to discuss the urgent credit need (4.3%), to discuss village common problems (2.2%), to discuss issues related to enterprise (2.2%).

Majority of the SHG respondents (79.0%) consider the main objective of the SHG is savings and internal crediting. But 13.8% believe that apart from savings and internal lending, the group as a unit or the group members individually could start income generation activities, and 5.8% think that the objectives of SHGs include working for the common problems.

Social capital in self help groups

Although this study does not attempt to measure the level of social capital fostered in SHGs, this section provides some evidence of social capital in SHGs. One way to classify social capital is based on its function: bonding social capital and bridging social capital, according to Narayan (1999). The former works within groups to facilitate cooperation and/or collective action among members, while the latter improves the access to outside such as markets, NGOs, and government.

As for the bonding social capital, there is evidence that SHGs facilitate mutual support as they foster social capital among the members if compared with the non-SHG cases. 18.8% of the SHG respondents say that the SHGs have contributed to improve the occupational aspects of the members by sharing occupational materials. But among non-SHG respondents 14.5% say that they get help from others in the same occupational field. As for food sharing, on the other hand, 51.4% of the SHG respondents say that SHGs also facilitate sharing of food among the members. With this regard, the percentage among the non-SHG respondents is slightly higher (56.8%). Pertaining to monetary contribution, 46.4% of the SHG respondents reply positively, but among the non-SHG respondents the percentage is almost reduced to half (24.6%). As such, 76.1% of the SHG respondents consider that his/her own SHG exists on mutual understanding and cooperation among the members.

With regard to bridging social capital, 85.5% of the SHG respondents do not interact with other SHGs. Among the remaining, 5.8% jointly organize functions, and 5.1% have done training the other SHGs for better management. Some SHG respondents (8.0%) also indicated that they collaborate with other non-SHG groups for holding functions in the village. For certain needs and services the SHGs in the same villages are coming together, but still such linkage is very limited.

Strengthening horizontal associations will help to establish vertical linkages. 5.1% of the SHG respondents approached panchayat union, and on the other way 10.1% of the SHG respondents were approached by panchayat union for various reasons. At the district level, while 2.9% of the SHG respondents mentioned that District Rural Development Agency (DRDA) approached them, 2.2% of them approached DRDA. As for linkage with local agricultural extension department, only 10.9% have established formal linkages for conducting training programs and organizing camps on specific themes. About SHG links with elected village panchayat, it was reported that 21.0% of the SHG respondents have approached the village panchayats to take up development activities, while 18.1% have said that local village panchayats approached them for executing jointly some of the activities. Among non-SHG respondents only 1.4% answered positively to this question on active participation for the common issues. With regard to the active involvement in the election of the local bodies as a group, 8.7% of the SHG respondents have

openly supported the candidates in the contest; likewise 8.7% have supported specifically the female candidates. The collective strength is the advantage of SHGs, but sometimes it also leads them to challenge the legitimate institutional structures established at different levels. The proximity could be one of the reasons to challenge these structures operating at the village level: 19.6% of the SHG respondents reported they have done it. Similarly, 3.6% have answered they have challenged the block level administration. The local bodies and the government departments have started identifying SHGs as their partners in the community development programs. The partnership relation extends support to execute the development programs. Sometimes SHGs act as a pressure group to make certain genuine demands from the state. The data show that the SHG participation for the common issues better than the non-SHG members.

Evidence presented above clearly suggests that bonding as well as bridging social capital has been fostered within SHG relative to the case of non-SHG. Then, in the next sections, we will see the impact of the social capital on villagers' welfare.

Impact of self help groups

On income and credit support

As shown, majority of the SHG respondents considers that that the main objective of SHGs is saving and credit. In this section, it is examined if SHGs meet the main objective.

With respect to saving, SHG members arrive to a consensus on the amount they could save for every month. The single criteria applied while deciding the amount is that every one in the group especially the poorest person in the group should be able to pay the amount without much difficulty. Though in general nearly 81% of the SHG respondents are regularly paying their monthly savings, it varies based on the occupation (Table 6). Nearly 96% of the SHG respondents that are involved in private job are able to pay their monthly savings followed by farming families (90.9%), people who are involved in petty business (78.9%), housewife (76.9%), and agricultural labour households (74.1%). The regular monthly payment is less among people who are engaged in government jobs (66.7%) and retired from the lower level government employment (50.0%). If we see non-SHG respondents' data it reveals that 73.9% of them do not have the habit of personal savings. Table 7 shows that landless households significantly more often fail to meet the monthly saving requirement (only 76.0% of them save regularly), and that households that own both wet and dry lands are able to pay without any lapse when compared with households that have only one type of land: in the case of owners of wetland only 94.7% of them save regularly and in the case of owners of dry land only it is 89.5%. Defaulters request the group to provide grace time but in most of the cases the group asks the defaulters to pay a nominal amount as fine. Although there are some defaulters, the survey results clearly show that SHGs have created savings among the members, which could have not happened without SHGs.

Then, before looking at the credit facilities provided by SHGs, general situation of credit utilization in the study site is going to be described based on the survey data.¹⁰ In order to meet the household budget deficit

¹⁰ There is a high credit need among the poor farmers during certain periods of the year: when the main agricultural season begins (June-July); while manuring and weeding the fields (August-September and November-December); and when the schools reopen (June - July) for the academic year. Apart from these reasons they need credit during the important cultural festivals and when the family members go for pilgrimage. Professional moneylenders are the source for crisis management with nefarious rate of interest. The negative impact of the money lending in rural areas has been identified as compounding interest and confiscation of landed property. The local commercial banks deny the credit facility to the poor pointing out the rampant default rate. Inability to provide collateral automatically excludes the poorest from the formal banking sector. Inability to repay the dues in the scheduled time and the cumulative interest force them to get in to the perpetual debt trap. The other reason identified is the high level of transaction cost which makes the bankers to show negative attitude in lending the poor farmers. On the other hand the banks are biased in favour of property owned class and large enterprise, and hence bank credits largely remain in the hands of the landed population.

Lack of facility for timely credit makes the poor and the poorest resort to the local moneylenders for *avesara vatti* or *kanthu vatti* methods where the interest rate ranges from 30% to 263% per year and the repayment period varies from daily or weekly or 10 days (*varakanthu*, *pathu vaaram* and *bamparam*, *munvatty*) or a month. Very urgent credit requirements force the rural poor to resort the local sources for high interest rates (around

sample households take credit from different sources (Table 8): apart from SHGs, major sources are professional moneylenders (21.7%) and relatives, friends and neighbours (15.2%) in the case of SHG households. But the dependency of non-SHG households on the moneylenders is much higher (36.2%) and that on the relatives, friends and neighbours is lower (8.0%). It is also interesting to note the purpose for which SHG households borrow money: 10.9 % are using it for agriculture expenses and the next is to meet the general household expenditures (8.7%). If we see the non-SHG cases the highest category is to organize special functions and celebrations (14.5%) followed by health care (8.7%). In repaying the borrowed money, the proportion of non-SHG households that have not made any repaying is considerably higher than SHG households (33.3% vs. 20.3%), and SHG households have reasonably made partial payment more often than non-SHG households (13.8% vs. 7.9%). Managing the annual expenditure with a deficit budget is the reality that rural poor families are facing, and finally it makes them susceptible to moneylenders' exploitation. The difference of dependency on moneylenders by SHG households and non-SHG households indicates the positive role played by SHGs on rural credit system.

The main reason expressed for credit needs by non-SHG households is to conduct special functions and life cycle rituals in a grand manner. But organizing functions for various occasions are a common practice in the rural areas of Tamil Nadu, not only among non-SHG households but also among SHG households. Gift giving is an essential component of these occasions. Gift creates an obligation to accept and reciprocate. It has both positive and negative sides: the negative side is enormous money is spent and the positive side is that the gift giving activity of the celebration adds value to individual connection.

According to the local population, in the recent past the number of occasions of organizing functions had increased drastically. Table 9 provides the details about the number of functions organized, guests attended and the amount spent. The data reveal that 27.7% of the SHG households organized at least one function during last year, but the situation is different for non-SHG households: it is only 11.6%. The distribution of estimated number of guests attended the functions organized by SHG households and by non-SHG households does not differ much. The expenditure incurred among the SHG households ranges from the lowest amount of Rs. 700 to the maximum of above Rs. 20,000 to organize a single event. In the case of non-SHG households the lowest amount is less than Rs. 1,000 and the maximum is Rs. 15,000. The functions and celebrations being organized by rural households attract huge gatherings. This also incurs a huge budget that is normally managed through borrowing from different sources like moneylenders, relatives, neighbours, friends, and SHGs.

SHG members can benefit from SHGs' facility of credit among its members. Around 35.5% of the SHG households responded that SHGs are helping to have access to credit from the savings of the group members, and 21.7% have taken loan from the banks thanks to the credit linkage with the local commercial banks that the groups established (Table 10). With regard to the range of credit support 31.9% have received loan less than Rs. 1,000 and next highest (26.1%) is between Rs. 2,000 to Rs. 5,000 (Table 11).

120% - *metervatti*). *Kaimathu* is another practice to meet the immediate cash demands, the neighbours, relatives, friends supports without any interest up to one month and if the period exceeds more than this they add a nominal interest (varies between 24 - 36% per annum based). The confidence is expressed in terms of the borrower's credit worthiness, timely payment, prevailing labour opportunities and assets owned in terms of jewels, savings, lands, house etc. The other options adopted is to meet the immediate credit needs especially the poor households which could not manage to credit through the above said modes where the borrower pledge the materials like household vessels, jewels (less than 8 grams), etc. Usually women used to pledge these items. In cases where there is no access to credit, immediately they go for selling the assets or resort to higher interest rates (more than 120%). Some other means of managing their credit needs by the agricultural families are such as mortgaging of land. In this method instead of taking interest the person who provides money cultivates the land till the borrower repays the loan. In another mode which is called *nemittu kirayam* the period for repayment is fixed as three years or five years, and if the borrower fails to repay he would lose the land. In some cases close relatives help to manage the credit need without taking interest for very short period (from a week to a month). The first priority of expenditure in landless and near landless groups is to buy grains, pulses, and other food items and the next priority in the order is purchasing poultry or goats or in some cases milch animals, followed by cloths and special food during the festival occasions, occasional visits to relatives in other villages, etc. The informal village level traditional credit methods like chit funds (*ela chittu*, *kullukkal chittu*) which are available for men and women and informal women association (*mahalir sangam*) are the primary credit leveraging sources by women without bank credit linkage but are declining nowadays.

The credit amount has been used to meet different requirements: the highest is meant for their children's education (10.1%), followed by purchasing cattle and expenses for agricultural activities (8.0% each). The perception of the difference on credit facility offered by SHGs and the local moneylenders is as follows: 46.4% of the SHG respondents say that the interest rate of money lenders is very high, on the other side 21.7% believe that the interest rate of SHGs is less, 12.3% feel that SHGs provide a suitable repayment schedule which could be easily followed by the members, and 5.8% reported that moneylenders treat borrowers very badly and indulge in harassment for the repayment.

In spite of the credit facilities provided by SHGs, the response to the overall household development due to SHGs is mixed: 51.4% of SHG respondents perceive no change in terms of economic improvement achieved (Table 12). However, 13.8% replied that there is slight improvement, 8.7% answered that easy credit access to meet their children's education has become available, 8.0% feel that they have relieved from moneylenders harassment, and 4.3% believe that the problem of food on daily basis is solved. With regard to the development of non-SHG households within last three years, 82.6% of the non-SHG respondents expressed that no development has taken place. Among the remaining, 8.0% feel that the household amenities have increased and another 3.6% say that their income has increased.

Other than the financial services, the survey results show that a remarkable number (71.7%) of the SHG respondents have said there is an improvement in the communication and negotiation skills. If we probe into further details we could find out that 23.9% have mentioned that they developed ability to communicate with clarity and without fear, 12.3% responded exposure to different situation helped to learn new things, 9.4% gained knowledge and skill of credit management, 9.4% increased capacity of fluent communication, and 7.9% developed capacity to question if he/she finds fault. The non-SHG data are not impressive: only 18.8% is positive on this aspect. Not only communication skill, but skill development in general is one of the important contributions that SHGs provide to its members. 79.0% of the SHG respondents answered that SHGs have helped to gain new skills in general and some valuable experiences related to social activities. The response from the non-SHG respondents in this regard is very poor: only 2.9% said they gained such skill within the last three years. With regard to development of entrepreneurial skill to involve in income generating activity, 29.7% of the SHG respondents have developed this new skill. The literate members within a group recently started helping the other non-literate members to read and write (8.7%) and helping to learn to sign (5.8%). The communication and negotiation skill have increased remarkably among SHG members. The members have also gained entrepreneurial skills to initiate market-linked micro-enterprises. Literate members train illiterate members to become functional literates. The results of the non-SHG members are not impressive on these aspects. In this way, SHGs help the members to diversify the livelihoods, generate income, and improve welfare.

According to personal perception, 33.3% of the SHG respondents agree that SHG has direct impact on the household income. To examine the positive impact in a more rigorous way, a composite indicator on the improvement of household income is created from the various questions related with household income presented above. The comparison of the mean values of the indicator between SHG households and non-SHG households reveals that the difference is statistically significant at 1% level (Table 13). As such SHGs' positive impact on household income is confirmed.

In conclusion about household income, the SHG membership helps to improve the well-being of the households by ensuring timely credit to the member households, whose sources are their own groups' savings and the bank linkage, and by providing skill and capacity development for income generation. If we compare the results on these aspects gathered from non-SHG households who act individually without any collective effort, there is an obvious difference.

On gender issues

Gender sensitive approach in SHG promotion is being constantly emphasized by MSSRF. Hence, impact of SHG evaluated in terms of the change in gender perception.

First, it is found that 39.9% of the SHG respondents believe that participation in SHG activities have resulted in positive change in their status at household level. As for non-SHG respondents, only 23.2% of them perceive that there is a change in status at household level.

With regard to the perception of change in the status of women at the community level, 25.4% of the SHG respondents agreed positively (Table 14). In this regard the gendered perception shows that the opinion is less favoured among women (19.1%) than men (38.6%). On the other hand, among non-SHG respondents only 10.9% perceive change in the status of women. Here again the same trend is observed (women 9.9% and men 12.8%). Generally women manage the domestic roles and responsibilities irrespective of community differences. Table 15 shows that nearly one third of SHG respondents (31.9%) believed that positive change is taking place in their traditional roles and responsibilities in the domestic arena due to women's active participation in the SHG movement. There is a considerable difference in gendered perception on this issue: 38.6% of men and 28.7% of women favor this. The results of non-SHG respondents on this aspect show that the percentage is reduced to half (16.7%) when compared to the SHG case. With regard to change in the roles, responsibilities and status in the external environment, 21.0% were affirmative in their opinion. In this regard there is a gap in the gendered perception on development: 14.9% of women and almost double the number of men (34.1%) replied positively. On the other hand only 8.7% of the non-SHG respondents have positive opinion on the change in the roles and responsibilities of women in the external world.

Women's mobility is considered as a major indicator, which reflects a change in the status of the women (Table 16). More than half (60%) have agreed that women's mobility have tremendously increased after they became members of SHGs. More than half of the male respondents (61.4%) and female respondents (66.0%) accept this opinion. But only 37.7% of the non-SHG respondents believe it has increased, which is nearly 50% less when compared with the SHG case.

In order to confirm statistically the general tendency that SHG members have more positive perception on women's status, an aggregated index is produced from the weighted scores given to the responses to the questions on change to the status and role within the household, neighborhood and village as well as the responsive attitude of the male and female towards the activities. The difference in the mean values of the index is significant at 1% level as shown in Table 17, indicating that SHGs have some impact on the members' perception on women's status.

Definitely the SHGs have brought considerable improvement in the social status of women both at the household and the community levels. It also promotes a positive change in the age-old patriarchal value system based on rigid traditional roles and responsibilities of these women members. New contexts bring new duties, which expand the space and enhance mobility of the rural women. Among the non-SHG members the changes are relatively low and slow.

On health status

The last aspect to see is household health status. The survey result shows that more than half of the household members (52.9%) of the SHG households are being sick once and 11.6% are reported to have become sick for twice in the past one year (Table 18). The numbers are quite similar for the non-SHG households: 52.2% and 12.3% respectively. Even though there were several ailments, the major illness recorded in the survey is fever, headache and cold. Note that "being sick" is defined as the case where respondent's household members visited a doctor. In the case of SHG households, nearly 35% visited private hospitals and 29.7% consulted government hospitals (Table 19). The situation is little different with non-SHG households, 32.6% visited the private hospitals and 23.9 % visited government hospitals. With regard to the amount of expenses spent on medical treatments, the mode is in the range from Rs. 101 to 1,000 for the SHG households, and for the non-SHG households it falls in the same range. The sources of the money do not differ between the two groups, either.

The survey indicates 32.6% of the SHG respondents regularly discuss health related issues in the periodical meetings of SHG. Almost one fourth of the respondents (23.9%) were able to take follow up actions on the points discussed during the SHG meetings. And 17.4% of the SHG respondents observe some change in their households. However, as shown previously, there is little difference between the two groups in terms of the chance of being sick. In fact, in the case of health status, the mean value of aggregated health indicator does not differ significantly between SHG and non-SHG households as shown in Table 20. The factors that the indicator takes into consideration are: the number of time visiting clinic/hospital in the last six months and that in the last one year, money borrowed from, type of hospital visited, the number of persons in the household who fell ill recently.

However, 37% of the SHG households borrow money from SHG to meet the expenses related to health. Apart from the group support in terms of lending loans, 26.0% responded positively that they are taking support from other members of their respective SHG in the case of health related emergencies. At the time of crisis to anyone of their group members nearly 18% of the SHG households gave collective support. Therefore, although current status concerning health does not differ much between SHG and non-SHG households, if there was no SHG, health status of SHG households would be worse than it is currently. In this sense, SHG is effective to improve health.

Conclusion and Policy Implications

In this paper we tried to understand the social capital through Self Help Group (SHG) membership and the result of it as a source of development at household level. It is hypothesized that working for the common objectives in close association develops social capital, and that the social capital contributes to the improvement of people's livelihood evaluated at the following three aspects: income and credit support, gender issues, and health status at the household level.

First, instead of measuring social capital, this paper confirms that bonding as well as bridging social capital has been fostered within SHG relative to the case of non-SHG. Hence, although indirectly, the differences between SHG members and non-members can be attributed to the different endowments of social capital.

Majority of the SHG members consider the main objective of the SHG is savings and internal crediting. In fact, SHGs facilitate savings among members and ensure timely credit to the members. Not only those financial aspects, SHGs also enhance members' skills and capacity for income generation. As a result, SHG members perceive that SHG has direct impact on the household income. Such opportunities are not available to non-SHG members, and therefore the differences are quite significant.

As for social status of women, SHGs have brought a considerable improvement both at the household and the community levels. It also promotes a positive change in women's roles and responsibilities, and enhances the mobility of rural women. Among the non-SHG members the changes are relatively low and slow.

If we compare health related aspects between SHG members and non-members, there is no significant difference. However, SHG members borrow money from SHG to meet the expenses related to health and also benefit from support provided by other members at the time of emergencies. Therefore, although current status concerning health does not differ, SHG is considered to be effective to improve health status which otherwise should be lower.

All the empirical evidence supports the significant, positive role of social capital fostered by SHG activities in the improvement of rural households' livelihood. Although it is admitted that the main reason for the success of SHG program is its participatory nature, obviously SHGs would not be established and developed without external facilitation, particularly in the aspects of the linkage with other SHGs, banks, and local government, and members' capacity development. With this regard, policy interventions to support their networking as scaling-up are still necessary and should be more effective.

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Table 1 Distribution of Sample Households

Village Panchayat (Number of SHGs)	Villages Selected	Total Number of SHGs	Survey Undertaken		
			Number of SHGs Selected	Number of SHG Households	Number of non-SHG Households
Kannivadi (40)	Reddiarpatty	8	4	10	10
	Kannivadi	5	2	8	8
	Navapatty	7	1	4	4
	Chockalingapudur	3	2	8	8
T.Pudupatty (22)	T.Pudupatty	10	6	22	22
	Kapiliyapatty	6	1	3	3
Pannaipatty (18)	Velanservaikaranpatty	2	1	4	4
Karisalpatty (17)	Karisalpatty	14	3	13	13
H R Kottai (30)	Samiyarpatty	6	4	17	17
Dharmathupatty (48)	Bodampatty	5	1	4	4
	Dharmathupatty	29	7	29	29
	Sevanakaraianpatty	6	2	8	8
	Palaniyur	3	1	4	4
	Ramanathapuram	5	1	4	4
Total		109	36	138	138

Table 2 Caste composition of Sample Households

Caste Name	SHG Households (%)	Non-SHG Households (%)
Pallar	12 (8.7)	13 (9.4)
Devar	12 (8.7)	13 (9.4)
Vanniar	11 (8.0)	9 (6.5)
Nathamam/Udayar/Suruthiman	17 (12.3)	9 (6.5)
Achari	2 (1.4)	1 (0.7)
Agamudai Servai	2 (1.4)	-
Valayan	1 (0.7)	4 (2.9)
Chettiyar	4 (2.9)	1 (0.7)
Sholiga Velallar	3 (2.2)	2 (1.4)
Pillai	3 (2.2)	4 (2.9)
Parayar	22 (15.9)	20 (14.5)
Vettuva Gounder	2 (1.4)	6 (4.3)
Moopanar	13 (9.4)	31 (22.5)
Kuyavar	4 (2.9)	3 (2.2)
Chakliyar	16 (11.6)	14 (10.1)
Nayakar/Naidu	9 (6.5)	5 (3.6)
Yadava	3 (2.2)	-
Agamudaiyan	2 (1.4)	-
Reddiar	-	1 (0.7)
Konar	-	1 (0.7)
Total	138 (100)	138 (100)

Table 3 Primary Occupation of the Sample Households

Primary occupation	SHG Households (%)	Non-SHG Households (%)
Only Farming	17 (12.3)	12 (8.7)
Only Wage Labour in Agriculture	47 (34.1)	50 (36.2)
Only Petty Business or Self-Employed	7 (5.1)	6 (4.3)
Only Employment by Government	4 (2.9)	6 (4.3)
Only Employment in Private Sector	12 (8.7)	16 (11.6)
Farming & Agricultural Wage Labour	3 (2.2)	10 (7.2)
Agricultural Wage Labour & Self-Employed	6 (4.3)	1 (.7)
Agricultural Wage Labour & Private Sector Employment	12 (8.7)	17 (12.3)
Self-Employed & Private Sector Employment	9 (6.5)	2 (1.4)
Government Employment & Private Sector Employment	5 (3.6)	1 (0.7)
Other Combinations	16 (11.5)	17 (12.3)
Total	138 (100.0)	138 (100.0)

Table 4 Educational Status of Sample Households

Education Attainment	SHG Households (%)	Non-SHG Households (%)
Only to sign	19 (13.8)	20 (14.5)
Primary education	29 (21.0)	19 (13.8)
Elementary education	23 (16.7)	19 (13.8)
High school	30 (21.7)	23 (16.7)
Higher Secondary	14 (10.1)	14 (10.1)
Graduation	3 (2.2)	3 (2.2)
Post Graduation	1 (0.7)	2 (1.4)
Illiterate	19 (13.8)	38 (27.5)
Total	138 (100)	138 (100.0)

Table 5 Annual Income of Sample Households

Annual income	SHG Households (%)	Non-SHG Households (%)
Less than 10,000	16 (11.6)	21 (15.2)
10,001-15,000	14 (10.1)	28 (20.3)
15001- 20,000	26 (18.8)	20 (14.5)
20,001- 25,000	19 (13.8)	18 (13.0)
25001- 30,000	16 (11.6)	7 (5.1)
30,001- 35,000	7 (5.1)	5 (3.6)
35,001-40,000	12 (8.7)	15(10.9)
40001-45000	5 (3.6)	6 (4.3)
45,001-50,000	8 (5.8)	5 (3.6)
50,000 and above	15 (10.9)	13(9.4)
Total	138 (100)	138 (100)

Table 6 Relation between Occupation and Regular Payment of Monthly Savings by SHG members

Occupation	Percentage of the respondents regularly paying monthly savings
Agriculture	90.9
Agricultural Labourer	74.1
Self employed/Petty business	78.9
Government Employment	66.7
Private Employment	95.8
Retired	50.0
Housewife	76.9

Table 7 Relationship between Landholding Type and Regular Monthly Savings by SHG members

Land holding type	Percentage of the respondents regularly paying monthly savings
Landless	76.0
Wet land only	94.7
Garden land only	100.00
Dry land only	89.50
Wet and dry land	100.00
Garden and dry land	100.00

Table 8 Details of Loan Borrowed (other than SHG and SHG Federation)

	SHG Households (%)	Non-SHG Households (%)
Source		
Not applicable	78 (56.5)	67 (48.6)
Professional moneylenders	30 (21.7)	50 (36.2)
Relatives/friends/Neighbors	21 (15.2)	11 (8.0)
Bank and Society	9 (6.5)	10 (7.2)
Total	138 (100)	138 (100)
Purpose		
Not applicable	78 (56.5)	67 (48.6)
To buy land and construct house	7 (5.1)	11 (8.0)
Agriculture	15 (10.9)	7 (5.1)
Health care	7 (5.1)	12 (8.7)
Functions and festivals	9 (6.5)	20 (14.5)
Business and cattle purchase	6 (4.3)	9 (6.5)
General household expenses	12 (8.7)	8 (5.8)
No answer	-	4 (2.9)
Total	138 (100)	138 (100)
Repayment		
Not applicable	78 (56.5)	67 (48.6)
Paid back	2 (1.4)	4 (2.9)
Partially paid	19 (13.8)	10 (7.9)
Paying only the interest	9 (6.5)	5 (3.6)
Haven't made any payment	28 (20.3)	46 (33.3)
No answer	2 (1.4)	6 (4.3)
Total	138 (100)	138 (100)

Table 9 Functions Hosted by Households in the Last One Year

	SHG Households (%)	Non-SHG Households (%)
Functions hosted		
Yes	30 (21.7)	16 (11.6)
No	108 (78.3)	122 (88.4)
Total	138 (100)	138 (100)
Number of guests		
0	108 (78.3)	122 (88.4)
50	6 (4.3)	2 (1.4)
100	5 (3.6)	1 (0.7)
150	2 (1.4)	1 (0.7)
200	2 (1.4)	1 (0.7)
500	12 (8.6)	6 (4.2)
1000	3 (2.2)	2 (1.4)
Total	138 (100)	138 (100)
Amount spent		
0	108 (78.3)	122 (88.4)
Below 1000	1 (0.7)	1 (0.7)
1000	2 (1.4)	2 (2.2)
2000	3 (2.2)	1 (0.7)
3000	3 (2.2)	1 (0.7)
4000	3 (2.2)	1 (0.7)
5000	2 (1.4)	1 (0.7)
8000	1 (0.7)	1 (0.7)
10,000	3 (2.2)	1 (0.7)
15,000	6 (4.3)	7 (5.0%)
20,000 and above	6 (4.3)	-
Total	138 (100)	138 (100)

Table 10 Credit Received by the SHG Members

Creditors	Numbers	Percentage
Have not taken money from any where	44	31.9
SHG	49	35.5
Bank	30	21.7
Federation of SHGs	9	6.5
Did not Mention	6	4.3
Total	138	100.0

Table 11 Amount Borrowed as Credit by SHG Members

Amount	Numbers	Percentage
None	44	31.9
less than 1000	12	8.7
1001 to 2500	19	13.8
2501 to 5000	36	26.1
5001 to 7500	3	2.2
7501 to 10000	13	9.4
10001 to 15000	2	1.4
15001 to 20000	4	2.9
20001 to 25000	2	1.4
25001 and above	3	2.2
Total	138	100.0

Table 12 Households' Development - Perceptions

Development	SHG Households (%)	Non-SHG Households (%)
No improvement	71 (51.4)	114 (82.6)
Income has increased	9 (6.5)	5 (3.6)
Amenities have increased	6 (4.3)	11 (8.0)
Savings started	-	3 (2.2)
Credit access for Children's education	12 (8.7)	2 (1.4)
Health status has improved	-	2 (1.4)
Marginal improvement in general	19 (13.8)	1 (0.7)
No difficulty for food on a daily basis	6 (4.3)	-
Credits outside has decreased	11 (8.0)	-
It has not improved yet, but will be improving now	3 (2.2)	-
Could undertake agricultural activities	1 (0.1)	-
Total	138 (100)	138 (100)

Table 13 Impact of Social Capital on Income and Credit Support

Categories	N	Mean	SD	T Value
SHG	138	2.5870	2.4487	6.443**
Non-SHG	138	0.9710	1.6387	

** : Significant at 1% level

Table 14 Gendered Perception on the Change in Status of Women at the Community Level

Change	SHG Respondents (%)			Non-SHG Respondents (%)		
	Female	Male	Total	Female	Male	Total
Yes	18 (19.1)	17 (38.6)	35 (25.4)	9 (9.9)	6 (12.8)	15 (10.9)
No	76 (80.9)	27 (61.4)	103 (74.6)	25 (27.5)	16 (34.0)	41 (29.7)
No comments	-	-		57 (62.6)	25 (53.2)	82 (59.5)
Total	94 (68.1)	44 (31.9)	138 (100)	91 (65.9)	47 (34.1)	138 (100)

Table 15 Gendered Perception on the Change in Traditional Roles and Responsibilities of Women

Change	SHG Respondents (%)			Non-SHG Respondents (%)		
	Female	Male	Total	Female	Male	Total
Domestic						
Yes	27 (28.7)	17 (38.6)	44 (31.9)	40 (44.0)	30 (63.8)	70 (50.7)
No	67 (71.3)	27 (61.4)	94 (68.1)	16 (17.6)	7 (14.9)	23 (16.7)
No comments	-	-	-	35 (38.5)	10 (21.3)	45 (32.6)
Total	94 (68.1)	44 (31.9)	138 (100)	91 (65.9)	47 (34.1)	138 (100)
External						
Yes	14 (14.9)	15 (34.1)	29(21.0)	8 (8.8)	4 (8.5)	12 (8.7)
No	80 (85.1)	29 (65.9)	109(79.0)	25 (27.5)	19 (40.4)	44 (31.9)
No comments	-	-	-	58 (63.7)	24 (51.1)	82 (59.4)
Total	94 (68.1)	44 (31.9)	138 (100)	91 (65.9)	47 (34.1)	138 (100)

Table 16 Mobility of Women

Increase in Mobility	SHG Respondents (%)			Non-SHG Respondents (%)		
	Female	Male	Total	Female	Male	Total
Yes	62 (66.0)	27 (61.4)	89 (64.5)	34 (37.4)	18 (38.3)	52 (37.7)
No	32 (34.0)	17 (38.6)	49 (35.5)	57 (62.6)	29 (61.7)	86 (62.3)
Total	94 (68.1)	44 (31.9)	138 (100)	91 (65.9)	47 (34.1)	138 (100)

Table 17 Impact of Social Capital on Gender

Categories	N	Mean	SD	T Value
SHG	138	5.4058	2.4394	16.729**
Non-SHG	138	-2.9638	5.3470	

** : Significant at 1% level

Table 18 Household Members Health Status

	SHG Households (%)	Non-SHG Households (%)
Number of times of illness		
None	49 (35.5)	46 (33.3)
Once	73 (52.9)	72 (52.2)
Twice	16 (11.6)	17 (12.3)
Thrice	-	3 (2.2)
Total	138 (100)	138(100)
Frequency of illness		
Not applicable	49 (35.5)	46 (33.3)
Less than six months ago	78 (56.5)	70 (50.7)
Between six and twelve months	11 (8.0)	7 (5.1)
Often	-	15 (10.9)
Total	138 (100)	138(100)

Table 19 Details of Visits to Hospitals and Money Spent

	SHG Households (%)	Non-SHG Households (%)
Hospitals visited		
Not applicable	49 (35.5)	46 (33.3)
Govt. Hospital	41 (29.7)	33 (23.9)
Private Clinic	43 (31.2)	45 (32.6)
Private Hospital	5 (3.6)	12 (8.7)
Medical Shop	-	2 (1.4)
Total	138 (100)	138(100)
Money spent		
Not applicable	49 (35.5)	46 (33.3)
Less than 50	13 (9.4)	13 (9.4)
51 to 100	10 (7.2)	9 (6.5)
101 to 250	17 (12.3)	7 (5.1)
251 to 500	16 (11.6)	17 (12.3)
501 to 1000	16 (11.6)	18 (13.0)
1001 to 2500	3 (2.2)	7 (5.1)
2501 to 5000	7 (5.1)	10 (7.2)
5001 to 10000	3 (2.2)	6 (4.3)
10001 and above	4 (2.9)	5 (3.6)
Total	138 (100)	138(100)
Source of money		
Not applicable	49 (35.5)	47 (34.1)
Own Money	45 (32.6)	44 (31.9)
Borrowed	44 (31.9)	45 (32.6)
Both	-	2 (1.4)
Total	138 (100)	138(100)

Table 20 Impact of Social Capital at the Household Health Status

Categories	N	Mean	SD	T Value
SHG	138	3.4783	2.7050	1.529 NS
Non-SHG	138	4.0072	3.0339	

NS: Not Significant

5. INDOENSIA

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COMMUNITY EMPOWERMENT AND IRRIGATION MANAGEMENT: A case of Water Users Association (WUA) in South Sulawesi, Indonesia

ABSTRACT

The empowerment of Water User Association (WUA) in the area of Saddang Irrigation in Pinrang Regency has been conducted since 2003 aimed to institutional strengthening (organization and values) and asset improvement (individual and collective). The program started with socializing the plans of WUA to government official, community leaders and the board of WUA by Staff of Institute for Community's Socio Economic Studies (LEPSEM). After socialization, the program continue to WUA problems identification as an institution and as irrigation system, carried out by facilitator (LEPSEM), government agency (staff of water management office) and board of WUA and some of the members through meetings and mapping irrigation network. Rules and norms have been established based on agreement made by the members of WUA through successive meetings. The institutional strengthening has brought about impact to the increasing number of participation of the WUA members in irrigation management, resulted in the improvement of "togetherness" and "knowledge of WUA, irrigation, and water usage management." With better irrigation management, the water service also improved, which in turn make impact on the increasingly sufficient of water availability for rice production. The improvement of irrigation management brings about the enhancement of farmers' satisfaction in which the need for water supply in their farming operation is fulfilled.

The output of WUA empowerment is the development of social capital in cognitive and structural terms. The transparency in WUA management including formation of organizing committee and financial management facilitate mutual trust among members. The implemented norms are based on the agreement among the members, therefore expected to support the enhancement of their participation in line with the association activities. On the other hand there should be sanction enforcement mechanisms when the members disobeyed the norms. The structural social capital is an establishment of collaboration/networking between the WUA and other institutions such as Public Works Agency, Agriculture Agency and banks. The WUA empowerment is still needed to be continued, so that all farmers could participate and capable to manage irrigation independently, according to the responsibility transferred by the government to WUA

I. INTRODUCTION

1.1 Background and justification

One of the main issues in providing irrigation water is gradual increase of water scarcity due to increased non-agricultural water demands. The situation require anticipative action with which we would be able to get away from the competitive nature of water usage, which has potential to rise conflict in getting the water, either among the same kind of user (among farmers), or among different sectors (agriculture and industry), and among different regions and generations (Bustomi Zen, 2003).

Historically, the construction and operation of major irrigation systems involved two main actors, farmers and the government. The balance of the roles played between them has been changing depending on social, economic and political situations. In 1988, the government made a new policy to transfer the responsibility in operating small irrigation, 500 ha. or less, to the Water Users Association (Perkumpulan Petani Pengguna Air, hereinafter WUA) (Helmi 1998).

Further stated by Helmi (1998), that the logical implication of the policy making is the rise of essential needs of the establishment of a strong and long-enduring WUA. To strengthen WUA capability, the government made some policy reformations, including the amendment of Irrigation Management Policy which issued by the president in April 13th, 1999 which stated in President Instruction no. 3/1999, on the empowerment of WUA as follows:

- a. The rearrangement of task and responsibility of irrigation managing institution by assign bigger roles to the farmers in decision making on irrigation management.
- b. The Empowerment of independent, autonomic, community based WUA, and democratically established a legalized economic business unit.
- c. Gradually, selectively and democratically transfer the irrigation network management to WUA, using 'one-network-one-management' approach, and joint management of the irrigation network between government and WUA.
- d. Seek for income resources to support the operation and maintenance, rehabilitation and construction of irrigation network. All collected, managed, and established by the WUA through regular [i.e. monthly] contribution for irrigation water service (Iuran Pelayanan Air Irigasi, hereinafter IPAIR).
- e. To assure sustainability of irrigation network system, by establish policy on water resource and prevent function shift of irrigated land.

Participatory Rural Appraisal (PRA) has been operated by the local governments in collaboration with NGOs. In South Sulawesi, the Small Scale Irrigation Management Project (SSIMP), collaboration of the Government of Indonesia and Nippon Koei Co., Ltd & Associates, has been operated since the beginning of 2003 up to present.

1.2. Objectives

Overall objective of this study is to comprehend and analyze the impact of the empowerment of WUA, focusing on member farmers' attitudinal changes and their own evaluations on irrigation management.

To fulfill the above, the following immediate objectives are to be achieved:

- i) To understand the empowerment process of WUA;
- ii) To comprehend the irrigation management;
- iii) To know the economical and social impact of the empowerment, either collectively in community or individually (at household level); and.
- iv) To know stake holders (staff of water management office, board of WUA, informal leader, farmer community, and NGO).

II. METHOD AND DATA

2.1. Hypothesis

We postulated the general hypothesis as: the empowerment has developed the WUA institution and improve the individual and group assets. To verify the above, we will clarify the following working hypothesis:

- i) The empowerment improves the farmer participation in meetings, community works and the payment of water fee (IPAIR).
- ii) The empowerment has improved the farmer satisfaction in irrigation water availability.
- iii) The empowerment has increased the rice production.

2.2. Survey Method

Saddang Irrigation Area covers three regencies (Pinrang, Sidrap, and Wajo). Regency of Pinrang is the widest area of rice field and area irrigated. Sub-regency of Tiroang has large rice field compared to other four sub-regencies in regency of Pinrang, though many of WUAs have not yet well functioned. Based of this condition, NGO (LEPSEM) selected this sub-regency as the project site and funded by JBIC for the WUA empowerment project.

Tiroang Sub-regency comprise of 5 villages, 3 of them is assigned to be the research sites: 1) Tiroang Village, represent the up stream areas; 2) Marawi Village, represent middle stream areas; and 3) Pakkie Village, represent the low stream areas.

In each village there are two data resources:

a. Community Level: WUA

The number of WUA in those sites is 24 groups, 12 in Tiroang Village, 6 in Marawi Village, and 6 in Pakkie Village. Twenty two groups are taken as sample. The informants are the boards of WUA. Other informants in this level are the government officials (the head of irrigation section in Sub-regency office, the head of the irrigation section in village level, and the head of villages), and NGOs (fieldworkers). The kind of data gathered in this level are the agricultural profile, irrigation management, the empowerment activities of WUA, participation level of the members, the water sufficiency, and the members' satisfaction level.

b. Household level

150 households, 50 in each village, were selected randomly. The kind of data gathered including primary and secondary data. The primary data involved all variable researched, comprise of 5 groups of data: 1) identity of respondents (age, number of household members, education level of the members); 2) the condition of agricultural business (the ownership and land use for agriculture, planting pattern, production and production cost, income out of agricultural business), farmers participation in empowerment activities, the satisfaction level on the irrigation water sufficiency before and after empowerment activities, production improvement after the empowerment, etc.

Structured interview using questionnaire and group interviews were implemented with the informants (NGO workers, the head of irrigation section in Tiroang Sub-regency office, head of the irrigation section in village office, head of villages). Survey was conducted by 4 enumerators.

III. THE PROFILE OF STUDIED VILLAGES AND HOUSEHOLDS

3.1. Location and land use

Tiroang is one of the biggest villages in size (30 km²) out of five villages in Tiroang Sub-regency. Distance from the capital of regency is 15 km that could be reached in 25 minutes. Marawi Village, with the size of 20 km², is located about 3 km from the town Tiroang and 13 km from the capital of regency, can be reach in 15 minutes from Tiroang. Pakkie Village, as big as 10 km², is located 5 km from the capital town of sub-regency and can be reach within 10 minutes from the town. The topography of the three villages is quite flat, where farmers can harvest rice twice a year under irrigated condition. The land use is presented in Table 1.

Table 1 Agricultural land based on the land usage pattern in three location of research site, 2004.

Types of land	Tiroang Village		Marawi Village		Pakkie Village	
	Size (ha)	%	Size (ha)	%	Size (ha)	%
Irrigated rice field	2,445	81	1,119	57	694	69
Industrial crop land	409	14	395	20	150	15
Dry land	32	1	26	1	5	1
Yard land	75	3	85	4	50	5
Brackishwaterponds	-	-	-	-	-	-
Forest	31	1	36	18	75	8
Miscellaneous	38	1	298	15	25	3
Total	3,030	100	1,958	100	999	100

Source: Office of Tiroang Sub-regency, 2004

3.2. Socio-economic Conditions

The population of Tiroang Village according to the data in 2002 is 5,255 with the population density of 171/km². As for Marawi village, the population is 4,044 people, with the density of 209/km². The population of Pakkie is 2,801 people, with the density level of 281/km². We can also see the Table 2 which shows the condition of population in these three research sites.

Table 2: Population according to age groups in Village of Tiroang, Marawi village, and Pakkie Village, 2004

Age Groups	Number of Population								
	Tiroang Village			Marawi Village			Pakkie Village		
	Male	Female	Total	Male	Female	Total	Male	female	Total
0 – 14	752	752	1504	941	744	1685	361	600	961
15 – 60	1563	1831	3394	964	958	1922	660	814	1474
> 60	177	180	357	200	237	437	166	200	366
T o t a l	2492	2763	5255	2103	1939	4044	1187	1614	2801

Source: Office of Tiroang Sub-regency, 2004

The number of the population in productive age is quite high in all three Villages. Farming is the dominant occupation of the population, and a quite small number of them work as trader, carpenter, transportation sector, etc. the number of them who work outside agriculture sector are small in percentage (Table 3).

Table 3: Population based on occupation in Village of Tiroang, Marawi village and Pakkie, 2004

Occupation	Number of Population					
	Tiroang Village		Marawi Village		Pakkie Village	
	Number	%	Number	%	Number	%
Civil servant/Police	37	2.27	58	5.67	29	1.79
Trader	52	3.18	21	2.05	21	1.30
Transportation	35	2.14	15	1.47	23	1.42
Carpenter	38	2.33	18	1.76	22	1.36
Private comp. worker	113	6.92	-	-	18	1.11
Tailor	5	0.31	11	1.08	6	0.37
Farmer	1355	82.98	900	87.98	1499	92.65
T o t a l	1633	100	1023	100	1618	100

Source: Office of Tiroang Sub-regency

The educational level of the population in Tiroang, Marawi, and Pakkie Villages is considerably low. It can be seen in the high percentage of illiterate population, and those who do not finished and finished primary school. For further detail see Table 4. However, the number those who reach junior and high school are higher in Tiroang village compare to Marawi and Pakkie Villages. It is logical because Tiroang Village is the capital town of the Sub-regency where educational facilities and infrastructure easier to access and more equipped compare to the other two Villages.

Table 4: Population according to the level of education in Village of Tiroang, Marawi, and Pakkie, 2004

Education level	Number of Population					
	Tiroang Village		Marawi Village		Pakkie Village	
	Number	%	Number	%	Number	%
Under school age	507	10	259	6	620	22
Illiterate	107	2	278	7	236	8
Not finished primary School	305	6	273	7	275	10
Primary school	2,715	52	2,892	72	1,480	53
Junior high school	1,025	20	158	4	150	5
High school	583	11	148	4	35	1
University level	13	0	36	1	5	0
T o t a l	5,255	100	4,044	100	2801	100

Source: Office of Tiroang Sub-regency, 2004

Socio-economic infrastructures that available in these villages are relatively sufficient such as schools and market, where access to these facilities is sufficiently good. Junior and high school which located in the capital town of Sub-regency are close enough and supported by a good transportation facilities (Table 5).

Table 5: Socio-economic facilities in Village of Tiroang, Marawi, and Pakkie, 2004.

Facilities and infrastructure	Number		
	Tiroang Village	Marawi Village	Pakkie Village
Village Market	1	1	-
Shops [big/small]	50	20	5
Cooperative	2	1	-
Electricity	Installed	Installed	Installed
Public health service	1	1	-
Integrated public health serv.	4	2	3
School			
- Kindergarten	1	1	1
- Primary school	6	4	2
- Junior high	1	-	-
- High school	1	-	-
Mosque	6	4	2

Source: Office of Tiroang Sub-regency, 2004

The three villages enjoy electricity since long ago, it even reach remote hamlets far away from the capital town of the sub-regency. Transportation facilities and infrastructure in these villages relatively in good condition where most of the hamlets have asphalted roads with car access.

3.3. The Characteristics of Sample Households

A. The number of farmers' household members

Table 6 shows that in most of three villages (70%), the number of household members less than 4 including core family members (father, mother, and children).

Table 6: Distribution of household by family size in Pin rang, 2004

Family size	Tiroang (up-stream)	Marawi (middle-stream)	Pakkie (low-stream)
=< 4	39 (78.0)	40 (80.0)	44 (88.0)
5 – 6	7 (14.0)	9 (18.0)	4 (8.0)
>= 7	4 (8.0)	1 (2.0)	2 (4.0)
Total	50 (100)	50 (100)	50 (100)

Note: numbers in brackets are percentages

B. Age and education level of farmers

Age is one of the factors affected someone's productivity level (Mosher 1985). There is a tendency that young person has higher ability to look for basic necessities of life compare to the older ones. Most of the population in these three irrigation areas is at the age of 15-45 years, leaving a small portion of them in the age of 60 years or older. With this age profile, we can say that they are quiet productive to maintain their livelihood (Table 7).

Table 7: Age distribution of Household heads of sample households, Pinrang 2004.

Age groups (yrs)	Irrigation Areas		
	Tiroang (up-stream)	Marawi (middle-stream)	Pakkie (low-stream)
15 – 30	10 (20.0)	10 (20.0)	6 (12.0)
31 – 45	21 (42.0)	29 (58.0)	23 (46.0)
46 – 60	17 (34.0)	10 (20.0)	15 (30.0)
> 60	2 (4.0)	1 (2.0)	6 (12.0)
J u m l a h	50 (100)	50 (100)	50 (100)

Note: numbers in brackets are percentages

The education level of the head of a household in each irrigation areas is varied, starting from no school at all to the level of university graduates. In order to comprehend the profile of education level of the head of household see the following Table 8.

Table 8: Distribution of household head by educational level, sample households in Pinrang, 2004.

Education Level	Irrigation Area		
	Tiroang (up-stream)	Marawi (middle-stream)	Fakkie (low-stream)
No school	5 (10.0)	1 (2.0)	2 (4.0)
Primary school	36 (72.0)	30 (60.0)	33 (66.0)
Junior high	6 (12.0)	12 (24.0)	6 (12.0)
High school	3 (6.0)	6 (12.0)	8 (16.0)
University level	0 (0.0)	1 (2.0)	1 (2.0)
Total	50 (100)	50 (100)	50 (100)

Note: numbers in brackets are percentages

The education level in all the three irrigation areas is relatively low where we should see that the best part of the percentage filled by “primary school graduates”. The percentage of junior high school graduates is higher in the middle-stream area compare to the up-stream and low-stream areas, namely 24%. As for the high school graduates, in the low-stream areas we can find 16%, it is due to the availability of the education facilities more that the up-stream irrigation areas which located far away from the capital of regency (regency) or Sub-regency.

C. Type of occupation

The main occupation of the head of household in these irrigation areas generally are farming (on average 97%), meanwhile their side-jobs are trading and transporting rice (29%). The side-job mostly done when the farming activities are less (Table 9).

Table 9: Distribution of household by occupation, sample households in Pinrang, 2004.

Occupation	Irrigation Areas					
	Tiroang (up-stream)		Marawi (middle-stream)		Pakkie (low-stream)	
	Main job	Side job	Main job	Side job	Main job	Side job
Farmer	47 (94,0)	3 (6,0)	49 (98,0)	1 (2,0)	50 (100)	-
Civ. servant	3 (6,0)	-	1 (2,0)	-	-	-
Trader	-	15(30,0)	-	19 (38,0)	-	10 (20,0)
Rice transportation	-	15 (30,0)	-	10 (20,0)	-	20 (40,0)
Unemployed	-	7 (14,0)	-	20 (40,0)	-	20 (40,0)
Total	50 (100)	50 (100)	50 (100)	50 (100)	50 (100)	50 (100)

Note: numbers in brackets are percentages

D. The Farm Land

The sizes of the rice field owned by respondents are varied. In the up-stream irrigation areas generally the respondents owned 0.5 to 1.0 ha land (44%), the middle-stream areas has higher percentage for those who owned land under 0.5 ha., and the low-stream areas has more owners that owned 0.5-1.0 ha. As for dry land, most of respondents in the up-stream, mid-stream, and low-stream areas owned dry land less than 0.5 ha (Table 10).

Table 10 Distribution of household by the size of land owned in irrigation areas, sample households in Pinrang, 2004

Land tenure (ha)	Irrigation areas		
	Tiroang (up-stream)	Marawi (middle-stream)	Pakkie (low-stream)
Rice field			
- < 0,5	6 (12,0)	28 (56,0)	22 (44,0)
- 0,5 – 1,0	22 (44,0)	10 (20,0)	23 (46,0)
- > 1,0	22 (44,0)	12 (24,0)	5 (10,0)
Total	50 (100)	50 (100)	50 (100)
Dry field			
- < 0,5	48	45	50 (100)
- 0,5 – 1,0	2	5	-
Total	50 (100)	50 (100)	50 (100)

Note: numbers in brackets are percentages

Planting season in rice field is twice a year (March-September and October-February) with planting pattern of rice-rice. After the harvest of the first planting season, usually the farmers take rest until the second planting season. At this free time, normally they engage in some other activities like repair houses and cultivate the dry land they owned.

Farmers that owned dry land and industrial crop land used for fruits (banana, mango, and jackfruit), corn, cacao, cashew nut, and coconut. Production they achieve from the dry land will mostly be consumed by family. However, cacao and chest nut planted were dominant industrial crops with their production go to the market and the money out of it would support the daily substances. The amounts of income received vary by farmer who are operating rice farm in different stream of irrigation channel. The annual incomes received from industrial crops are 1.892, 0.839, and 1.270 million rupiah in the low, middle, and up-stream area respectively.

Other source household incomes are animal husbandry and seasonal worker in other village. The amount received by low stream, middle stream, and up-stream farmers are 2.226, 1.780, and 1.395 million respectively.

Some of the farmers, who have paddy field and dry land with small size in this village, also have dry land at the other region (Sidrap regency) and they cultivate with cacao and cashew nut. This condition causes the farmer doing migration after harvesting and getting back to their village if planting season comes. This regular migration activity done mostly by the farmer has a low participation in the empowerment activity. Some of the farmer usually also cultivate their field in the end of crop season. These problems rise up on the water management for watering, especially in the time of harvesting. Half of the farmer still needs water for they field when the half of the others farmer has already finished watered their farm.

IV. GENERAL INFORMATION OF SADDANG IRRIGATION AND WATER USERS ASSOCIATION

4.1. Historical development of irrigation in Saddang

Irrigation Area of Saddang which is located in Pinrang Regency operated under agricultural areas in Pinrang Regency region with total width 62,203 ha that consists of irrigated rice field 54,674 ha, 4,443 ha, and others 3,086 ha.

The history of irrigation network in irrigation area of Saddang as follows:

Year	Activity
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1939	Benteng reservoir constructed by Dutch Colonial Government
1937 – 1940	Main irrigation channels of Sawitto and Rappang constructed and operated at the first time with 55,000 ha service area
1940 – 1945	World War II broke, there was no irrigation channel development
1945	Independence of Republic of Indonesia, there was opportunity to develop irrigation channel
1970 – 1984	Improvement Project of 54,000 ha for North Saddang area, and tertiary development of 28,500 ha funded by World Bank
1988 – 1993	Irrigation Sub-Sector Project (ISSP), an assistance project from Asian Development Bank (ADB), was the continuation of previous project, with the target of rehabilitating irrigation infrastructure.
1992 – 1996	Provincial Irrigated Agricultural Development Project (PIADP), funded by World Bank, was working on tertiary line for 23,000 ha, 230 km of agricultural road network, 197 km of irrigation channel, agricultural development and land certification.
2000 – present	Small Scale Irrigation Management Project III (SSIMP-III), funded by JBIC loan no. IP-499, conducted study on Water Management Improvement in this area.
2001	Implementation Water Irrigation Reform Implementation Project (IWIRIP) carried out by government of South Sulawesi which Pinrang Regency as focused on farmer's empowerment with Irrigation Management transfer. Project site of IWIRIP is located in Sawitto Branch Office

Source: Decentralized Irrigation System Improvement in Eastern Region of Indonesia, 2004

4.2. Irrigation management and water users association

Irrigation management is handled by government and farmers with their own respective tasks and responsibilities, as shown in the following descriptions:

Operation & Maintenance (O&M) of main channel handled by Local Executing Unit (UPTD). The O&M of main channel which consist of Benteng dam and Rappang main channel (in Pinrang Regency) is carried out according to the handbook (Measurement of Irrigation Water and Measurement Gate Operation) and annual discussion of water distribution organization by Irrigation Committee. Irrigation area of Saddang divided into three groups: a. the area with similar planting pattern that is rice fields with difference of planting time in each planting stages; b. the area located far away from Main Irrigation Channel firstly served; and c. the closest area receiving water after one month. In this main channel, provincial government is responsible to finance the labor and O&M costs through National Budget (APBN), because the working area of channel is inter-regencies (Pinrang, Sidrap, and Wajo Regency). The mechanism of water distribution in main channel is based on the request of Irrigation Office of each regency. In the beginning of planting season, the Irrigation Office will propose water demand according to the amount of water needed by rice areas in the respective regency. Every two weeks after the first request, the Irrigation Office put forward their order in accordance with their need to UPTD. This process is repeated until the harvest.

O&M Secondary Channel. The local government and the WUA/WUA-G are responsible for the O&M of irrigation network, in terms of finance and labor. Gate operation in secondary and tertiary channel operated by water gate staff (PPA) coordinated by Head of sub-branch/Sub-branch. Each PPA operates some tertiary gates.

O&M of tertiary network. Water distribution in tertiary network managed by WUA assisted by Head of Sub-branch and PPA. The costs required for repairing and maintaining the channel is expected from Obligatory Fee. However as the payment Obligatory Fee not implemented yet, the costs required usually come from water fee. In tertiary channel (in farmer level), the water distribution is carried out by *ulu-ulu* (water master), by opening the water boxes.

Water Users Association (WUA) is the organization of water users to control, manage, and maintain irrigation facilities at tertiary level. In 2000, there are 789 WUAs in irrigation area of Saddang. Among those associations, only 12% were active. Number of WUA activeness was higher in Sidrap regency especially in the payment of irrigation fee.

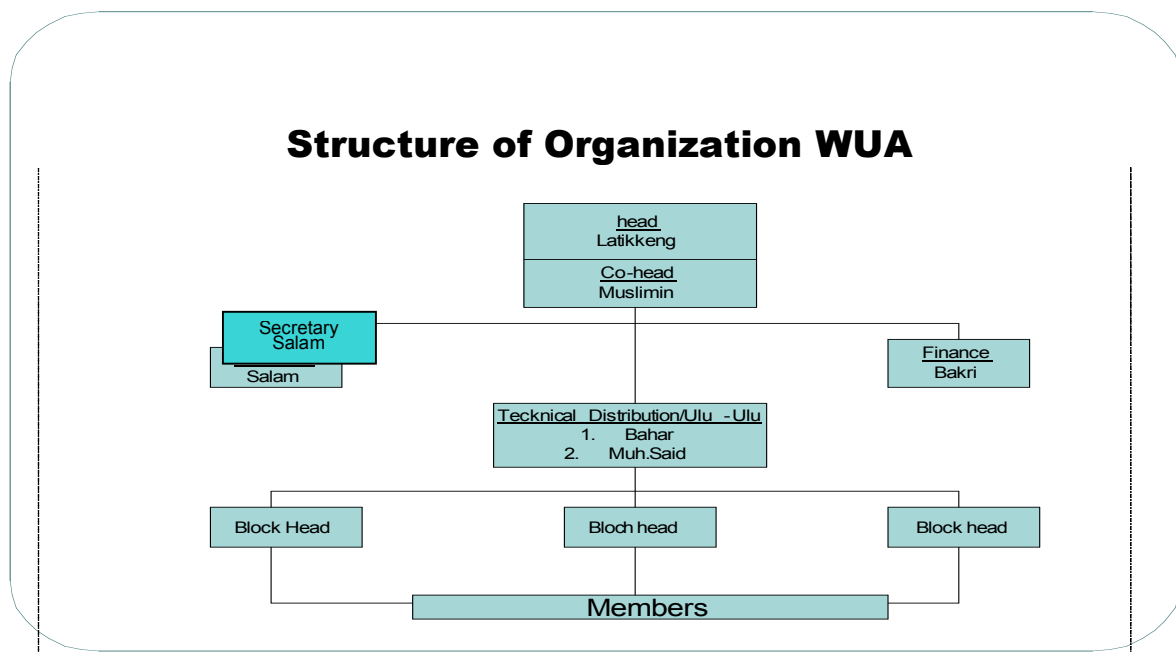
In Pinrang regency, the number of WUA is 456, with 38 WUA-Gs (Water User Associations Group). Especially in Tiroang sub-regency (the research site), there are 6 WUA-Gs that consist of 66 WUA s with detail as follows:

1. WUA-G Pole Wali-wali, 13 WUAs
2. WUA-G Tujuh Wali-wali, 12 WUAs
3. WUA-G Pole Massiddi Adae, 14 WUAs
4. WUA-G Sipakangka, 5 WUAs
5. WUA-G Massumpuloloe, 15 WUAs
6. WUA-G Wae Tuo, 7 WUAs.

Those WUAs were established between 1987 and 2003, and each WUA has 40-279 members, with width of rice field about 0.25-3 ha. The establishment of WUA is according to the capacity of tertiary network in watering rice field areas.

A. Organizational structure of WUA

There are two water users organization namely WUA and WUA-G. The WUA committee consists of Head, Vice of Head, Secretary, Treasurer, Ulu-ulu (water distributor at the level of tertiary channel), and Head of Block (water distributor at the level of quarterly channel). The numbers of WUA members vary depending on the number of farmers in tertiary level. The number of WUA members in the working area of Tiroang Branch Office is about 40-279 covering 20-163 ha rice field. The organizational structure of WUA is illustrated in the following figure.



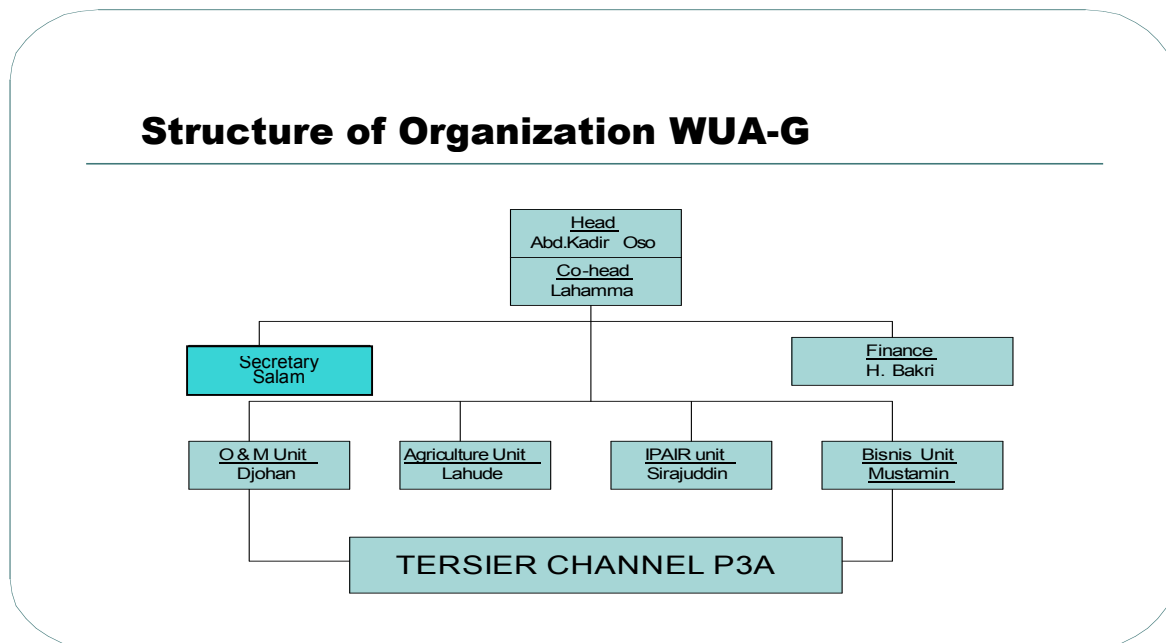
The WUA committee is elected by the members according to the following rules:

- Head, secretary, and treasurer are elected by WUA members inhabited in the working area village of respective WUA.
- Block head is the leader of the block which is elected among the members the respective block.

The committee is responsible toward members' meeting and to be successful in implementing their tasks, the members of committee should keep paying attention to these principles: transparency, integration, togetherness, and intimacy.

The members of WUA-G consist of WUA that located in the secondary channel with number of members about 5 – 15 WUAs.

The WUA-G committee consists of Head, Vice Head, Secretary, Treasurer, Farming Unit, IPAIR Unit (irrigation fee) and Enterprise Unit. The committee members of WUA-G are elected by WUA committee among the members of the respective WUA-G. The example of WUA-G organizational structure is illustrated in the following figure.



B. Rights, duties and responsibilities of the Members

Each WUA member has the following rights: (a) to obtain irrigation water according to the rights and stipulations determined by the organization and the prevailing regulations; (b) to elect and to be elected committee member; (c) to express opinions in members' meeting; (d) to examine the organization and policy of the committee through members' meeting.

While the duties of each WUA member are as follows: (a) to obey all regulations and prevailing laws; (b) to pay membership fee and other fees stipulated by members' meeting; (c) to implement and obey the sanctions determined by members' meeting for violating the agreed rules; (d) to accept and comply with the water distribution system determined by the organization and prevailing laws and regulations; (e) to attend and being active in Members' Meeting; and (f) to acknowledge the committee when land ownership has been changed.

V. EMPOWERMENT OF WATER USER ASSOCIATION (WUA)

5.1. Process of empowerment

In relation to the handing over of irrigation management from government to WUA, Main Project of Irrigation and Swamp of South Sulawesi (PIRASS) in cooperation with the local NGO, Institute of Research and community Consultation Society (LEKMAS- Lembaga Kajian and Konsultasi Masyarakat), had been implemented aiming at WUA empowerment through WUA/WUA-G strengthening in irrigation area of Saddang Pinrang regency for 12 months (December 2002 – November 2003).

The stages of activities consist of:

1. Socialization and meeting
The preliminary activities of socialization and meeting are intended to introduce and convey the work plan of LEKMAS team to government of Pinrang regency. The activities are:
 - A. Coordination with head of regency, head of irrigation office, project leader of Sipolemajupi, all heads of irrigation office branches, Sub-branch of irrigation office, head of sub-office, head of village, agriculture office, and other related office.
 - B. Preliminary visit (field discussion) to meet community elders, religious leaders, committee of WUA/WUA-G and farmers either at their houses or rice fields.
 - C. Facilitate the implementation of internal meeting of WUA/WUA-G incidentally.
2. Identification of WUA/WUA-G Problems
The identification is carried out to collect and inventories the problems of WUA/WUA-G in institutional or network level. The activity is conducted by using PRA (Participatory Rural Appraisal) methods. This is intended to motivate the committee of WUA/WUA-G in identifying and solving the problems. The activities carried out as follows:
 - A. Network Search
Network search conducted by Field Facilitator together with staff of Irrigation Office branch, staff Irrigation Sub-branch Office, committee of WUA/WUA-G and farmers in general.
 - B. Institutional Identification
This activity is conducted to gather data and information regarding the conditions of WUA/WUA-G. The understanding of initial condition of WUA/WUA-G becomes the basis of implementing the assistance activities.
3. Improvement/Establishment of WUA/WUA-G
Capacity building/reshuffle of committee and merging of some WUA/WUA-G is conducted for the improvement/establishment of WUA/WUA-G. This is according to the agreement of committee members of WUA/WUA-G together with branch of Irrigation Office and related offices. In branch office of Tiroang sub-regency, the Capacity building/reshuffle of committee and merging of some WUA/WUA-G that succeeded is shown in the table below.

Table 13: The result of Capacity building/reshuffle of committee and merging of some WUA/WUA-G of Tiroang branch office, 2004

No.	Description	Number of WUA	Realization
1.	Reshuffle of WUA committee	79	66
2.	Reshuffle of WUA-G committee	6	6

Source: Supporting document, 2004.

Reshuffle is the decreasing of number of board members and restructure of organization. In the first activity of empowerment, most of 79-WUA identified have not be functioned with unclear organization structure. Based on the meeting of empowerment facilitator, Institute of Water Service, and board member of WUA who are still actively in meeting. 79 of WUAs were reshuffled to 66 WUAs with restructure of WUA organization and board member. Reshuffle of WUA-G was done to restructure of board and organization with remain 6 WUA-Gs. Reshuffle was done in order to be effective and efficient empowerment process.

The table above shows that most of WUA are implementing reshuffle of committee. This is done as part of “learning process” in institutional strengthening, especially the organizational aspects.

4. Assistance and Facilitating of WUA/WUA-G

This Assistance is carried out in all branches of Irrigation Office to active or non-active WUA/WUA-G. The Assistance activity consists of:

- A. To facilitate the arrangement of statute, the mutual support activity, cleaning of secondary channel, tertiary channel, repairing damaged channel.
- B. To motivate/socialize the understanding of statute for those who already has one, and legalize the statute of WUA by the committee, head of village, sub-regency, and regency.

- C. To facilitate the provision, the ways of filling the administrative books of WUA/WUA-G, procurements of WUA stamp and secretariat sign board.
 - D. To facilitate the WUA in increasing the payment of water fee.
 - E. To facilitate the WUA/WUA-G that has conducting capacity building/reshuffle of committee to prepare their work plan.
 - F. To facilitate the committee of WUA/WUA-G that has collecting water fee to open bank account.
5. Socialization of Handling over of O&M to WUA
The activity is carried out by facilitator's team to build understanding of WUA/WUA-G committee and its members that the responsibility and network management is the authority of WUA. The activity is implemented in forms of:
- A. To assist the socialization the Local Regulation (PERDA) No. 3 Year 2003 regarding irrigation management in Pinrang regency.
 - B. To facilitate the WUA in implementing the rehabilitation of tertiary channel.
 - C. To facilitate the WUA/WUA-G and its members to conduct mutual supporting activity, the cleaning of main channel, secondary, tertiary, and quarterly.
6. Operation & Maintenance (O&M) Training
The O&M training by LEKMAS team is implemented in one of the working area of Irrigation Office branch. This training is attended by representative from all Office branches by sending the committee of WUA/WUA-G.

5.2. Stakeholders Participation

There are several stakeholders involved in the WUA empowerment activities in Regency Pinrang, namely, NGO, government, farmers, and International agency.

Below is the explanation on the role of each stakeholder in the empowerment activities.

1. International Agency

International Agency involved in this program is Nippon Koei Co. Ltd. This agency was working in collaborate with Department of Regional Settlement and Infrastructure (KIMPRASWIL). They run a program of irrigation network rehabilitation and WUA empowerment. First, identifying irrigation network condition and its problems, and then designing the rehabilitation scheme, the actual rehabilitation was planned to be started by the end of 2004 at the network that located within the administrative area of Tiroang. The fund used in this program comes from JBIC Loan IP-509. The empowerment program run by Nippon Koei was in cooperation with an NGO, namely LEPSEM-Institute for Community Socio-Economic Empowerment]). The form of their cooperation was Nippon Koei provide fund and the LEPSEM provide people to work in fields.

2. NGO (Non Governmental Organization)

On the empowering activity, the field assistants or facilitators are from NGO (LEPSEM). And their functions are:

- To facilitate WUA and farmers to identify their problems.
- To facilitate WUA and farmers on institutional development (organization and regulation) of WUA and WUA-G
- Administrative management of WUA and WUA-G (such as administration of IPAIR)
- To facilitate meetings (members meeting, boards meeting). On every meeting, the facilitator facilitates meeting between farmers and government staffs (Irrigation office and agriculture Office). The meeting is to discuss and overcome the farmers' problems concerning to irrigation.
- To facilitate WUA and farmers on mutual supporting activity (ex: irrigation channel maintenance)
- To facilitate WUA and farmers on making project proposal that would be proposed to regency government.

3. Government of Regency

On the empowering activity, Government of Regency, in this case, is Irrigation Office. It provides fund through local budget on repairing Irrigation network. Other role of Irrigation office is facilitating WUA on every meeting and mutual supporting activity in collaboration with facilitator (from NGO).

4. Community (Farmers)

Community (Farmers) is boards and members of WUA. They are supposed to be the main agents of development, in the case of empowering activity, they become the main agents on every activity. The boards of WUA and WUA-G have a duty to prepare and held the institutional strengthening, administrative management and members and boards meetings. As well as in mutual supporting activity, the boards of WUA and WUA-G collaborate with their members. Other role of community is to manage the IPAIR (water contribution) both on collecting and utilizing.

VI. THE IMPACT OF WUA EMPOWERMENT

6.1. The Institutional Strengthening of WUA

The institutional strengthening is aimed to make WUA have the capabilities to manage irrigation (especially in secondary channel and tertiary) independently, in terms of operational and financing. The institutional strengthening is the development of organization and norms/rules through the members' agreement that facilitated by facilitator and government staff. Some of the activities of institutional strengthening are:

A. The Formulation of Statute

As an organization, it is very important for WUA and WUA-G to have Statute as basic guidance in irrigation management. Before assistance, almost all Statute of farmer groups was formulated by staff of irrigation office without the involvement of WUA committee and members. After the facilitation process, the formulation of Statute carried out by committee and members of WUA assisted by field facilitator and government (Head of Office Branch). In Tiroang sub-regency, which is part of Tiroang Irrigation Office Branch, all of 66 WUAs have had statute that legalized by Head of Regency (Bupati). As the results of WUA-G/WUA capacity building assisted by the facilitator, there are some agreements that included in statute, namely:

B. General assembly meeting

General assembly meeting is the highest authority in WUA. The tasks and authorities of the meeting are: (a) formulate/stipulate and/or amend the Statute; (b) form and resign/assign committee members; (c) prepare the work plan and annual budget; (d) accept accountability; (e) determine type and amount of member's fee; and (f) settle the violation and dispute. The meeting is to be held at minimum once in each planting season which is convened when the planting season begin, and if there's any important matters that require immediate action. The meeting comes into effect if: (a) attended by half or more of the total number of members or attended by blocks and WUA representative (The number of participant could be decided in the commitment way of representatives). ; (b) if attended by less that half of the members, the meeting can be postponed for one week; and (c) if the same situation recur as point b, then the meeting can be carried out even though less than half of the member attended.

According to WUA committee, the activity of general assembly meeting that measured through its frequency and members' attendance has increased after being facilitated (Table 14).

Table 14: The activity of members' meeting according to WUA committee, 2004

Description	Number of WUA							
	Upper stream		Mid stream		Lower stream		Total	
	Before	After	Before	After	Before	After	Before	After
Annual Meetings:								
- Never	5	1	4	2	5	2	14	5
- Ever	5	9	2	4	1	4	8	17
Frequency of Board Meetings								
- Never	3	2	1	1	3	-	7	3
- Once/crop season	7	7	5	3	1	4	13	14
- Twice/crop season	-	1	-	2	2	2	2	5
Level of Members Presence								
-Low ($\leq 50\%$)	10	-	3	-	4	2	17	2
-Moderate (51-80%)	-	5	2	5	2	2	4	12
-High ($> 80\%$)	-	5	1	1	-	2	1	8

Source: Research findings, 2004.

In terms of annual meeting, the number of WUAs that organized the meetings substantially increased from 8 groups (36%) before empowerment program to 17 groups (77%) after the program. The activity of the board was also enhanced as its meetings became more frequent. The level of attendance of WUA members improved much, as before the program 17 (77%) of WUA committee stated its level was less than half, while after the program 20 (81%) of WUAs attendance level became more than half, moreover 8 (36%) WUAs showed higher than 80%.

C. Source of Fund

There are three financial sources for irrigation management as follows:

i) Main saving: The member is obligated to deposit Rp. 20,000 – Rp. 50,000 when joining the WUA. Main saving is enduring fund that can be used any time or when the other sources of fund (obligatory contribution and IPAIR contribution) are not adequate. In fact, the level of fulfillment of these main savings is quite low for most of WUA.

ii) IPAIR (Water contribution): is determined through agreement among WUA members. IPAIR on each WUA is based on the condition of irrigation. The agreed IPAIR is about Rp. 5,000 – Rp. 12,500/ha. The amount of IPAIR for each member is determined according to the area of the rice field. The farmers who have field less than 1 ha, the IPAIR is Rp. 5,000 and more than 1 ha is Rp. 10,000-12,500. The IPAIR can be paid with money or in-kind (rice). The IPAIR is stored and managed by WUA-G to finance the O&M activities on secondary channel.

iii) Obligatory saving: this kind of contribution is to finance the repairing and maintaining the tertiary channel and the amount is determined by members and managed by the WUA. The obligatory saving is paid right after harvesting. The obligatory contribution was not realized yet on all WUA, thus the repairing and maintaining of tertiary channel so far funded by IPAIR.

With the institutional strengthening of WUA; the percentage of WUA members who paid IPAIR increased, as the board of WUA explained. Table 15, showed the percentage of IPAIR payment before and after empowering activity.

Table 15: Participation Level of Members of WUA on IPAIR Payment, 2004

Level of Participation	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
None (0)	4	1	4	-	4	-	12	1
Low ($\leq 30\%$)	4	6	2	1	2	3	8	10
Moderate (31% - 50%)	2	2	-	4	-	2	2	8
High ($> 50\%$)	-	1	-	1	-	1	-	3

Source: Research Outcome, 2004

IPAIR utilizing which was managed by the board of WUA-G based on the agreement of members of WUA-G was different on each WUA-G. The IPAIR utilizing consists of:

- O&M : 50 – 60 %
- Administrative : 10 %
- Collector : 10 %
- The Board of WUA-G : 20 – 30 %

The Board usually did not take the honorarium. But, it used to finance the repairing and maintaining the irrigation channel. It was due to most of the boards are prosperous farmers.

D. Activity Program

The board of organization annually arranges the activity program to be approved in members meeting that consist of:

- i) Listing of maintaining and repairing of channel and building which is located at their working area. The time for these activities are about a month or not late than 2 month toward the beginning of planting time, either in rainy and dry season.
- ii) Determining of the schedule of land preparation on each blocks according to the pattern and schedule of planting, and the beginning of irrigation watering schedule on rainy and dry season.
- iii) Determining the rice nursery schedule on each block.
- iv) Transplanting of rice on each quarter block done based on arranged planting schedule.

E. Agreed sanctions for regulation violating

- For delaying of agreed payment will be fined with 50 % of payment for members, and 100 % for boards.
- For absence from meeting (group meeting) without reasonable excuse; the absent members have to agree and follow the agreed decision.
- For absence from mutual support activity without notification and reasonable excuse; the absent members have to finish the left task that he or she supposed to do, or fined.
- For boards, members and livestock owners who damage the irrigation network or channel building, have to repair the damaged part as previous condition and bear the repairing cost, and make recognizance not repeated, and if it occur again he or she will be sent to police.
- For throwing garbage on channel; He or she has to clean the garbage from the channel.
- For board who corrupt the contribution fund for personal interest; He or she has to return the corrupted fund not late than a month before next planting season and discharged, and if it is not returned on the determined period; He or She can be mentioned to police and sentenced of corruption criminal act.
- The investigators team of such violation as on this section is the technical executives assisted by the chairman of blocks and headed by the chairman of WUA.

The sanctions for such regulation violating as on the statute were not entirely implemented yet. It was due to the regulation had just agreed and not well socialized yet. Even though there were several groups which had implemented the sanctions to their members who violated the regulation concerning to mutual support activity and delaying of IPAIR payment (Table 16).

Table 16: Number of Groups which has Implemented the sanctions

Descriptions	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Channel Maintaining								
- Never	7	-	5	1	5	1	17	2
- Ever	3	10	1	5	1	5	5	20
“Maintaining”								
- Less (0 – 1)	7	1	6	1	6	1	14	2
- Enough (2 – 3)	3	9	-	5	-	5	8	20

Source: Research Outcome, 2004

Before there has been assistance activity, most of WUA had never implemented the sanctions on activity concerning of either channel maintaining or IPAIR payment. In contrast, most of WUA had ever implemented them to their members who violated the regulations after there has been assistance activity. The implemented sanctions were not entirely agree with the agreement as on statute, for example, the fine payment was based on the farmers’ capability. Such policy was taken because the regulations just recently implemented.

6.2. Operation and Maintenance of Irrigation Channel

Operation and Maintenance (O&M) is the activity of WUA on operating and maintaining the irrigation facility at tertiary channel. ‘Operation’ activities consist of: (a) arranging the schedule of watering, (b) executing the schedule of watering (operating the dam and supporting channel), (c) connecting farmers and government staff, and (d) monitoring the watering. While the ‘Maintaining’ consist of: (a) regular maintenance (cleaning, etc), (b) irregular maintenance (channel repairing if needed), (c) connecting government staff and farmers, and (d) monitoring maintaining work.

Table 17 shows that sort of activities that were conducted by WUA. The dominant activities were connecting government staff and farmers (Head of Branch Office and Sub-office staff), preparing watering schedule and monitoring the watering. After assistance, most of WUA did “enough” “operation” activities that was 2-3 activities. In the case of “maintaining” activity, it was considered “less” before assistance on WUA activity, only irregular maintenance (repairing irrigation channel if needed). After assistance, “maintaining” activity was considered “enough” and the dominant activities were regular maintenance (irrigation channel cleaning and water retaining), irregular maintenance and monitoring of maintaining activity and or connecting government staff and farmers.

Table 17: The increasing of sort of WUA activities on operation and maintaining at working Area of Tiroang Branch office, Pinrang Regency, 2004

Number of Activities	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Operation								
- Less (0-1)	8	3	4	-	4	2	16	5
- Enough (2-3)	2	7	2	6	2	4	6	17
Maintaining								
- Less (0-1)	9	1	4	-	5	1	18	2
- Enough(2-3)	1	9	2	6	1	5	4	20

Source: Research Outcome, 2004

Based on the involvement of WUA members in O&M activities, generally participation level of WUA members increased after assistance in which there was 15 WUAs (68%) which were categorized “high” on level of members’ participation. While before assistance, most of WUA had “low and moderate” level of members’ participation (Table 18).

There was different Level of members’ participation of WUA on O&M activities at upper, mid, lower stream area both before and after assistance. At the upper stream area, level of members’ participation relatively lower than mid and lower stream area. It was due to the location of mid and lower stream area easier to be reached by facilitator.

Table 18: Level of Participation of WUA Members on O&M Activities, 2004

Level of Participation	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Low ($\leq 30\%$)	8	-	2	-	2	-	12	-
Moderate (31-50%)	2	6	4	-	3	1	9	7
High ($>50\%$)	-	4	-	6	1	5	1	15

Source: Research Outcome, 2004

The increasing of level of members participation because of the increasing of “mutual supporting value” of farmers either on repairing and maintaining of irrigation channel and group of farmers activity (Table 19).

Table 19: Farmers Mutual Supporting Value Based on WUA Board Evaluation, 2004

Mutual Supporting value	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Cleaning and Repairing								
- Low	4	-	3	-	2	-	9	1
- Moderate	6	4	3	1	3	1	12	12
- High	-	6	-	5	1	5	1	9
At Farmers Group								
- Low	4	1	3	-	3	-	10	1
- Moderate	4	8	1	1	3	3	8	12
- High	2	1	2	5	-	3	4	9

Source: Research Outcome, 2004

The increased O&M activity level by the members has an effect on water fulfillment. Most of WUA boards expressed “dissatisfied” on volume of water that reached their working area before assistance activity, but the quantity of water “more satisfied” after the assistance activity as a result of sufficiency of water (Table 20).

Table 20: Satisfaction Level of WUA Board on Volume of Water at Tertiary Canal

Level of Satisfaction	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Dissatisfied	5	-	2	-	6	3	13	3
Satisfied	5	7	4	-	-	2	9	9
Very Satisfied	-	3	-	6	-	1	-	10
Total	10	10	6	6	6	6	22	22

Source: Research Outcome, 2004

At the upper and mid stream area, all the farmers groups stated that the volume of water which reached their area was “satisfied”. Whereas at the lower stream area, there were 50% WUA remained “dissatisfied”. It was due to the volume of water which reached lower stream area was inadequate.

The insufficiency of water at lower stream area has an effect on disobedience of arranged planting schedule (Table 21).

Table 21: Percentage of Farmers who followed the Arranged Planting Schedule, 2004

Level of Participation	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
≤ 50%	7	-	1	-	4	-	12	-
50-70%	3	7	4	-	2	3	9	10
>70%	-	3	1	6	-	3	1	12
Total	10	10	6	6	6	6	22	22

Source: Research Outcome, 2004

Table 21 illustrates that even after assistance still there were farmers who did not follow the arranged planting schedule either at upper, mid and lower stream area. In this point, there are various reason e.g.: (a) the water are not available yet, particularly for some farmers at lower stream area; and (b) shared rice field in other area (including the rice field that is located at Sidrap regency) usually was carried out earlier then the rice field that is located in this area.

As the result of the different planting schedule, conflict sometimes occurred both between farmers and between areas, especially toward harvesting season. It occurred because of most of farmers who followed the arranged planting schedule no longer need water toward harvesting season while others who planted behind the schedule still need water. There are several way to overcome such conflict e.g.: 1) lengthening the opening time of water gates in order to the farmer planted behind the schedule could get water; 2) the irrigation channel remained opened, especially tertiary channel which flow the area that still need water. Other way to solve the insufficiency of water is the farmers apply ‘pumping system’ in which the secondary channel as the water source. Farmers pay 20% of harvest to the water pump provider with payment in kind.

6.3. Farmers Attitudes and Satisfactions

A. Attitudinal Changes

The involvement of farmers in empowerment process is a ‘learning’ medium for them. With such learning process, they can improve their knowledge and skill, resulted in their attitudinal changes which were indicated by the increased participation in mutual support and IPAIR payment (Table 22).

Table 22: Participation of Community on Irrigation Management after empowering activity

Participation of community	Upper Stream	Mid Stream	Lower Stream	Total
Empowering Activity				
- Never	8 (16.0)	18 (36.0)	7 (14.0)	33 (22.0)
- Sometime	14 (28.0)	6 (12.0)	13 (26.0)	33 (22.0)
- Always	28 (56.0)	26 (52.0)	30 (60.0)	84 (56.0)
Mutual support Activity				
- Not increased	19 (38.0)	13 (26.0)	11 (22.0)	43 (28.0)
- Increased	29	37	39	105

	(58.0)	(74.0)	(78.0)	(70.0)
- Excessively Increased	2 (4.0)	-	-	2 (1.3)
IPAIR	23	18	33	74
- Not increased	(46.0)	(36.0)	(66.0)	(49.3)
- Increased	26 (52.0)	32 (64.0)	17 (34.0)	75 (50.0)
- Excessively Increased	1 (2.0)	-	-	1 (0.7)

Source: Research Outcome, 2004

The farmers' reasons to participate are demonstrated as story below:

"The cooperation between group members has been increased since there has been facilitation, it is indicated by the increasing of number of members who present in each meeting, and mutual support secondary and tertiary irrigation channel cleaning activity" (Interview, July 2004).

The number of farmers who were not increased in participation (same level of participation before assistance) is 29%. It was due to some factors, such as, there have been WUA which are not optimally facilitated because of the distance of location is too far, and or the small number of facilitator comparing to number of group which shall be facilitated. As one of facilitators said:

"I have the duty of assistance the WUA's which are located at working area of Tiroang branch Office which includes 4 sub-regency with 69 WUAs. Regarding the WUAs in remote area where difficult to reach, I facilitated rarely. Consequently, assistance processes were not optimal" (Interview, July 2004).

Concerning the IPAIR payment, the number of participated farmers increased up to 51%. It occurred mainly to the farmers who get the benefit from the increasing of water service, as some respondents draw out below:

"The increasing of peoples self-supporting and the increasing of the number of farmers who paid IPAIR are due to the collector more active in collecting the payment from the members, and farmers already know how to utilize the IPAIR, and after all, the water service is getting much better" (Interview, August 2004).

As Tiroang Head of Office said:

"Government policy before there has been assistance, the collected IPAIR were stored in BRI. However, peoples have not known yet how to utilize them. It causes many farmers did not pay IPAIR. After there has been change in government policy in which the IPAIR are managed by WUA-G and the utility of IPAIR getting clearer; the number of farmers who paid IPAIR increased" (Interview, August 2004)

The level of farmers' satisfaction is presented in Table 23. The dissatisfaction on water service occurred in all area (upper, mid, and lower stream). Water service which was not optimal (volume and sharing time which were not appropriate with the needs) simply because of there were damaged irrigation channel or not well maintain (there were soil and trash/waste sediment). Particularly at upper stream area, the percentage of farmers who dissatisfied on water service was much enough (60%).

Table 23: Level of Farmers Satisfaction on Water Service, 2004

Level of Satisfaction	Upper Stream	Mid-Stream	Lower stream	Total
Less Satisfied	2 (4.0)	4 (8.0)	30 (60.0)	36 (24.0)
Satisfied	39 (78.0)	42 (84.0)	20 (40.0)	101 (67.3)
Very Satisfied	18 (18.0)	4 (8.0)	-	13 (8.7)
Amount	50 (100)	50 (100)	50 (100)	150 (100)

Source: Research Outcome, 2004

B. Water Sufficiency

The sufficiency of required water in each development phase will effect on rice productivity level. A number of farmers underwent the less adequate of water service not only before but also after empowering.

At upper and mid stream, inadequacy of water simply because of damaging of water channels, and illegal water use (in local term: *balombong*). Meanwhile, at the lower stream area, it was mainly due to the long distance from the secondary channel. Sufficiency level of water before and after empowering is showed in Table 24.

Table 24: Sufficiency Level of water at farmer agricultural activity level, 2004.

Sufficiency Level of Water	Number of WUA							
	Upper Stream		Mid Stream		Lower Stream		Total	
	Before	After	Before	After	Before	After	Before	After
Very insufficient	2 (4.0)	-	1 (2.0)	-	1 (2.0)	1 (2.0)	4 (2.7)	1 (0.7)
Less	13 (26.0)	1 (2.0)	9 (18.0)	3 (6.0)	31 (62.0)	27 (54.0)	53 (35.3)	31 (20.7)
Sufficient	35 (70.0)	49 (98.0)	40 (80.0)	47 (94.0)	18 (36.0)	22 (44.0)	93 (62.0)	118 (78.7)
	50 (100)	50 (100)	50 (100)	50 (100)	50 (100)	50 (100)	150 (100)	150 (100)

Source: Research Outcome, 2004

The number of farmers who underwent the inadequate water in plating process after assistance decreased. However, 21% is still insufficient. It occurred because of the priority of assistance activity during a year (2003-2004) put on institution strengthening of WUA (organizational and regulations developing). The activity concerning O&M was confined on assistance the rearrangement of network at farmers level, assistance mutual support activity and farmers critical awareness concerning to O&M network. While the repairing or rehabilitating activity of damaged irrigation channel or less utilized irrigation channel were still merely on planning stage. The repairing activity which has been conducted in 2004 was the constructing of secondary gate that is located at Tiroang village. This activity was funded by government through local budget. The activity involved community on constructing process as the labor and also supervisor.

C. Agricultural Productivity

The empowerment activities done including institution enhancement and operation and maintenance of irrigation network. They make impact on the better WUA and irrigation management. Therefore, most farmers could achieve the water need in the process of rice growing. Then, the water sufficiency make an impact to increase rice production and, at last, farmers income (Table 25).

Table 25: Rice yield and production value, before and after empowerment activities

Items	Up stream		Middle Stream		Low Stream	
	Before	After	Before	After	Before	After
Production (t/ha)	3.9	4.0	4.3	4.4	4.6	4.6
Production value (Rp. 1,000)	3,338	3,512	3,700	3,888	4,460	4,554

Source: Field Research, 2004

VII. Conclusions and Policy Implication

A. Conclusions

1. Empowering processes of WUA conducted by facilitators is started from socialization to government staffs, community stakeholders and the previous boards of WUA. The members of WUA identify the problems concerning irrigation management and administration of WUA, together with government staffs and community stakeholders.
2. Based on the identified problems, facilitators facilitate WUA on institutional strengthening. Organizational development aspect is conducted by reorganize the WUA either on numbers of boards, organizational structure and the boards themselves. Reformation of WUA administration also has been conducted by the boards, members, village heads, and other related local government officials. The agreement on institutional strengthening both in organizational and regulations aspect is documented in the form of statute.
3. Empowering activity, started with problem identification and need assessment of community (farmers), increased the participation in meetings, mutual support activities (repairing and maintaining of irrigation channel), and IPAIR payment (water contribution).
4. The high level of farmers' participation in empowering activity has an effect on the better maintenance of irrigation network. By the condition of irrigation network that well maintained; the required water of rice planting can be fulfilled. It increased the production and income of agricultural activity of rice significantly.
5. The high level of farmers' participation in empowering activity has an effect on 'solidarity attitude' on management and utilization of water. It is proved by the decreasing of number of conflict between farmers at each tertiary channel area and conflict between WUAs.
6. Institutional strengthening without repairing physical facilities had an effect on the participation of farmers which remained low. It was due to the dissatisfaction of some farmers on insufficiency of water.

Policy Implication

1. The expected impact of empowerment is independency/self-reliance of farmers. Empowerment activity was done about for one year (2003/2004) increasing the participant of farmers in WUA/WUA-G and irrigation managements. However, the empowering activity have not yet impact to enhance farmer self reliance. Therefore, government and other stakeholders through their own role need to continue the WUA empowering activity through assistance activity until the WUA can manage irrigation autonomously.
2. The participation of all farmers can increase if they are satisfied on irrigation water services or the water is sufficient for their plant. The institutional strengthening that has been conducted is not go along with the physical reparation of irrigation network, thus the insufficiency of water for some farmers have an effect on the level of participation that remained low. Therefore, the next empowering activity, institutional strengthening should go along with reparation on the facilities (irrigation network rehabilitation).
3. The cooperation between several stakeholders (government, NGO, international institution, and farmers) had an effect on the success of WUA empowering activity. It is proved by the increasing of members of WUA participation on irrigation management.
4. The success of WUA empowering activity can be a model for others development activities. Development activity should be conducted with community empowerment approach. Thus

institutional capacity development (organization, regulation) and asset development (human resources, knowledge, skill and attitude; physical: individual and collective) can be achieved.

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6. ISLAMIC REPUBLIC OF IRAN

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The Impacts of Social Capital on Land Consolidation Projects: A Case of Arak County, Iran

Summary

This paper reports on the relationship between social capital and land consolidation. This provides an empirical basis for assessing whether social capital has an impact on the farmer decision to participate in land consolidation.

The sample size is 177 and the study used stratified sampling method, i.e., the farmers is divided into two strata. First strata includes those who accepted the land consolidation proposal and second strata those who did not accept. Since the farmers belong to different farms the farmers in each strata is sub divided according to their farms, such that we have farmers from all farms in our sample. In each farm the elements are selected randomly.

Social capital in this study is defined as social relationships that are available to an individual and offer that individual a flow of benefits. To measure social capital two types of indicators have been used input and output indicators. The input indicators include solidarity and trust. Trust is further divided into trust to extension agents and trust among farmers. For output indicators we used a variable that measure farmers participation in collective action in village and occurrence of conflict between the farmers. In addition to these variables age, level of education and the size of farmer's land holdings and other variables have been assessed against participation in land consolidation.

The study shows farmers who have more trusting relationship with extension agents are more willing to accept land consolidation. There is a positive and significant relationship between participation of farmers in collective action in the village and acceptance of land consolidation. Size of land also have negative and significant relationship with farmer's decision to accept land consolidation. No relationship exists between the occurrence of conflict between farmers and participation in land consolidation.

Introduction

The importance of social structures and their impacts on the development process have gained wide recognition among academicians and practitioners. Qualitative as well as quantitative studies have demonstrated this relationship and a body of literature has formed around this idea, these networks and structures have been named social capital. Social capital helps individuals to maintain solid relationships with others, and facilitates collective action and group work. Social capital is important because it empowers individuals to organize themselves in groups for development. This is especially important for those programs for which implementation is conditional upon group agreement, such as group-based micro credit programs, water users committees, and land consolidation projects. The impact of social capital on land consolidation projects is an interesting area of investigation which this study is devoted to.

Farming is a major source of income and employment generation for the rural community in many parts of the country. The activities related to farming are not very efficient, which is due to many factors. One of the frequently cited factors for inefficiency of farming activities is land fragmentation. It caused inefficient utilization of available resources, especially water, machinery and human labour. Therefore, this issue should also be addressed in discussing rural community development in the country, since its impact on farmers' income and adoption of technology are undeniable. There have been different efforts as early as early 60s to address this issue.

One solution to this problem is land consolidation, which has been implemented in many countries with good results. The land consolidation program is not moving very rapidly in the country. Though the idea has been introduced to many farmers the rate of adoption and the spread of consolidation is very slow. This phenomenon has attracted the attentions of policy makers at provincial and ministerial levels. Some fundamental questions emerge, such as: What are the underlying factors of the slow progress? Why have some farmers accepted and participated in the program, while others not? Can it be explained by social capital? What is social capital and what are its indicators? What is its role in the process of land consolidation? What are the other factors that contribute to adoption or non adoption of land consolidation proposal by farmers? It should be denoted that although there are many studies about social capital, and land consolidation separately, studies about the impact of social capital on land consolidation are not very common. This study is a step towards the examination and conceptualization of social capital in the context of land consolidation.

In the first section the relationship between community development and land consolidation will be discussed. The second and third sections look at the land tenure structure and land consolidation procedure. In section four, a brief review of social capital literature will be presented. Section five will discuss the sampling framework and socio-economic features of the study area. In section six we will present a definition of social capital and discuss its components, and also evaluate its relationship with different socio-economic variables. In section seven an econometric model will be discussed for evaluating the impact of the dimensions of social capital on land consolidation acceptance. In chapters eight and nine the impacts of output indicators of social capital on land consolidation will be evaluated.

1-Rural community development and land consolidation

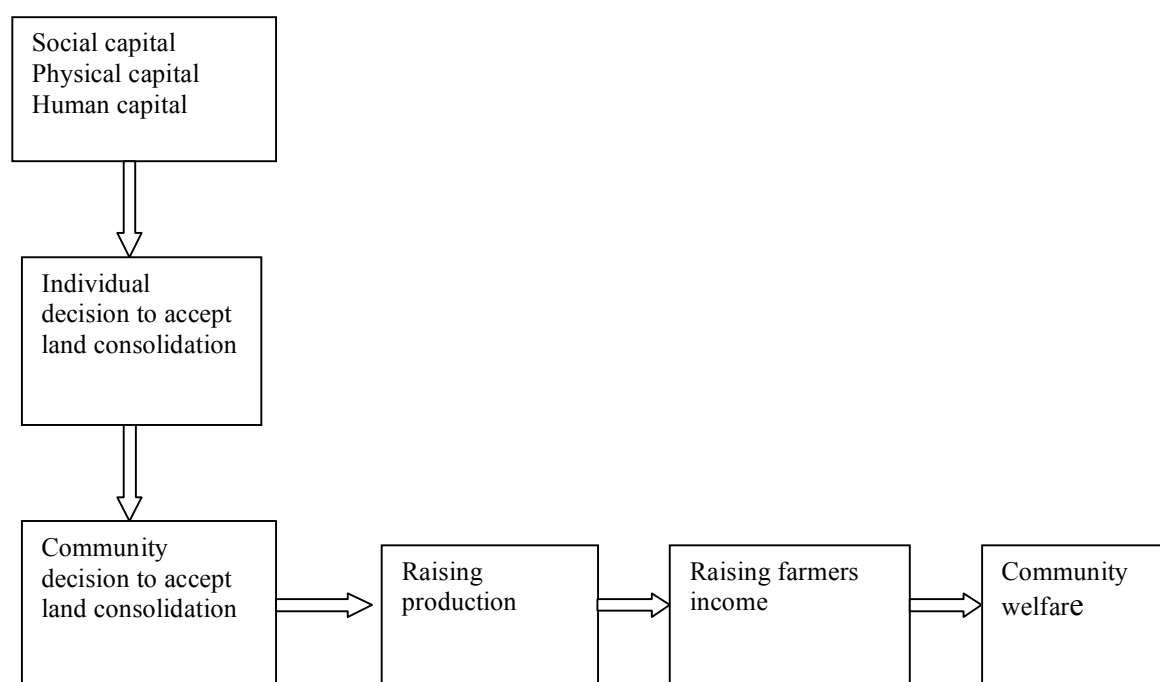
One of the main objectives of rural community development programs is to increase the level of welfare in rural communities by reducing or eliminating the root causes of inefficient utilization of available resources. Several studies (Najafi, 2003; Arsalanbod1999) show land fragmentation would lead to inefficient utilization of available scarce resources. This is particularly important in the central plateau of the country where water resources are scarce. According to Nabizadeh (1994) the main problems associated with land fragmentation are:

- Water wastage
- Under utilization of human labour due to distances between farm parcels
- Raising depreciation rate of agricultural machineries
- Unfeasibility of implementing land improvement programs
- Ineffective methods of pest management

The implementation of land consolidation is possible only if all the farmers who are involved participate in the process. Although it is an individual decision, the implementation of consolidation requires the participation of all the individuals.

This provides an appropriate context to study the impact of social capital. Diagram one shows the analytical framework of this study. It shows that the social, physical and human stocks of capital available to a farmer can influence his decision to accept land consolidation. The output of land consolidation implementation is the rise in production and the outcome is rising income and farmers' welfare. In this regard, we should first look more closely at two concepts, land consolidation and social capital before proceeding further.

Diagram 1- Analytical framework



2-Land Tenure Structure in Iran

The following main features characterize the present land tenure structure in the country:

- Smallness of the holdings: The great majority of holdings are small the size of 78% percent of them is less than 10 ha (Nabizadeh 1994; Abdoallahi 1998).
- Fragmentation: Land holdings of a farmer consist of a number of parcels. For example, one hectare comprises 2.4 parcels (table 1).
- Parcels' distance to each other: Parcels are often a distance apart, in the western part of the country, it is 0.2 km to 2.3 km.
- Inappropriate shape: Parcels are often awkwardly shaped for agricultural purposes, some parcels are very narrow and long which makes it difficult to use machinery.

Table 1- Land fragmentation situation in Iran

Land holding classes (ha)	No. of parcels on average	Parcel area On average(ha)
<1	2.4	0.18
1-2	2.8	0.45
2-5	4.2	0.73
5-10	6.3	1.06
10-50	9.6	1.8
50-100	14.6	5.02
>100	12.4	15.75

Source: The Center for Statistics- Farming Statistics 1992

Different studies (Najafi 2003; Nabizadeh 1994) have shown that land fragmentation has worsened during the last 30 years, due to factors such as land inheritance institution which divides the land.

3-Approaches to land consolidation in Iran

There are two main approaches to land consolidation in the country, which can be categorized as voluntary consolidation, and government induced programs for land consolidation.

3-1 Voluntary or spontaneous consolidation

As early as the 60s, after the land reform when the ownership of land was transferred from big landowners to peasants, the problem of land fragmentation showed itself with more intensity. Farmers recognized land fragmentation as a problem and to solve this problem they started to re-allocate the parcels of lands through local arrangements. This has been carried out individually or collectively. In collective instances, a group of farmers redistribute and exchange their land parcels to reduce their numbers. In the individual type of consolidation, a farmer reallocates his parcels of land through exchanging or purchasing parcels from other farmers. Though we are not going to discuss this approach in detail, it is an interesting area of research about local community initiatives for solving land fragmentation.

3-2 Government programs for land consolidation

Since spontaneous consolidation has not been very widespread, from the early 90s the government intervened to speed up the process. The lack of a common ground in understanding the concept has led to different practices in the country. In some parts, the implementers have concentrated solely on reducing the parcels of land. In this approach, all the parcels that belong to a particular farmer have been relocated in one or two parcels. In other parts, the implementers concentrated on water scarcity and attempted to reallocate the land to achieve more organized irrigation and farming systems. In this approach, total plough lands of a village or farm have been divided into zones (usually three or four zones), which are locally called keshtkhan or bekar. As an example, if a village has three zones(keshtkhan), one is devoted to spring cultivation, one to autumn cultivation and one to fallow. Each farmer has one parcel of land in each zone. The parcels are allocated through drawing lots. All the farmers concentrate their farming in one particular keshtkhan, instead of cultivation in different keshtkhans. By doing this they save on water, because it means that water is irrigating only one keshtkhans instead of circulating through different keshtkhans. By concentrating the cultivation in one or two keshtkhans, farmers can also control pests more effectively. In some cases, they grow one type of crop, which further facilitates pest control, and the saving of water. In the next section, practical steps for the implementation of this model will be explained.

3-3 Stages of land consolidation

- Problem identification: In this stage an officer from the Agricultural office who is also knowledgeable of the traditional and local customs of land utilization systems in the area evaluates and assesses the existing farming and irrigation systems, the situation of land parcels, water sources, water canals, land topography, access roads, main roads, and the geographical situation. A group of farmers who are well aware and informed on the farms situation and farmers' shares advise the officer. The officer consults with the farmers and informs them of the problems and inefficiencies associated with the prevalent farming method.
- Preparation: Several sessions are organized to explain the program to all the farmers and convince them on the project's benefits. Then farmers discuss the idea among themselves, it has in some cases, taken 3 years to convince some farmers that the project is beneficial to them. It should be denoted that even one farmer opposition could stop the project. In one of the farms under study one farmer's opposition stopped the implementation of consolidation. He opposed the program, because the government staff had not kept their promises. Also they will take the farmers to visit farms that have already been consolidated. After convincing all the farmers, they should announce their agreements in a joint session with a representative from the Ministry of Jihad for Agriculture, and a proceeding will be produced that all the stakeholders should sign to announce their agreements and approval of the plan. By doing this, involved parties also announce their agreements to the commitments they should undertake. The farming land and its boundaries will be measured and mapped, and the place of planned access roads, canals, and other amenities will be identified in a map. In addition, in a joint session with the interested parties a lot will be drawn to reallocate the land between the farmers, and finally with the help of farmers the program will be implemented.

Commitments of the agricultural office are:

- land renovation including leveling, isolation and coverage of irrigation canals, which will be financed from provincial budget;

- topographic mapping and measuring of the land to determine the boundaries precisely;
- extending soft loans from special funds to farmers who can not afford their shares of consolidation costs for which farmers are responsible;
- supplying the farmers with necessary information and extension services;
- co-ordination with other state agencies such as water office;

Farmers' commitments are as follows:

- introducing farmers' representatives as the heads of divisions to the agricultural office and extension agents
- participation in financing the costs of operation, in cash or in kind
- following a homogenous pattern of cropping after the execution of the plan
- resolving the possible disputes arising from the process through local mechanisms and intermediation of influential farmers who are respected by most farmers.

4-What is social capital?

Bourdieu, Coleman and Putnam works are central in the social capital literature. Bourdieu divided the capital into three forms: economic, cultural and social. He has suggested that one form of capital is convertible to another form. For example, he believes that economic capital is convertible to social capital under certain conditions. He defines social capital as the aggregate of actual or potential resources possessed by the members of a group. These resources are the result of relations and interactions between members of the group¹¹.

According to Coleman, social capital consists of different components, but all these components have two common features. First, all of them have some aspects of social structure. Second, they facilitate certain actions of actors within the structure. Social capital is capital because it is productive and can facilitate the achievement of certain objectives that are not possible in its absence. It is a public good and this feature distinguishes it from other forms of capital¹².

Putnam enriched the discussion and put more light on the subject. He believes social capital refers to features of social organizations such as networks, norms, and trust that increase the productive potential of a community. He has illuminated his discussion with an example from Italy. In the early 70s, strong local governments were established in the south of Italy. The nature and structure of these local governments were alike but political, socio-economic and cultural environments surrounding them were very diverse, from feudal to modern structures. The performances of some of these governments were not very efficient and satisfactory, while some of them were very efficient. The factor that contributed to the success of the latter was the strong civil support from the community. The coordination and mutual trust between the community and government enabled the economy to prosper¹³.

Grootaert and Bastelaer (2002) define social capital as institutions, relations, attitudes and values that govern the interactions between individual and groups of individuals that have an impact on social and economic development of a community.

Social networks include family, formal and informal associations and groups. Social networks can be horizontal and vertical. The members of horizontal networks are equal with respect to their socio-political status, while the members of a vertical network are not equal.

4-1-Types of social capital:

¹¹ As cited in Winter (2000)

¹² As cited in Winter (2000)

¹³ As cited in Winter (2000)

There are two types of social capital, structural and cognitive. Structural social capital is an objective and tangible concept. It comprises informal and formal organizational structures in a community. Cognitive social capital refers to generalized norms, attitudes and values among individuals. It is a subjective concept. Examples of cognitive social capital include trust and solidarity which determine the level of interactions and relationships between individuals. The two types of social capital are complementary. The existence of structural social capital does not mean the relations between the individuals of that group are very strong because the participation in the group may be involuntary or not based on trust.

4-2-Dimensions of social capital:

Social capital has three dimensions: bonding, bridging and linking. Bonding social capital consists of strong ties within a horizontal network such as family, friends, neighbors, colleagues and farmers in a division. Bridging social capital consists of ties with the members of other groups with similar economic and political status, such as relationship between the farmers of two divisions or farmers of other farms. Linking social capital consists of vertical relations with formal institutions and organizations, which is the level of trust between farmers working in a farm and extension agents, or the staff of government agencies. The first two dimensions of social capital are horizontal (that is connecting people with more equal social standing), while the latter is vertical. Access to linking social capital is very important for the well-being of the individual and community.

4-3-Measurement issues:

Like other multi-faceted concepts in social science, it is not possible to measure social capital directly. Indicators need to be used for this purpose. In this respect, social capital resembles human capital. In order to measure human capital indicators such as the years of education is usually used in the literature, so in this part we will discuss the indicators that are usually used in the literature.

4-4-Levels of measurement:

The indicators measure social capital at micro and macro levels. Micro level indicators measure social capital at individual and household levels. Macro level indicators measure social capital at national level.

4-5-Types of indicators:

Input and output are two broad groups of indicators (Narayan, Cassidy 2001) (Grootaert 2002). Trust and solidarity are examples of input indicators that have been widely used in social capital literature. Trust can be categorized into generalized and institutional trust. (Stones 2002). The first measures the extent of trust between the individuals within a community. The second measures the extent of trust to formal institutions like government institutions whether at local or national level.

The second group of indicators measure the outcomes of social capital. The construction of this type of indicators is based upon the assumption that the presence of social capital in a community or for an individual may lead to positive outcomes. One of the mostly cited outcomes is the facilitation of collective action. If an individual trusts other individuals, he is more willing to participate in collective actions in the community (Grootaert, 2002). According to Isham (2000) the local social structures can reduce the collective action dilemma. Another output indicator is conflict. Grootaert (2002) argues the presence of conflict in a village or neighborhood or in a larger area is often an indicator of the lack of trust or the lack of appropriate structural social capital to resolve conflicts, or both.

5- Study framework

5-1 Objectives of the study:

There are two main objectives in this study:

- To measure social capital
- To assess the impact of social capital on land consolidation projects

Social capital in this study is defined as social relationships that are available to an individual characterized by trust and solidarity and offer that individual a flow of benefits. The study is going to measure social capital at the individual level.

5-2 Study site:

Administratively Iran is divided into a number of governorates-general (ustan), which are subdivided into governorates (shahristan); these in turn consists of a number of districts(bakhsh). The lowest administrative unit in Iran is village. In Persian, a village is called di, it is a center of population and the place of residence and work of a number of families engaged in agricultural operations in the village lands. The village houses tended to be clustered together and the cultivated lands were situated around the village, and beyond them is the village pasture. The study site is Markazi Province (ustan), situated in the central plain of the country in a semi arid zone. It comprises of five shahristans, Arak is the center of the ustan.

The history of the most villages under study returns to 100 years ago, when the land lords enforced peasants to migrate to these newly established villages. Before the land reform there was an absentee landlord. All of the villagers were peasants without any land holding who worked in lands belonging to the land lord except in Abbasabad where small land holding was prevalent. During the harvest time land lord came to the village to collect his share of the products. The share of the land lord was 1/3 of the total products. The peasant contributed seed and human labor to the production process and the landlord contributions were land and water. The qanat was owned by the land lord. After the land reform the ownership of lands and associated share of qanat were transferred to peasants.

In all the villages except Abbasabad the land lord was responsible for the upkeep and maintenance of the Qanat and villagers also contributed their laborers. After the land reform the wells were constructed because the levels of water in qanat were not enough to irrigate all the lands under cultivation.

Nearly half of the province's population live in rural areas working in the agricultural sector and other occupations like mining, driving, public service, petty shop trade, wage work, and others. We selected Markazi Province because it was among the first provinces to implement land consolidation. In fact, land consolidation was introduced to some villages during the early 80s and in comparison to the experience of land consolidation in other parts of the country one can find more published information. Most of the village inhabitants (95%) still depend on farming as a source of income and employment generation and the village community has kept some of its traditional and local identity.

Land consolidation does not have a blue print pattern in Iran and different versions have been introduced even in one province. To eliminate these differences we selected a site that has been managed by a similar team¹⁴. On the whole this team has introduced land consolidation to 30 farms, from which some have accepted the proposal and some have rejected it. We could not include all the farms in our sample, because the time of accepting/rejecting the proposal dated back to more than five years ago in some cases and this would make biases in our study, as we have to measure the stock of social capital and other socio – economic variables at the present time. To reduce this problem we concentrated on villages which have

¹⁴ In Markazi province several people have the responsibility to introduce land consolidation to the farms. Mr. Shahvardi and his team were responsible to introduce the proposal to the farms situated in Arak county. They have started their work in 1990 .

accepted/rejected the proposal during the last four years, i.e., from 2000 to 2003, assuming the stock of social capital has not changed significantly during this period¹⁵.

5-3 Definition of key words

- **Farm:** In some parts of the country¹⁶, the unit of land consolidation is village, but in Arak it is farm (mazraeh). Farms are areas without any dwelling houses and are cultivated by a group of farmers from a neighboring village. Each village comprises of 1 to as many as 7 farms. For example, Dehno has one farm, while Moradabad consists of 7 farms. A farm is subdivided into divisions, locally called dang, and the number of divisions can vary between 6 to 10. Each division is subdivided into shares. The shares are locally called sahm¹⁷, shair¹⁸ or juft¹⁹. A farmer can have share from different divisions.
- **Farmer:** A farmer is a land owner who cultivates his plot of land (share of the farm). After land reform in 1962, the lands were distributed among the peasants according to the existing nasaq (field layout of the village lands, and division of the village land into plough lands). Irrigated lands

¹⁵ It should be denoted that the target population comprises 11 farms, but starting the field work we were informed by the staff of the Soil and Water office that we should omit one farm, because the farmers have conflicts with one of the government agencies active in the area, i.e., Natural Resource Preservation office at provincial level. It prohibited the farmers from cultivating the rain fed lands which they used to cultivate for years. They argued that since the farmers were not satisfied with this decision, their replies to the questions related to government efforts in their farm might be biased and the farmers were not very receptive to the outsiders at the time, so they might not cooperate with the field work.

¹⁶ For example in Qazvin province

¹⁷ Unit into which farms in some villages divided, also it is a measure of water of varying volume.

¹⁸ In some villages the farm is divided into 96 shairs.

¹⁹ It means a yoke of oxen, that is, the amount of land a yoke of oxen can cultivate.

were transferred to the farmers with the water rights from qanats²⁰ or wells belonging to it according to the local custom. The distributed lands were jointly held by the farmers, which have been called musha locally. In this type of ownership a group of farmers own a farm, the exact size of individual ownership and the place of land are not recorded officially, but have been agreed upon and recognized locally. The number of farmers in each farm is different, for example, in Deheno, 75 farmers own the farm.

- **Farm household:** The farm household in this study consists of 1 to 15 persons who live together in a joint house, and at least one of the household member works on the land. Other members of a household usually help in farming activities particularly male members of the households.

5-4 Sampling framework

Since total number of the farmers is 308 the appropriate size of the sample is 177. The study used stratified sampling method, i.e., the population is divided into two strata. First strata includes those who accepted the land consolidation proposal and second strata those who did not accept. Since the farmers belong to different farms the farmers in each strata is sub divided according to their farms, such that we have farmers from all farms in our sample. In each farm the elements are selected randomly.

5-5 Data collection

The main method of data collection in this study is quantitative. Data was collected through a questionnaire. To design the questionnaire several sessions were organized with different groups of farmers and two questions were discussed with them.

- What are the collective activities in their communities?
- Why they accept/reject land consolidation?

Also in separate sessions we have discussions with the staffs who were responsible for the introduction and implementation of the program. These sessions were fruitful and helped us to design the questionnaire. In addition to these sessions, different questionnaires were also studied and localized.

²⁰ Qanat is an underground conduit, which by using less slope than that of the soil surface, bring water to the surface. The qanat starts in a water-bearing layer at a depth of 50-300 ft. In the upper section the qanat collects through one or more galleries; in the lower section it conducts the water through impervious layers to the spot where it reaches the surface. From this point it continues as an open channel. The excavated soil is lifted to the surface through vertical wells in buckets. (Lambton, 1969)

5-6 Socio economic description of the study site

Demographic description of the villages is presented in table 2. In some villages, the number of females is higher than the number of males, which has caused some imbalances in the community, and some of the men's duties have transferred to the women.

Table 2: Demographic description

Village	Population			No. hh	Literate	
	t.p	F	M		F	M
Moradabad	300	200	100	53	100	100
Dehno	800	450	350	165	150	200
Shahrejd	500	250	250	120	150	200
Susanabad	550	250	300	118	200	185
Shamsabad	130	60	70	36	45	40
Sakiolia	164	90	74	32	60	70
Abbasabad*	9*	3	6	3	1	3
Azademarz abad	184	85	99	47	54	77

Note: In Abassabad village only one household is residing and other residents have left the village

Source: Survey data, Village data base, The Ministry of Jihad for Agriculture

Young people under the age of 40 are reluctant to work in the agricultural sector and this phenomenon has threatened local communities during the last decade, and depleted the community from human and social capital. Unfortunately, the lack of data has made it impossible to compare the stock of capital at present with the past to investigate the impacts of migration of the young on the stock of social capital. Another problematic factor is that 30% of the farmers are very old which would create many problems. For example, it may undermine principles such as reciprocity, since the older are unable to return the help and support they receive from younger people, particularly in the case of labour work. Nearly 87% of the farmers are semi literate which is another problem in the agricultural sector and is a potential barrier towards the adoption of technology (tables 3 and 4).

Table 3: Age structure

Age of the farmers category	Frequency	Percent
24-40	38	21
41-65	84	47
66-75	40	23
76-90	15	9

Source: Survey data

Table 4: Level of education

Level of education category	Frequency	Percent
Illiterate	64	36
reading & writing	32	18
Primary	58	33
Secondary	14	8
high school diploma and over	9	5

Source: Survey data

Villages do not differ from each other significantly with respect to infrastructural facilities. The government, with some cash and labour contribution by local people, has provided most of the infrastructural facilities (table 5). Government has carried out the design and implementation of most of

them. There is an argument that such an approach would raise local community dependency and undermine many avenues of collective action in the community. This is the main reason that in recent years, the government is attempting to raise the farmers' contribution in the planning and construction of new infrastructural facilities. At present, villagers are responsible for the maintenance of these facilities. According to Ostrom (1999), "when national or regional government take over full responsibilities for large areas of human activities, they crowd out other efforts to enter these fields. Creating dependent citizens rather than entrepreneurial citizens reduces the capacity of individuals to generate capital". All the villages except Shamsabad has public bath.

Table 5: Infrastructural facilities

Village	Education*	Health center	Road	Drinking water	Elec.	Telecom. center	Transport	
,Morad abad	1	0	Asphalt	1	1	1	Public**	Private***
Dehno	1,2,3	1	Asphalt	1	1	1	1	7
Shahrejerd	1	1	Asphalt	1	1	1	3	15
Susanabad	1	0	Asphalt	1	1	1	1	60
Shamsabad	1	0	Asphalt	0	1	1	1	6
Sakiolia	1	0	Unpaved	1	1	1	1	2
Abbasabad*	-	0	Asphalt	1	1	0	0	2
Azadmarz abad	1,2	1	Asphalt	1	1	1	2	20

Note:

*Primary school=1, Middle school=2, Secondary school=3

** Public transport refers to means of transportation for public,

which owned and managed privately.

***Private transport refers to means of transportation owned by a household and used by them privately.

Source: Survey data

Agricultural potential of the area is presented in table 6. The main agricultural products²¹ are wheat, barley, bean and potato. In recent years, due to recurring drought, many fruit orchards have been destroyed. The sources of irrigation are wells and qanat. In some villages the farmers have been prohibited to cultivate rain-fed lands, due to ecological reasons which caused disputes with government staffs who are responsible to execute this law. They complained that they lost a source of income in years with good rain. Farmers sell wheat, barley, beans and potato to the markets. The main purchaser of wheat is government. Some farmers complained about this process and they believed some of the staffs who are responsible is not treating the farmers fairly, rejecting their products. Consequently, they have to sell it to the middlemen with a lower price. One of the main problems in almost all villages was water shortage, which is the main threat to rural livelihood. This problem is not limited to this area and in many parts of the country particularly in central plain, south and eastern part of the country drought and water shortage is a serious threat to rural livelihood.

Table 6: Agricultural potentials

Village	Source of irrigation	No. of well rings		Main agricultural products
		Common	Private	
Moradabad	Well	4	4	Wheat, barely
Deheno	Well	2	3	Wheat, barely

²¹ More details about main agricultural products are presented in appendix 1 section 1.

Sharejerd	Well	3	15	Wheat, barely
Susanabad	Well	2	-	Wheat, barely
Shamsabad	Qanat	-	3*	Wheat, barely, bean
Sakiolia	Well	2	2	Wheat, barely, bean
Abbasabad	Well	1	-	Wheat, barely, bean
Azadmarazabad	Well	2	5	Wheat, barely, bean

*The wells are not operating, due to drought

Source: Survey data

Most of the farmers own less than 10 hectares of land which is the main feature of many farm cultivators in the country (table 7). In addition to the fragmentation of the farming lands the smallness of land size is another impediment in adoption of large scale machineries.

Table 7: Categories of land size

Land size	Frequency	Percent
<5	137	77
6-10	21	12
11-16	12	7
17-20	4	2
20-30	3	2
Total	177	100

Source: Survey data

The level of monthly expenditure was taken as a proxy for the level of welfare in this study, 85% of farmers' monthly expenditure is less than US230 dollars (table 8).

Table 8: Table of frequency of monthly expenditure

Monthly expenditure (US\$)	Frequency	Percent
34-115	71	40
125-227	80	45
239-340	25	14
352-455	1	1

Source: Survey data

5-7 Formal and informal organizations

During the last decade the number of cooperatives has been increased considerably, such that the number of production cooperatives alone has been increased from 25 in 1989 to 974 in 2003²². There was no production cooperative in Markazi province in 1991, while at present the number of cooperatives in this province has been raised to 12. The cooperatives distribute consumer goods or agricultural inputs between villagers and most farmers are members of them.

Informal organizations have been concentrated around religion or production mostly. The most important one that is organized around production is mazraeh (farm). To coordinate their activities the members of the dang (division) elect a head (locally called sardang). The elected farmers usually have a good reputation between the farmers and most farmers entrust them. They receive no monetary compensation for their efforts. They coordinate between the farmers in a division and across divisions. Since the

²² Official statistics from Extension and Land Utilization

workloads of the heads of divisions are heavy, in some farms they change every year. The head's duties include the collection of money from the farmers in case of needs for repair, intermediation between farmers and government staff and other such activities. Most farmers believe collective actions were more prevalent in the past, and farmers were more willing to cooperate with each other. The main reasons behind the decline in collective activities are many, some of them will be discussed here.

The growing rate of rural –urban migration has undermined the basis of collective action and cooperation in the local community, because many of these activities are based on reciprocity. A farmer helps his co-farmer expecting him to return the help in the future. When the young leave the village and the majority consists of old farmers, the younger are not willing to co-operate in collective action because they have to bear a heavier work load in comparison to elders and can not expect a return for their efforts. In fact, migration does not only erode villages of human capital, but it also erodes the stock of social capital in a community.

Introduction of modern technology to the production process is another factor that reduces the basis for collective action. In the past, some activities related to plantation, cultivation and harvesting were carried out collectively, while at present these forms of collective action have been substituted by wage labour or machinery.

5-8 Reasons for rejecting land consolidation program

Farmers cited the following points as reasons for rejecting land consolidation:

- lack of trust to extension agents
- farmers lack of interest to pursue the follow up activity to the implementation process
- consolidation of lands by some of the farmers prior to the program
- low literacy level
- inability of farmers to finance the associated costs
- lack of cooperation and solidarity between the farmers
- size of land and its fertility
- distance to water source

The two most frequently cited reasons are: consolidation of lands by some of the farmers prior to the program (26%), lack of trust to extension agents (13%).

5-9 Reasons for accepting land consolidation program

Farmers cited the following points as reasons for accepting land consolidation:

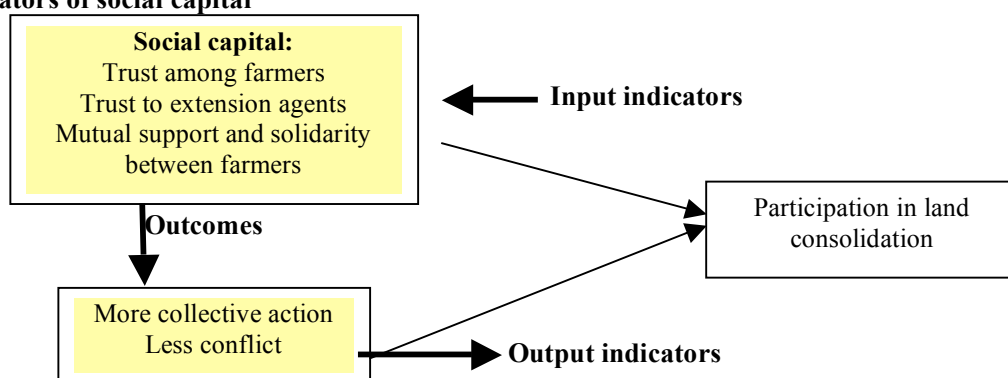
- preventing water wastage
- facilitating the use of modern technology and agricultural machinery
- reducing the number of land parcels
- increasing the quality of cultivated lands
- raising the level of income
- saving time and human labour
- benefiting from government construction activities associated with the program such as construction of water canals, roads

The two most frequently cited reasons are: preventing water wastage (26%), facilitating the use of modern technology and agricultural machinery (24%).

6-Components of social capital in this study

We postulated several dimensions, attempting to measure social capital against them. The dimensions of social capital are presented in diagram2 and will be discussed in detail.

Diagram 2- Indicators of social capital



6-1 Solidarity and mutual support

The first dimension of social capital is solidarity and its degree between the farmers. Many studies used solidarity or mutual support as an input indicator to measure social capital (Krishna and Shrader, 2002), (Grootaert, 2002). According to the American Heritage Dictionary solidarity means: “a union of interest, purposes, or sympathy among members of a community or a group”.

Solidarity and mutual support in informal networks such as friends, neighborhood, or community produce a flow of benefits for the members of that network. They are very important because these would provide the farmers with services, which formal arrangements are unable to provide. These services include non-monetary and monetary assistance in contingencies. This is particularly important in rural areas, where social security systems are not well developed. Solidarity between the members of a group encourages members of that group to prefer the group interest to individual interest. This facilitates the coordination between the group and the group can achieve collective decision more rapidly. It should be denoted that solidarity can act against land consolidation, that is the farmers agree not to cooperate with government staff and reject land consolidation. The items that deal with the concept of solidarity will be discussed next.

- **Item one:** Do you agree with this sentence: “Most people in your farm only think about their own welfare.” (S1)

Nearly half of the farmers agree with this statement, while 41% disagree with this statement (table 9). Some respondents believe the altruistic feelings were more common in the past. Though farmers were poorer, they were more generous.

Table 9: frequency of S1

Variable	Category	Frequency	Percent
S1	1=Agree	94	53
	2=Undecided	10	6
	3=Disagree	73	41
	Total	177	100

Note: chi square=64.78, df=2, p=0<0.05

Source: Survey data

According to table 10 there is no relationship between s1 and acceptance status.

Table 10: S1 across acceptance status (percentage)

Variable		S1		
	Category	1	2	3
Acceptance status	0=no	47	7	46
	1=yes	60	4	36

Note: Chi square= 3.032, df=2, p=0.22>0.05

Source: Survey data

- **Item two:** Do you agree with this sentence: “If you need help most of your co-farmers will help you” (S2).

Nearly 61% of farmers agree with this statement and expect to receive assistance from others, while 28% of farmers do not agree with this statement (table 11).

Table 11: frequency of S2

Variable	Category	Frequency	Percent
S2	1=Disagree	49	28
	2=Undecided	19	11
	3=Agree	109	61
	Total	177	100

Note: Chi square=71.186, df=2, p=0<0.05

Source: Survey data

The relationship between the two variables (s2 and acceptance status) is not significant. Nearly 60% of farmers in both groups think they can receive assistance when they need it (table 12).

Table 12: S2 across acceptance status (percentage)

Variable		S2		
	Category	1=disagree	2=undecided	3=agree
Acceptance status	0=no	28	10	62
	1=yes	27	12	61

Note: chi square= 0.153, df=2, p=0.926>0.05

Source: Survey data

- **Item three:** Suppose something unfortunate happens to you, like the destruction of your home, how many farmers from your farm would help you (S3)?

A number of categories have been identified which include farmers who think no one is helping them in time of crisis. The second category implies a farmer thinks 1-4 co-farmers will help him and >5 means more than five farmers will help him in time of crisis. We assume that the larger the number of co-farmers who a farmer thinks would help him in time of crisis, the higher the level of the solidarity between him and other co-farmers and the higher the level of social capital available to him. Nearly 40% of farmers think no one would assist them, 60% think there is some one who would assist them in time of crisis (table 13).

Table 13: Number of co-farmers whom a farmer thinks can help him in crisis

Variable	Category	Frequency	Percent
Number of people who assist a farmer in crisis (S3)	0	68	39
	1-4=1	50	28
	>5=2	59	33
	Total	177	100

Note: Chi square=2.746, $df=2$, $p=0.253>0$

S3 is primarily recorded as an interval variable but to make it more presentable we recode it into three categories.

Source: Survey data

According to table 14 there is no relationship between acceptance status and s3. Nearly 60% of farmers in both groups think they can find at least one co-farmer who would help them in time of crisis.

Table 14: Percent of farmers who expect to receive help by acceptance status

Variable		S3		
Acceptance status	Category	0	1	2
	0=no	42	29	29
	1=yes	36	27	37

Note: chi square= 1.182, $p=.554>0.05$

Source: Survey data

None of the variables that have been used to measure solidarity and mutual support have a relationship with acceptance status. The correlations between the three variables are shown in table 15 which is moderate and significant, we will use S1, S2 and S3 later on to construct a composite index for solidarity.

Table 15: correlation between solidarity variables

Variable	S1	S2	S3
S1	1		
S2	0.425 0*	1	
S3	0.373 0	0.418 0	1

Note: N= 177, * Correlation is significant at the 0.05 level (2-tailed).

Source: Survey data

Extent of solidarity

In order to assess whether solidarity extends beyond one's closed family (bridging social capital), the next item has been asked from respondents.

- What is your relation with the person whom you are most sure that you can borrow from, when you suddenly need money?

It should be denoted that unless the solidarity extends beyond one's family it might not have positive externalities, that is the feeling of mutual support and solidarity is beneficial to the community when spread to other members of the community beyond closed family. Almost 40% of farmers think no one would help them if they need money suddenly, 22% think their close family will help them and 38% think they can obtain assistance beyond close family (table 16).

Table 16: frequency and percent of farmers who think they can obtain a loan from different networks

Network	Frequency	Percent
0=no one	69	39
1=close relatives	39	22
2=distant relatives	5	2
3=neighbors	19	11
4=friends	27	15
5=co-farmers	18	10
Total	177	100

Note: chi square=84.72, df= 5, $p=0<0.05$

Source: Survey data

Nearly 39% of farmers in both groups can not obtain a loan from anyone around them, and 20 % in both groups are relying on close relatives (table17).

Table 17: Percent of farmers who think they can obtain a loan from different networks across acceptance status

Variable		Percent of farmers who think they can obtain assistance from different net works					
Acceptance status	category	0=no one	1=close relatives	2=distant relatives	3=neighbors	4=Friends	5= co-farmers
	0=no	39	26	4	13	13	5
	1=yes	39	19	2	8	17	15

Note:chi square= 6.830, $p=0.234>0.05$

Source: Survey data

6-2 Trust: Trust is the most widely used indicator in the measurement of social capital. Trust means to have belief or confidence in the honesty, goodness, skill or safety of a person or an organization. Trust in sociology is a relationship between actors. It involves the suspension of disbelief that one actor will have towards another actor or idea. It especially involves having one actor thinking that the other person or idea is benevolent, competent , good or honest. Much work has been done on the notion of trust and of its social implication. Barbara Misztal (2001) attempts to combine all notions of trust together. She suggests there are three basic things that trust does in the lives of people. It makes social life predictable, it creates a sense of community, and it makes it easier for people to work together. Trust can be said to be the basis of all social institutions. It is also integral to the idea of social influence as it is easier to influence or persuade someone who is trusting. According to Luhman(1995), "the everyday social life which we have taken for granted is simply not possible without trust". In the context of land consolidation there are two types of trust, trust to other farmers and trust to extension agents or the staff of Agriculture Service Center because they are the ones who introduce land consolidation and other technological aspects to farmers. The first two items deal with trust among farmers and the last item deal with trust to extension agents.

6-2-1 Trust among farmers

Item 1: Some say “we can trust most farmers in our farm”, what do you think (T1)?

Nearly 80% of farmers trust their co-farmers, only 14% do not trust their co-farmers, it should be denoted that in some villages farmers were reluctant to reply to this type of question, because they do not want to show a negative picture of their village to outsiders. They argue that we should not share our secrets with outsiders. (table 18).

Table 18 : Frequency of T1

Variable	Category	Frequency	Percent
T1	1=disagree	25	14
	2= undecided	7	4
	3=agree	145	82
	Total	177	100

Note: Chi square=190.78, df=2, $p=0.00<0.05$,

Source: Survey data

Farmers do not differ significantly in the two groups (no relationship exists between T1 and acceptance status). More than 75% in both groups trust other farmers (table 19). However, the important issue is how much they trust other farmers, which has been examined in the next question.

Table 19: T1 across acceptance status (percentage)

Variable	Category	T1		
		1=disagree	2=undecided	3=agree
Acceptance status	0=no	21	3	76
	1=yes	8	4	87

Note: Chi square=5.49, df= 2, $p=0.064>0.05$

Source: Survey data

Item2: How much can you trust your co- farmers? (T2)

Almost 60% trust their co-farmers highly and 15% have little trust in their co-farmers (table 20).

Table 20: level of trust to co farmers

Variable	Category	Frequency	Percent
T2	1= little	27	15
	2=moderate	42	24
	3=high	107	60
	Total	176	99

Note: Chi square=61.648, df=2, $p=0.00<0.05$, missing 1

Source: Survey data

Percent of farmers who trust their co farmers little are twice more (21%) in the first group than in the second group (10%), and it can be concluded there is a relationship between the two variables which is significant (table 21).

Table 21: T2 across acceptance status (percentage)

Variable	Category	T2		
		1=little	2=moderate	3=high
Acceptance status	0=no	21	14	65
	1=yes	10	33	57

Note: Chi square=10.3, df=2, $p=0.006<0.05$

Source: Survey data

The correlation between T1 and T2 is significant²³.

Extent of trust

- If you have to leave your family, to whom would you entrust the protection and supervision of your family (Trust1)?

The responses to this question show half of farmers do not trust anyone, and 21% expressed they only trust their close family (table 22).

Table 22: Extent of trust to others (protection of family)

Variable	Category	Frequency	Percent
Trust1	0= no one	91	51
	1= close relatives	48	27
	2=others	38	22
	Total	177	100

Note: chi square= 208.186, df= 5, p=0<0.05

Source: Survey data

In order to compare the two groups the average scores are calculated (using information in table 23)

$$0*38+1*26+2*18= 62$$

$$0*53+1*22+2*20= 62$$

The average scores of the two groups are similar.

Table 23: Trust1 across acceptance status

Variable		Trust1		
Acceptance status	Category	0=no one	1=close relatives	2= others
	No=1	38	26	18
		42	54	47
	Yes=2	53	22	20
		58	46	54

Note: Note: chi square= 1.967, df= 2, p=0.374>0.05

Numbers in second row are percentage.

Source: Survey data

6-2-2 Trust to extension agents

6-2-3

Item 1: When one of the staff of the Agricultural Services Center says something to your co- farmers, do they listen to and accept it?(T3)

Table 24: Trust to extension agents

Variable	Category	Frequency	Percent
T3	1=not trusted	40	23
	2=trusted	136	76
	Total	176	99

Note: Chi square= 52.364, df=1, p=0<0.05, missing 1

Source: Survey data

²³ Kendall's tau_b =0.61, p=0<0.05

Pearson Correlation = 0.688, p=0<0.05

The staffs of the Agricultural Service Center have been responsible to introduce this idea to the farmers. 23% of respondents do not trust and listen to the extension agents (table 24). During the interview, many farmers expressed their dissatisfactions with government performance and activities, in relation to the distribution and supply of agricultural inputs such as pesticides and other development projects. They believed government staffs discriminate between farmers and do not listen to them and they have not kept their promises to farmers even in relation to land consolidation. It is very interesting to see nearly half of the farmers who do not participate in land consolidation also do not trust extension agents (table 25). The relationship between the two variables (T3 and Acceptance status) are significant.

Table 25: T3 across acceptance status

Variable		T3	
	Category	1=not trusted	2= trusted
Acceptance status	0=no	43	57
	1=yes	5	95

Note: Chi square= 35.848, df=1, p=0<0.05, missing 1

Source: Survey data

The most important source of information about land consolidation is extension agents, and therefore trust to extension agents can facilitate the participation of the farmers in land consolidation (table 26).

Table 26: Most important sources of information about land consolidation

Sources of information	Frequency	Percent
Relatives	5	3
Friends	1	1
extension agents	143	82
other farmers	6	3
village council	13	7
farmers from other villages	5	2
Total	173	98

Note: Chi square= 66.451, df= 6, p= 0<0.05, missing 4

Source: survey data

The role of extension agents is also important for those who participated in land consolidation. Activities of extension agents such as organizing workshops to justify land consolidation for farmers and tours to other farms have been cited as the two most important factors that induce farmers to participate in land consolidation (table 27).

Table 27: Factors encouraging farmers to accept land consolidation

Variable	Frequency	Percent
1= visiting other farms already consolidated	26	27
2=workshops about land consolidation	41	43
3=friends	14	15
4=village council	8	8
5=other farmers	4	4
Total	93	98

Note, missing 2

Source: Survey data

6-3 Constructing indicators for social capital: To construct an indicator for solidarity we add up the scores of farmers for items related to solidarity:

$S1 + S2 + S3 = sc1$ solidarity

In addition, we can add up the scores of farmers for items related to trust among farmers.

$T1 + T2 = sc2$ trust among farmers

Only one item is used to measure trust to extension agents (T3), which is renamed as sc3.

$T3 = sc3$ trust to extension agents

To make them more meaningful, it is desirable to convert the scales so that they have a specified minimum and maximum value. One way to achieve this is to use the following transformation:

new scale = $((\text{olds scale} - \text{minimum scale value}) / \text{range}) * n$

$n = \text{upper limit for new scale} = 100$

This transformation will yield scores that range from 0 to 100.

Table 28 shows means of sc1 and sc2 across the two groups of farmers. The mean of sc1 for the first group is 53, the mean of sc1 for the second group is 52 and the overall mean is 52. The difference between the means of the two groups is not significant²⁴.

The mean of sc2 for the first group is 75, the mean of sc2 for the second group is 81 and the overall mean is 78. The difference between the means of the two groups is not significant²⁵. Since one item only used for the measurement of trust to extension agents we did not perform the above transformation for it.

Table 28: means of sc1, sc2 across acceptance status

Acceptance status		Sc1	sc2
0=no	Mean	53	75
	N	82	82
	Std. Deviation	34	38
1=yes	Mean	52	81
	N	95	95
	Std. Deviation	36	28
Total	Mean	52	78
	N	177	176
	Std. Deviation	35	33

7-Multivariate analysis of social capital: The purpose of this section is to determine the factors that influence acceptance status significantly. The following conceptual model can summarize the theory behind the analysis. Description of the variables in the model is presented in appendix one (tables 2 and 3). $AS = f(sc1, sc2, sc3, \text{Age, level of education, the size of irrigated land holding})$

The acceptance status (AS) of a farmer is captured by a dichotomous (0, 1) variable. The probability function of this random variable is presented in table 29:

Table 29: The probability distribution of participation in land consolidation

Y	$\Pr(Y=y)$
1	P
0	1-P

²⁴ $F = 0.084, df=1, sig=0.773$

²⁵ $F = 1.431, df=1, sig=0.233$

Equation 1 gives the probability of a positive response.

$$P_i = \Pr(Y_i=1) = E(Y_i/X_i) = \frac{1}{1 + e^{-(\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik})}} \quad (\text{Equ.1})$$

Under this specification the probability of a negative response is:

$$1 - P_i = 1 - \frac{1}{1 + e^{-(\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik})}} = \frac{e^{-(\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik})}}{1 + e^{-(\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik})}} \quad (\text{Equ.2})$$

Division of P_i by $1 - P_i$ gives the odd ratio in favor of a farmer accepting land consolidation.

$$\text{Odd ratio} = \frac{P_i}{1 - P_i} = e^{\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik}} \quad (\text{Equ.3})$$

To estimate equation 3 we take the natural logarithm of both sides, hence:

$$\log\left(\frac{P_i}{1 - P_i}\right) = \log e^{\beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik}} \quad (\text{Equ.4})$$

$$\text{Li} = \log\left(\frac{P_i}{1 - P_i}\right) = \beta_1 + \beta_2 X_{i2} + \dots + \beta_k X_{ik} \quad (\text{Equ.5})$$

Where X_i 's are variables that influence the decision of i th farmer to participate in land consolidation or not and β 's are unknown parameters.

7-1- Hypothesis

- After land reforms some of the farmers extended their ownership by purchasing land from others. The farmers that expanded their land holdings, also invested in their lands enhancing its fertility and quality, some of them consolidated their parcels individually so they are reluctant to participate in land consolidation. Therefore, the willingness to participate in land consolidation is expected to be inversely related to the size of farmer land holding (physical capital). The larger the size of the land holding of a farmer the less likely is a farmer to participate in land consolidation.
- The willingness to participate in land consolidation is expected to be directly related to the solidarity (sc1), trust among farmers (sc2) and trust to extension agents(sc3).
- No priori assumptions are made about the effects of the level of education and age on AS.

7-2- Results²⁶

Three models are used to assess these hypothesis. In the first model we assess the impacts of social capital on AS, while in the second model we add physical capital (size of land) and human capital (LE). In the third model we add another variable age. The variables are entered so that we can compare McFadden R^2 squared²⁷ and other statistics.

²⁶ To calculate the results in this part Limdep software has been used.

²⁷ There is no equivalent measure in logistic regression to R^2 in OLS. There are several Pseudo R^2 statistics in logistic regression. One Pseudo R^2 square is the McFadden's R^2 statistic (sometime called the likelihood ration index).

- The first model includes sc1, sc2 and sc3. The sign of sc1 is negative and significant. Solidarity has an inverse relationship with AS, however its impact on AS is very negligible (marginal impact is equal to 0.002). The sign of sc2 is positive and insignificant. The sign of sc3 is positive and significant (marginal impact is equal to 0.69) that is, the higher the level of trust to extension agents the more likely it is that a farmer will participate in land consolidation. The overall model is significant at the 0.05 level according to the model chi-square statistic. The McFadden's R^2 is 0.17 (table 30).
- The second model includes Land size, and level of education. The results from Model 2 show LE, sc1 and sc2 are not significant at the .05 level (95% confidence level). The β coefficient of land is negative and significant. It means the larger the land size the less likely is the farmer to participate in land consolidation. The β coefficient of sc3 is positive and significant again. The overall model is significant at the 0.05 level according to the model chi-square statistic. The McFadden's R^2 is 0.21 which is higher than model 1 (table 30).
- In the third model age is also included, the results show age has not a significant relationship with AS. LE, sc1 and sc2 are not significant, while land and sc3 are significant. The overall model is significant at the 0.05 level according to the model chi-square statistic. The McFadden's R^2 is 0.23 which is higher than the last two models (table 30).
- The important variables that affect land consolidation are land size and the level of trust to extension agents and other variables are insignificant. The farmers that participate in land consolidation have trusted extension agents more than the other group of farmers. This confirms our earlier findings. Marginal impacts of all the variables in the third model²⁸ are presented in appendix 1 (table 4).

Table 30: Land consolidation and social capital

Dependent variables=AS						
	Model1		Model2		Model3	
Variable	Coefficients	t statistic	Coefficients	t statistic	Coefficients	t statistic
Constant	-4.7	-4.51	-3.870	-3.552	-6.922	-2.669
Age					0.06	-0.751
Age squared					-0.0002	-0.369
Level of education			0.017	0.120	0.32	1.516
Land size			-0.136	-2.782	-0.133	-2.673
Sc1	-0.01	-1.978	-0.01	-1.849	-0.0106	-1.734
Sc2	0.005	0.931	0.005	0.832	0.004	0.597
Sc3	2.78	5.148	2.6	4.774	2.7	4.828
Model Chi-Sq.	41.6		51		56.2	
Df	3		5		7	
Sig	0		0		0	
McFadden's- R^2	0.17		0.21		0.23	

Where R^2 is a scalar measure which varies between 0 and 1.

²⁸ The slope coefficient (B) in logistic regression is the rate of change in the log odds as X changes. This is not very intuitive, instead the marginal effect is usually computed.

8- Collective action and social capital: Some activities have been carried out collectively in village and on the farm and they are very important for the rural community. The following are examples of collective activities in the villages under study.

- Writing protest letters to government offices
- Organizing social and religious ceremonies such as wedding or death
- Infrastructural activities related to the maintenance and upkeep of water system
- Animal husbandry
- Upkeep and maintenance of public facilities such as mosque, mortuary and public bath
- Tree planting
- Helping each other in every day life

The first most important collective activity at the village is the maintenance and upkeep of drinking water system. In the villages where qanat is the main source of water, villagers are collectively responsible for the maintenance of the system. The second most important activity is the maintenance of public bath. The third important activity is the construction and maintenance of the village mosque. Most public meetings are organized in the mosque. Villagers contribute their times and money to these activities. Nearly 70% of respondents participate in collective activities prevalent in their villages(table 31).

Table 31: Collective actions at village

Variable	Category	Frequency = Number of farmers in each category	Percent
Participation of farmers in collective activities (PCA)	0=Not participating in any collective activity	55	31
	1= Participating in collective activity	122	69
	Total	177	100

Source: survey data

In this section we will examine the impact of different components of social capital and other variables on participation of a farmer in collective activities prevalent in his village. We summarize this in the following model (description of the variables in the model is presented in appendix one tables 2 and 3):

$$PCA = f(sc1, sc2, sc3, PR, Age)$$

Since dependent variable is dichotomous we should use logit model.

8-1- Hypothesis

- The willingness to participate in collective activities prevalent in the village (PCA) is expected to be directly related to the solidarity (sc1), trust among farmers (sc2) and trust to extension agents (sc3).
- No priori assumptions are made about the effects of Age and PR (place of residence) on participation of a farmer in collective activities prevalent in his village (PCA).

8-2-Results

The results in table 32 show trust among farmers have a positive and significant effect on farmers willingness to participate in collective activities, though its effect is not very considerable (marginal impact is equal to 0.002). This confirms Grootaert (2002) hypothesis that if an individual trusts other individuals he is more willing to participate in collective activities in the community. The effect of Age and PR on PCA is also significant. The overall model is significant at the 0.05 level according to the model chi-square statistic (=33.8). The McFadden's R^2 is 0.156.

Table 32: Collective action and social capital

Independent variables	β s	t	Marginal effect
Constant	-7.9	-3.27	-1.6
sc1	0.009	1.48	0.001
sc2	0.01	2.27	0.002
Sc3	0.68	1.59	0.13
Age	0.17	2.17	0.03
Age squared	-0.001	-1.917	-0.0002
PR	1.27	2.187	0.25

Land consolidation is a collective action in which different stakeholders participate. The process entails disagreement and conflicts between involved parties, particularly between farmers. One idea is that a farmer who participates in collective activity prevalent in the village would be more willing to participate in land consolidation. Farmers who work together become familiar with the roles and rules of a collective endeavor. Such thinking is borne out by the theory of Hirschman²⁹ who believes prior experience with collective action can help people participate in new collective activities more readily. We can summarize this relationship in the following model

$$AS = f(PCA, PR, LE, NP)$$

Since dependent variable is dichotomous we should use logit model (description of the variables in the model is presented in appendix one tables 2 and 3).

8-3- Hypothesis

- A farmer who participates in collective activities prevalent in his village would be more willing to accept land consolidation.
- No priori assumptions are made about the effects of LE (level of education), PR (place of residence), NP (number of parcels before consolidation) on acceptance status (AS).

8-4-Results

The results in table 33 shows PCA has a positive relationship with AS which is significant at 95%. This confirms our hypothesis. LE and NP relationships with AS are not significant while PR relationship with AS is positive and significant (95%).

Table 33: Collective action and social capital

Variables	β coefficients	T	Marginal effects
Constant	-2.45	-2.469	- 0.59
PCA	1.27	3.1	0.31
LE	-0.06	-0.42	-0.015
NP	0.01	0.31	0.003
PR	2.03	2.4	0.4

9-Conflict and social capital: The presence of conflict between individuals in a community is an indicator of the lack of trust and social capital, so part of the questionnaire deals with conflict. The numbers of times there have been conflicts between farmers are recorded in table 34. There are some disagreements between farmers, but this is not very common, such that 68% of the farmers have had no problems with others during the last five years.

²⁹As cited in Krishna, Anirudh, and Norman Uphoff (1999)

Table 34: Occurrence of conflict among the villagers during the last few years

Variable	Frequency	Percent
Occurrence of conflicts	Number of farmers	
No conflict	121	68
1-4	38	22
>5	18	10
Total	177	100

Note: The number of conflicts among the farmers is primarily recorded as an interval variable but to make them more presentable we recode it into three categories.

Source: Survey data

The most important reasons for disagreement and conflicts among co-farmers are as follows:

- possessing the lands of other farmers unlawfully
- distribution of irrigation water
- grazing livestock in the farming lands of other farmers

The mechanisms for resolving the disputes and disagreements are presented in table 35. Most of the disputes have been settled by elders and village council. These institutions are instances of social capital in a community that settle the disputes between the farmers. 21% of disagreements between farmers have been referred to the court which would impose costs on both sides. The costs include the transport costs to court which is usually in the cities, and the time which a farmer should devote, which is particularly very important in cultivation season. These are the instances of cost reductions which social capital can generate in a community.

Table 35 : Conflict resolution mechanisms

Sources of conflict resolution	Percent
Other farmers	23
Village council and elders	56
Court	21

Source: Survey data

Now let us examine the impact of social capital on conflict empirically. We can summarize this relationship in the following model (description of the variables in the model is presented in appendix one (tables 2 and 3):

$$C = f(sc1, sc2, sc3)$$

Where C is the occurrence of conflicts among farmers.

9-1 Hypothesis

- The higher are the levels of sc1, sc2, sc3 the lower are the level of conflicts among the farmers. Therefore, we expect the signs of sc1, sc2 and sc3 to be negative.

9-2 Results

According to table 36 sc1 and sc3 do not have a significant relationship with conflict. Sc2 has an inverse relationship with conflict, which is significant. That is the lower the levels of trust among farmers the higher is the level of conflict between individuals. However, the R squared is very low.

Table 36: Social capital and conflict

Dependent variable= conflict			
Independent variables	Beta	T	Sig
Constant	19.316	2.343	0.020
Sc1	0.018	0.303	0.762
Sc2	-0.179	-2.890	0.004
Sc3	0.52	0.118	0.906

Note: R squared = 0.055

The next issue that will be examined in this section is the impact of the occurrence of conflicts among farmers and participation in land consolidation. The following model will estimate this proposal (description of the variables in the model is presented in appendix one tables 2 and 3).

AS=F [Conflict (C), place of residence(PR), monthly expenditure(ME), size of household(SHH), main source of income(MSI)]

9-3 Hypothesis

- It is assumed that the more a farmer has conflicts with other farmers the less likely he is willing to participate in land consolidation.
- No priori assumptions are made about the effects of MSI, PR, SHH and ME on farmers decisions to accept land consolidation.

9-4 Results

According to table 37, the relationship between conflict occurrence and AS is not significant. Other variables in the equation do not have a significant relationship with AS. The only variable that has a significant relationship with AS is PR. It means if a farmer resides in city he is less willing to participate in land consolidation program.

Table 37: Conflict and participation in land consolidation

Variable	B	t	Marginal effect
Constant	-0.68	-0.91	-0.1
PR	1.23	2.1	0.3
ME	-0.001	-0.58	-0.0002
C	0.004	0.67	0.001
SHH	-0.01	-0.27	-0.004
MSI	-0.03	-0.1	-0.008

10 Conclusion

- Land consolidation is important for the economic advancement and welfare of the local community, so some of the factors that contribute to this process have been identified in this study including social capital.
- Social capital is a multi dimensional concept, therefore, in this study trust and the level of solidarity between the farmers have been measured through different questions as indicators of social capital. Trust is divided further into trust among farmers and trust to extension agents.
- We constructed three indicators for social capital by adding up the items related to each dimensions.
- The econometric results indicate that trust to extension agents has a significant relationship with the farmers decisions to accept land consolidation. The study shows farmers who have more trusting relationship with extension agents are more ready to accept land consolidation projects. The importance of trust to extension agents and other government staff working in rural communities are undeniable. It should be denoted that the government plays an important

role in development process in the country. Most development projects have been financed and supported by government. Therefore, mutual trust between rural community and government agencies is very important for the success and prosperity of development projects such as land consolidation and other group based development projects.

- Land size has also an inverse relation with farmers decisions to participate in land consolidation.
- We also examined the relationship between social capital and collective activities. The study shows there is a positive and significant relationship between the level of solidarity and collective action. There is a positive and significant relationship between participation in collective activities and acceptance of land consolidation. A farmer who participates in collective activities at village level is more likely to accept land consolidation.
- Trust has an inverse and significant relationship with conflict. That is the lower the levels of trust the higher the level of conflict between individuals. This study could not establish a significant relationship between the occurrences of conflicts and participation in land consolidation.

11 Policy recommendations

The results of this study cannot be generalized for the country but there are some lessons, which should be considered in the design and implementation of land consolidation projects in particular, and other development projects in general.

- Social capital is important, and government should consider it in the design and implementation of rural development projects.
- Government agents should be more careful in their contacts with rural community and should avoid activities that reduce the level of trust.
- Since the level of trust to extension agents is important in land consolidation projects, government efforts should be directed at enhancing the it. The factors that influence the level of trust should be studied.
- In this study, we concentrated on men, because the majority of the landowners in the country are men. It should be reminded that the structure of rural community is changing very rapidly, due to permanent and seasonal migration of men to urban areas, concentrating and investing on the organizations that men are participating more could be problematic for the future of rural community. It is therefore, necessary to pay more attention to women and their informal and formal organizations to enhance the level of social capital in rural community.
- Further studies should be carried out to examine the impacts of social capital on rural development and welfare.

Appendix one

Table 1: Production status

Product	Total production (Ton)	Supply to market	Price(Kg-\$US)
Wheat	3000	809	0.2
Barley	3000	731	0.14
Bean	141	120	0.5
Potato	628	315	0.15
Onion	1.7	0	-

Table 2: Description of variables

Variable	Variable Description
AS	participate in land consolidation No=0 Yes=1
LE	level of education Categorical 1= illiterate 2=reading and writing 3=primary 4=secondary 5=high school diploma & over
Age	age of farmers Interval
Land	the size of irrigated land under cultivation Interval
sc1	solidarity with other farmers
sc2	trust among farmers
sc3	trust to extension agents 0=not trusted 1=trusted
PCA	participation in collective activities 0=not participating in any collective activity 1=otherwise
PR	Place of residence (dichotomous) 1=village 0=otherwise
NP	number of parcels
C	occurrence of conflict among farmers(interval)
SHH	size of household(interval)
MSI	main source of income(dichotomous) 0=main source of income is farming 1=otherwise
ME	monthly expenditure in US\$(interval)

Table 3: Descriptive statistics of the variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Level of education	177	1	5	1	1.2
Land size(ha)	177	0.2	30	4.5	5.05
Age	177	24	85	55	16
sc1	177	0	100	52	32.3
sc2	177	0	100	78	33.24
sc3	176	0	100	84	23.6
Acceptance of land consolidation	177	Accepted = 95, Not accepted = 82			
PCA	177	Yes = 122, No = 55			
PR	177	1=village=158 0=otherwise(live permanently in city and coming to the village during summer for farming)=19			
NP	140	1	24	9	4
C	177	0	99=very often	7.03	23.8
SHH	177	2	15	5.49	2.48
MSI	177	0=farmin g	1=otherwise	-	-
ME	177	34	454	166	85

Table 4: Model 3, Marginal effects at mean points

Variables	Coefficient Marginal effects	t statistics	Mean of X
Constant	-1.72	-2.663	
Sc1	-0.015	-1.735	52
Sc2	0.002	0.597	78
Sc3	0.69	4.799	1.7
Land	-0.03	-2.6	4.54
LE	0.08	1.516	1.29
Age	0.01	0.751	55
Age squared	-0.00006	-0.369	3303

Note: Partial derivatives of probabilities with respect to the vector of characteristics. They are computed at the means of the Xs.

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7. JAPAN

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Role of Social Capital in Rural Diversification: Case of Mountainous Villages in Japan

Abstract

The study investigates the role of social capital in development and diversification of rural Japan. Diversification is a matter of great concern in rural communities, in hilly and mountainous areas in particular, to revitalize regional socio-economies. Many farmers are trying to utilize regional resources to promote value added products and to diversify economic activities. Increased interactions with urban societies also facilitate diversified rural life styles. To set up these new activities, residents' cooperation is indispensable. Therefore the networks of residents and other social arrangements should be investigated. Traditional factors of rural society, which may affect the current level of social capital, are also taken into consideration. Awa area was selected as a study site because various types of agro-related activities, namely, agro-tourism, rural-urban exchange, farmers' markets, have been emerged and the structure of regional agriculture was well diversified. Rural communities in Awa have changed gradually in accordance with economic development, though some traditional customs and folkways are preserved in the social life. For collecting data and investigating general characteristics of the study site, community level survey and household level survey were conducted. The result of community survey shows that structural social capital, horizontal networks in particular which have been accumulated historically, provides the basis of collective action, contributing the development of rural diversification corresponding to the demands of the times. Community based organizations, in which members are tied loosely and horizontally, are the basis of collective actions with flexible mindset. The effects of social capital on common regional problems, namely, poor forest management, abandoned farmland and wild animal damages, are found to be weak. Quantitative analysis based on household survey data indicates that, although the impact of social capital is not significantly strong compared with physical/human capital, structural social capital affects agricultural production. While the functions of cognitive social capital are uncertain.

1. Introduction

1-1. Background: Constraints on rural development in Japan

Rural development is still an important issue for achieving sustainable development in harmony with urban society in many developed countries. The Japanese government has introduced various policies and strategies to support the rural economy and community. But many communities in rural Japan have suffered from various constraints.

First, depopulation is a serious problem for rural communities. Many rural hamlets face difficulties in continuing agricultural production and regional resource management to support high-quality rural life because of decreased population, the able young in particular. The recent tendency to low birthrate in Japan also may worsen this problem.

Second, becoming an aging society is more serious in rural areas than in urban areas. Problems derived from aging contain two aspects. One is the decrease of able farmers who manage their farmland, which might lead to the improper use of farmland and abandonment

of marginal land and forest, resulting in environmental degradation. Second is the relative decrease of younger generations, which relates to the depopulation.

In addition, most farm households are still engaged in small-scale farming. The Ministry of Agriculture, Forestry and Fishery (MAFF) has followed a Structural Adjustment Policy since the 1960's to encourage farm size enlargement. But topographical constraints (e.g. dispersed small farmlands in hilly areas) and the strong intention of farm households to retain inherited farmlands as household assets are major obstacles to structural adjustment. This issue is especially serious in hilly and mountainous areas.

These problems are of great concern in the current stage of rural development in Japan.

1-2. New trends in rural development in Japan

On the other hand, many rural communities have tackled these difficult problems, and some of them have revitalized their rural socio-economies. Their experiences indicate new trends in rural development in Japan.

First, in many rural communities, farmers and farming groups are trying to introduce "value-added" products, including new varieties and local-branded processed foods. They expect premium prices for their products.

Second, rural features (e.g. natural beauty, historical and cultural heritage, and life style) have attracted peoples' attention again. Until a half century ago, rural residents had long lived in harmony with natural environments fully utilizing local resources. But the modernization of rural society (approximately since the 1960s) has changed the rural lifestyle, and some resources lost their importance. But over-urbanization has prompted the reevaluation of rural life. Not only villagers but also some urban residents are interested in rural resources and are trying to make the good use of them. This trend presents opportunities to utilize rural resources for community-based socio-economic activities.

Third, the diversification of the rural economy is occupying the interest of both residents and researchers. Some activities show that new agribusiness³⁰ (business related to the agricultural sector) has helped increase farm income and revitalize rural residents, especially aged farmers and women farmers. These activities provide not only supplemental income, but also meaningful rural life, contributing the endogenous development of rural communities.

1-3. Rural development and social capital

These trends show the possibility of diversified rural activities for sustainable rural development. But note that well-experienced personnel, new comers and returnees to rural areas take major roles in such activities in collaboration with local people. Through the various exchange activities among a wide range of people, social characteristics of rural residents have also changed and diversified. Human relationship and social networks within and outside communities are vitally important for successful community development.

³⁰ The term "agribusiness" has two meanings: a) an enterprise (especially multinational) which conducts agriculture or related activities, and b) a group of farmers concerned with agricultural production and related activities. This report uses the second meaning.

Therefore, it is important to investigate how residents communicate and make decisions on collective actions.

In addition, traditional factors remain in peoples' relationships in rural society and influence the decision making in communities, while other researchers point out that social characteristics of rural residents have become similar to those of city residents. In real rural society, both traditional and new factors seem to coexist in social relationships among residents.

To evaluate new trends of rural activities and to select the proper strategy for rural revitalization, we should consider the complex human relationship in Japanese rural society. This issue is not solved by considering only the "individual" attributes and characteristics of community members. The concept of "social capital" has become an important research topic in recent years.

1-4. Contents of this report

Considering the backgrounds mentioned above, the author examines the recent diversification of rural communities in Japan and considers the relationships between community activities and residents' human relationships, including social capital.

Section 2 presents the objectives of this survey. Section 3 describes the methods and the procedures of this survey, and the problems of data collection. Section 4 presents a profile of the study area, using official statistics and results of a community level survey. Section 5 follows the historical development of the study area, focusing on the recent process of rural diversification. In section 6 presents the results of a community-level survey and a household-level survey, examining the exact situation of social capital in study area, then clarifies the impact of social capital on rural socio-economies at both farm household and community levels. Finally, section 7 summarizes conclusions and policy implications.

2. Objectives

Based on the concerns mentioned in Section 1, this study aims at elucidating the effect of community factors, including "social capital" (SC) on the development and diversification of rural socio-economies in Japan, through a survey in the Awa area of Japan, south of Tokyo.

The overall objective is achieved by fulfilling the immediate objectives specified as follows.

1) To trace the changes in socio-economic conditions in the study area over the last 20 years

The Japanese economy has experienced an intense boost and a rapid demise in the last 20 years. Globalization of the food system has also changed the economic environment of the agricultural and food sectors. In addition, peoples' ways of life have altered gradually. As a consequence, many rural residents increasingly face problems such as aging, depopulation, and the relative decrease of the importance of the agricultural sector.

On the other hand, many researchers have argued that the rural community in Japan has a long history, and that many traditional institutions, customs, and group activities still influence socio-economic performance³¹. Although each researcher evaluates these impacts both positively and negatively, traditional factors in rural Japan cannot be ignored. But recent researchers and practitioners have called attention to the importance of new movements in rural communities to observe in a study area.

³¹ Concerning Japanese rural society, see Torigoe (1985) and Adachi (1985).

Therefore, during a survey in a study area, it is important to examine and compare both traditional and new dimensions of rural activities by tracing the process of the transformation of communities along with socio-economic development.

2) To investigate trends in rural diversification in Japan

This study covers rural diversification, not only in the agricultural sector, but also in the industrial structure in rural communities as a whole³². The structure of income sources for rural residents is roughly divided into three categories: agriculture, agribusiness (any economic activity having either backward or forward linkages with agriculture), and non-agricultural sectors. Most previous studies focused on comparing agricultural and non-agricultural sectors. This survey focuses on the importance of agribusiness. The emergence of agribusiness at the local level provides wider opportunities for rural revitalization. Even though the business scale is still small, well-organized agribusiness could produce value-added products or services by utilizing rural resources, improving employment opportunities.

3) To scrutinize and categorize community factors related to rural diversification by their structure and function, specifying them as social capital

Community plays an essential role in assembling and mobilizing regional resources to facilitate new agribusiness and related socio-economic activities. This survey lists the organization and group activities that support community ties. Then these community factors are to be specified as social capital categorized by their forms and functions.

4) To quantify the effects of social capital on promotion of collective actions leading to rural revitalization

The role of social capital is evaluated quantitatively by statistical analyses. A wide range of empirical studies on social capital have been conducted in developing countries, but few studies deal with social capital in the context of Japanese rural society, especially quantitatively³³.

5) To evaluate the survey process

This objective was added by the request of the APO consultant. A survey is a fundamental measure for collecting data in a study area. But it takes much time, budget, manpower and other resources. Under limited resources, research staff should design a survey plan carefully and conduct it smoothly with the cooperation of the residents of the study area.

In this report, the author describes the process of surveys in Japan, investigates problems of conducting surveys, and shows some possible solutions for improving the survey process.

3. Methods and Data

3-1. Hypotheses

At the working party meeting of the APO-ICD survey in 2003, many useful papers concerning social capital were presented. In addition, lots of academic articles which deal

³² On the concept of rural diversification and case studies in Japan, see Ohe (2003).

³³ Ohe (2003) mentions the importance of building a method for evaluating human and social factors into agricultural economics. But in his case studies, variables are limited to human capital.

with social capital in the context of community development have been released in recent years³⁴. After reviewing these documents and considering the specific interests of the survey in Japan, the author sets up two main hypotheses.

- a) Social capital influences some aspects of rural development (income, level of diversification, profitability of activities).
- b) Historical foundations influence the current structure and functions of a community

Hypothesis a) is related to the overall objective of the APO-ICD survey. Hypothesis b) is related to a specific issue in Japan: investigating the impact of historical and traditional factors on social capital and rural development. The working team discussed the issue and hypothesized that the state of traditional foundations may either encourage or discourage residents to conduct new community activities and indirectly cause positive or negative effects on rural revitalization (see Fig. 3-1).

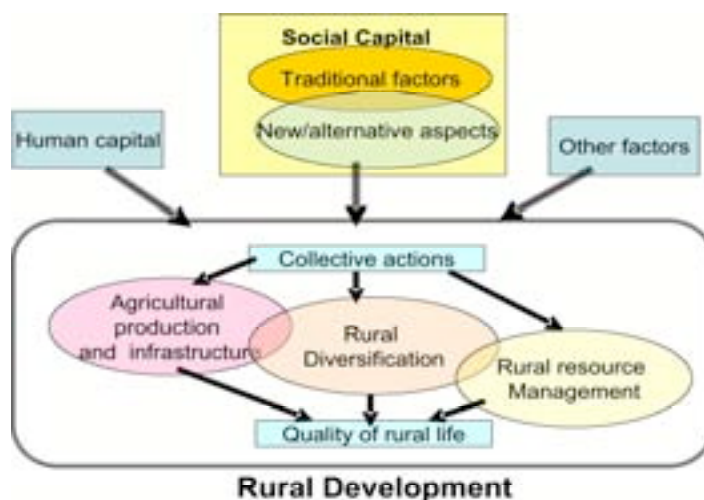


Figure 3-1: Impact of social capital on rural development

In relation to rural development, the working team hypothesized several stages and dimensions of rural development. Collective actions by residents affect three dimensions of community activities; agricultural production, rural diversification (new or alternative activities in rural development) and rural resource management. Developments of these three dimensions improve the quality of life in a rural community, and a rural economy or society development is fully developed.

3-2. Survey methods and procedures

1) Preliminary survey

To get general information on the study area, the research staff conducted group interviews with local government staff in each municipality and agricultural extension workers in the study area.

2) Community survey

To collect information on the socio-economic conditions (including agriculture) and community-related organizations and activities, a community level survey was designed.

³⁴ The main articles and books to which the author often refers are Grootaert and Bastelaer

(2002), Grootaert et al. (2003), Sato (2001), and Ishida and Yokoyama (2004).

Many researchers distinguish two elements of social capital: structural social capital and cognitive social capital. Structural social capital refers to objective and externally observable social structures, such as networks, associations, and social groups. A community-level survey is a good opportunity to grasp the situation of local group activities, which are important indicators of structural social capital. Therefore some questions directed to the type and level of group activities in rural communities were added to the questionnaire. In addition, questions about rural-urban linkage and usage or management of regional natural resources, which are emerging topics in rural area in Japan, were added.

3) Household-level survey

The situation of individual farm households cannot be discerned from official statistics and documents. To investigate the performance of farm households, we designed a household-level survey. It contained many topics about farm household economy. In addition, to probe the situations of cognitive social capital, which are more subjective and intangible elements of social capital, we added some questions about respondents' perceptions of their communities. Several sample questions about cognitive social capital,³⁵ developed by the World Bank Social Capital Initiative, were modified and adopted. Although it was difficult to put every type of question about cognitive SC into the questionnaire, we tried to include as many types as possible³⁶.

4) Use of official statistics and historical documents

MAFF conducts a National Agricultural Census every five years. Data from the census, especially those on community surveys, is very useful for understanding the socio-economic structure of the study area. In addition, MAFF and Chiba prefecture (the location of the study area) has collected many statistics about the demographic structure, industry, and welfare of the study area. We collected these statistics and used them to develop the survey. We also collected and utilized prefectural or municipal documents on local history, which provided helpful information on the study area.

5) Case study

In the study area, some new agribusiness and related activities have begun. We conducted informal group interviews with the staff of farmers' markets, rural restaurants, and other activities to understand how these activities were managed. Respondents' firsthand perspectives and comments based on real-life experiences are valuable and helpful for considering concrete policy implications in a study area.

3-3. Data collection

1) Preliminary survey

A preliminary survey was conducted from January to March 2004. The working team visited the Awa Agricultural Extension Section of Chiba Prefecture to explain the purpose and plan

³⁵ The World Bank proposes many sample questions concerning social capital, especially cognitive social capital. See Grootaert and Bastelaer (2002) and Grootaert et al. (2003).

³⁶ World Bank researchers recommend including six types of questions concerning cognitive SC (groups and networks, trust and solidarity, collective action and cooperation, information and communication, social cohesion and inclusion, and empowerment and political action) in a questionnaire. See Grootaert et al. (2003).

of the survey, asking their advice on narrowing down the survey area and research focus. Their rich knowledge of regional agriculture was helpful for elaborating the design of a questionnaire. With the guidance of extension personnel, we identified seven municipalities for the survey. To specify the hamlets and households for the survey, we visited each town/village office.

2) Selection of rural hamlets as study sites

Considering the results of the preliminary survey, the working team selected 56 rural hamlets as concrete study sites of the community level survey (see Table 3-1).

Table 3-1: Distribution of targeted rural hamlets in the study area			
Municipality	Number of ...		
	Total rural hamlets	Selected hamlets	Returned household questionnaires
Takeyama city	68	12	20
Kamogawa city	88	8	10
Tomiura Town	12	6	3
Tomiya Town	17	8	12
Miyoshi village	19	10	31
Maruyama town	20	6	16
Wada town	15	6	12
Study area total	239	56	104
Source: survey data and MAFF Agricultural census 2000			

3) Pretest of community survey questionnaire

- In April 2004, the working team conducted a pretest of the community survey in four hamlets by interview. Respondents commented on a few difficulties as follows. Taking too much time to completing an interview - in one case, over three hours.
- Some words and sentences were ambiguous.
- Difficulty in giving the exact numbers (e.g. planted area).

4) Conduct of community survey

Considering the above comments mentioned, the working team revised the questionnaire again, and began the community survey in May 2004. Interviewing method is the best way to collect exact data, but this method places a burden on respondents. Therefore, the working team adopted a “drop off, pick up” method. It took two weeks to receive a reply on average, so the working team had to continue the survey until October 2004. Finally 56 questionnaires were collected.

5) Conduct of household survey

While conducting the community survey, the working team revised the questionnaire for the household-level survey. After the pretest was finished, the household survey started in November 2004. Research staff visited the same respondents as before, and filled in the questionnaire by interview. The staff then asked respondents to introduce other candidates in the same hamlet, aiming to collect five respondents in each hamlet. As of February 2005, 104 questionnaires were collected (Table 3-1).

3-4. Analytical methods

1) Qualitative analysis

Using official statistics and the responses to the pretest interviews, the author describes the recent situation of socio-economic conditions in the study area. The results are confirmed by a simple frequency distribution of the variables from the community-level survey.

Historical analysis based on interviews and documents revealed and confirmed the long-term transformation of the rural economy and society in the study area.

Previous studies of social capital were reviewed in order to make the framework of the survey more theoretical and analytical.

2) Quantitative analysis

On the Basis of the survey data and some additional data (mainly from official statistics), the general characteristics of the socio-economic conditions of the study area are described. Situations of group activities, social networks, and residents' perceptions of their hamlets, which may relate to social capital, were investigated.

Several variables showing the performance of socio-economic activities and proxy variables of social capital are compared by statistical methods, such as cross-tabulation analysis and Student's t-test.

Finally, by multiple regression analysis, the author tried to estimate the impact of social capital on the development of the study area and farm household economy.

3-5. Constraints on the survey process

In designing and conducting the survey, the working team experienced many problems. Since methods for social capital surveys have not been developed and standardized, it is important for researchers to share experiences in the survey process and consider possible solutions. In this part, the author describes the problems of and constraints on community and household surveys, and suggests some possible solutions.

1) Constraints on resources for surveys

Several pilot surveys such as the SOCAT-based survey by the World Bank³⁷ are well-organized large scale surveys with adequate supports of both budget and human resources. But in many cases, researchers have to face the constraints of budget, human resources, and time. They have to coordinate the survey design so as not to exceed the limit of these resources. In Japanese case, organizing a joint research team between a university and a national institute could secure minimum numbers of research staff.

2) Who is the key person?

In a community-level survey, researchers have to find a respondent who knows much about the situation of the target community. But it takes effort to find such a key person.

³⁷ For example, Grootaert and Bastelaer (2002), Grootaert et al. (2003)

In Japanese case, the working team visited each municipality office and asked the identity of local leader. The position of recommended leaders was varied by municipality³⁸. Each position has both advantages and disadvantages. For example, “the head of a hamlet” is an important position in every hamlet and deserves to be involved. But some heads are not farmers, and they cannot answer to agro-related questions adequately.

Nevertheless, getting advice from municipality officials is a good way to identify a key person. Some officials helped the working team by sending information to respondents in advance so that they could understand the purpose of the survey.

3) Problems in sampling

One of the fundamental principles of social science is that the research must represent the population being described. In a household survey, it is better to select respondents by random sampling. A complete list of the households in a community is necessary for sampling, but it is difficult to get such a list. Owing to growing concern about protection of personal information, it is difficult to use residents’ or voters’ records for sampling in Japan.

In this survey, the research staff visited respondents to the community survey again and asked them to introduce other residents in the community who are knowledgeable and were willing to be interviewed. This approach is known as the snowball method. It is effective at finding volunteers, but it causes some bias in data collection. In general, respondents were male and elderly. Therefore, introduced candidates were also inclined to be male and elderly. The proportion of female and younger respondents was low in the household survey³⁹.

4) Design of questionnaire

SOCAT and other pilot questionnaires are well organized but contain too much volume for conducting local surveys. Researchers have to check the contents, modify the structure, and reduce the volume of the questionnaire⁴⁰. From the experience of our survey, an interview should last less than 2 hours, and approximately 1 hour is preferable for keeping cooperative relations with villagers.

Not only the volume but also the order of questions is important for conducting a survey smoothly. Related questions should be grouped so that respondents answer easily.

Questions for gleanings farming practices should be modified on the basis of local context. In Japanese case, the working team used the format of the National Agricultural Census for modifying the questionnaire, as Japanese farmers are accustomed to answering that census.

Whether or not to allow neutral answers (e.g. “don’t know”) in questionnaire is a controversial issue. Japanese people are often said to select neutral answers when they are unsure or don’t want to express one’s opinions. Some researchers prefer to omit such answers so as to obtain clear results. In SOCAT, for example, some questions do not allow neutral

³⁸ Recommended positions were the head of a hamlet (2 municipalities), members of an agricultural Committee (3) and the head of the local agricultural association (2).

³⁹ For example, female respondents constituted only 9% of total respondents.

⁴⁰ In the Japanese case, 15 pages (community survey) and 10 pages (household survey). The working team tried to reduce the volume as much as possible, but still many respondents complained about the burden imposed by the many questions.

choices. But in our survey, some respondents were unable to answer this type of question⁴¹. So to make the respondents' mental task easier, it is necessary to add a neutral choice, even though ambiguous answers might increase.

When people are asked to evaluate a situation, they are often inclined to give not their actual evaluation but their desired evaluation. In questions focused on cognitive social capital, researchers should keep in mind this tendency and try to improve the design (wording, list of choices, etc.) of questionnaires.

Many people also do not wish to answer, or simply do not know, their exact income. Most farmers do not keep accounts of agricultural transactions, particularly part-time farmers, whose farm income is a minor part of their whole household economy. To grasp the level of annual agricultural output, the questionnaire listed 13 levels of output so any respondents could mark the approximate level easily. The median level was used for statistical analysis. This method overcomes the refusal to answer questions concerning household economy.

Since the original surveys were conducted overseas, problems deriving from language can arise. Confusion can derive from the translation of key terms. The author's experience shows that "Trust" in Japanese has a stronger connotation than in English. It is also difficult to translate "cohesion" to a common Japanese term, and the question in Japanese seemed redundant and ambiguous.

These experiences underline the importance of pre-testing. The research staff found many mistakes and inappropriate design during the pre-test. These findings were useful in restructuring the questionnaire.

5) How to contact respondents

People are becoming increasingly conscious about their privacy. Therefore, respondents' attitudes to surveys have become more cautious. The enforcement of the code for private information protection (since 2005) and the rapid increase in the number of swindlers on the phone also make people nervous. Researchers should carefully explain the purpose of the survey to respondents.

6) Other possible solutions

Unstructured group interviews are important in survey design. In the Japanese case, the interviews with extension workers and municipality officials were very effective in coordinating the contents of the questionnaires suitable to the local context. Group interviews also give opportunities for researchers to become familiar with the actual situation of the target community and feel the local context, which cannot be perceived through written information.

4. Profile of Awa area: study area

4-1. Reason for selection as study area

The author selected the Awa area of Chiba prefecture for the study. Awa is located at the southern end of the Boso Peninsula, about 100km south of Tokyo. It contains 11 municipalities (2 cities, 8 towns and 1 village). To meet the objective of the survey, it should need to exclude the influence of fishing industry, so the author omitted 4 coastal municipalities from the study area, leaving seven listed in Table 3-1.

⁴¹ A typical example is a question of social trust ("Can neighborhoods be trusted or not?").

Some respondents said that they were unable to select one or other choice.

Because of the mild climate and accessibility to the metropolitan areas, agriculture in Awa has diversified. Many types of crops are grown and shipped. Several types of agribusiness have also been introduced and are now further developing in various ways. Judging from the dynamics of farming systems and agribusiness development, Awa is suitable for investigating rural diversification.

In spite of being exposed by urban influences, Awa retains the characteristics of a rural way of life. Traditional festivals and customs show that various community factors are still functioning there. Therefore, Awa is also suitable site for investigating the situation of rural communities, including the distribution of social capital.

4-2. Historical background

Various crops are cultivated in Awa, and some have a long history of cropping. For example, the loquat was introduced more than 250 years ago⁴². Cut flowers and other ornamental plants also have a long tradition. After the opening of the railway in the 1910s, merchants and technicians visited the area and spread floriculture.

In addition, Awa is famous for the foundation of Japanese dairy farming, which was firstly trialled there in the 18th century. After the Meiji Restoration, western techniques were introduced, and modern dairy farming started⁴³.

Since the 1960s, MAFF has operated the agricultural structure adjustment policy. Under this policy, the expansion of certain types of farming was recommended according to local conditions. Horticulture was a typical example. Since then, many horticultural crops, such as citrus fruits and vegetables have been grown.

Since the 1970s, domestic tourism has developed in Japan. Being located near to Tokyo and other big cities, Awa receives many urban tourists who come to enjoy the short-term stays. The tourism boom has provided opportunities for a variety of agro-related economic activities, such as pick-your-own fruit gardens and farmers' markets.

Under these changes in socio-economic conditions, farmers in Awa have introduced various crops and agro-related activities. Their continuous trial and error has resulted in well-diversified socio-economies in the area.

4-3. Natural and agricultural conditions

Climate

The average annual temperature in Tateyama, the biggest city in Awa, is 16.2℃ and the annual precipitation was 2055mm in 2002. The warm climate enables Awa to produce various types of crop all year round.

Forest management

Awa is dominated by hilly and mountainous topography covered with forest. Forest management used to be an important part of rural life. But the loss of market value of timber and the rapid changes in the rural way of life created a crucial situation for forest management. As shown in Table 4-1, most respondents felt that forest management has

⁴² See Chiba prefecture (1999).

⁴³ See Chiba prefecture (2002).

slightly worsened over the last 10 years. A typical problem caused by poor forest management is crop and residential damage by wild animals.

Table 4-1: Evaluation of forest management		
Types of ownership	Average evaluation score	
	present	10 years ago
Government	3.7	3.0
Prefecture	2.3	2.4
Rural hamlet	3.2	3.0
Private	3.6	3.4
Absentee landlord	3.7	3.6
Others	4.0	4.0
Source: community survey		
Note: Score 1 = “management is “very good” to 4 = “management is very bad”		

Irrigation system

Although rainfall is reliable, Awa sometimes suffers from a shortage of irrigation water. Because of the lack of big rivers and its complicated geography, small-scale irrigation systems have been developed in each hamlet. In general, each hamlet has a water users' association. According to the community survey, over half of hamlets depend on streams or pipelines for their irrigation water. Many hamlets still use small farm ponds. Therefore irrigation system can be very complicated. Nevertheless, over 90% of farms now have access to irrigation water, and the risk of water shortage has been decreased.

4-4. Socio-economic conditions

Demographic conditions

Table 4-2 shows the population trend in Awa. The total population has decreased slightly, but nothing like the dramatic decrease seen generally in other less-favored mountainous areas in Japan. On the other hand, the proportion of farm households and the number of family members per farm household are gradually decreasing. This tendency indicates that younger people are leaving farm households.

Table 4-2: Population of Awa area				
Year	Total population	Total households	proportion of farm household	Num. of family members/farm household
1970	169,661	42,855	37.2%	4.56
1980	165,911	46,785	29.5%	4.24
1990	160,556	50,656	24.0%	4.04
2000	150,357	54,327	18.1%	3.81
Source: National Demographic Survey				

Social infrastructure

Most households have drinkable tap water. Municipalities take care of most main roads, while the residents (farmers and neighbors) are responsible for the maintenance of farm roads. Major public facilities (e.g. schools, hospitals) have been constructed in most municipalities. Therefore, basic social infrastructure and services are provided to most residents.

Employment structure

In Awa, there are few farm households in which all adult family members are engaged only in farming. Many family members work in the non-agricultural sector. According to the community survey, two-thirds of non-farmers work for private companies, and the rest are engaged in the public sector or operate their own small businesses. Their workplace is not far

from home, mostly less than 30 minutes to commute. But the recent depression in the Japanese economy has caused the bankruptcy of some local companies and brief shutdown of factories. Therefore, non-agricultural job opportunities have been decreasing in Awa area, perhaps decreasing the non-agricultural income in farm households.

“Yoriai” general meeting: autonomy and decision-making in rural hamlets

In most rural hamlets in Japan, a general meeting called the *Yoriai* is held regularly. The smallest official unit of authorized community decision making in Japan is the *shi* (city), *machi* (town) or *mura* (village). These municipalities are composed of several hamlets. Therefore, the general meeting of each hamlet is a kind of informal and voluntary association. Nevertheless, most households attend the *Yoriai*. Some kinds of community activities such as the management of community resources are conducted according to the decisions of the *Yoriai*. The municipal offices signify *Yoriai* meetings as an important venue for conducting community activities, and often use them as a channel of communication between local government and residents. Therefore, the *Yoriai* functions as an important unit of decision making and helps maintain the autonomy of rural hamlets. The general characteristics of the *Yoriai* are as follows⁴⁴:

- All member households should attend the meetings.
- The final decision is made with every member’s consent, which can take a long time.
- The main topics of meetings are the management of common properties, planning of rural events, and coordination of land and water use in agriculture.

But the modernization of rural life and the increase of demographic mobility (especially the decrease of younger residents and fewer opportunities to attend community activities) have changed the characteristics of the *Yoriai*. The results of the community-level survey indicate this tendency. For example, the frequency of meetings which all members attend is not high. The average number of meetings which all members attended per year was 3.4, which was lower than expected⁴⁵. This result indicates that meetings among selected members are often held in many hamlets. The community survey also revealed a difference between the norm and the actual selection of attendants from households. Many hamlets responded that “any one member of each household” could attend the *Yoriai*. But according to the comments during the survey, the household heads usually attend. Therefore, most attendants are usually older men, while women and young people have fewer opportunities to attend. Considering the situation mentioned above, the *Yoriai* could be an indicator of social capital, but it is inappropriate to use it as the only indicator. Other group activities should be taken into due consideration as indicators of social capital.

4-5. Farming systems

Rice farming

Rice is one of the most important crops in Japanese agriculture, but most paddy fields are owned by small-scale and part-time farm households. In addition, overproduction has been a serious problem for nearly 40 years. In rural communities, the coordination among farm

⁴⁴ See Torigoe (1985)

⁴⁵ According to the National Agricultural Census 2000, over half of hamlets responded that the meeting was held almost monthly. But on the Census survey, the meetings by selected members are also counted.

households for rice production is very important. Therefore, rice farming has a strong relationship to community management, especially at the level of rural hamlets⁴⁶.

The national government has implemented the agricultural infrastructure development program to improve the productivity of rice farming. In the implementation and enforcement of land improvement, the land improvement act requires an agreement of two-third of authorized persons (land owners and leaseholders)⁴⁷. However, in practice, no project starts until nearly a hundred percent agreement is attained so as to avoid conflict among community members. As most farmland improvement projects are initiated by government, local government officials make every effort to gain agreements through persuasion and negotiation with local people. This process often takes quite a long time, and both formal and informal meetings at the community level play crucial roles. It takes a long time to complete infrastructural developments such as land consolidation and construction of irrigation and road networks. According to the community survey, approximately 80% of paddy fields were improved through land improvement projects, and many farmers reported that working hours for rice farming decreased. But the yield of rice in Awa has not been improved much. The low yields seem to be derived from soil and climatic conditions. It is relevant that most of the farmers have little incentive to improve rice productivity, since they grow rice mainly for their own home consumption and not for commercial sale.

Overproduction of rice has forced every rural community to set aside land. In some rural communities, hamlets have an important role in this work. But the community survey revealed that the proportion of hamlets in which residents jointly set aside land is only 25%, though almost all farmers grow rice. This low rate of collaboration in rice production may reflect the fact that the importance of rice in the rural economy and community activities has been declining as agriculture has diversified in the area.

Other crops and livestock

As mentioned above, various horticultural crops including vegetables, fruits and flowers have long been grown in Awa, as is described in detail in the next section.

Most livestock farmers keep dairy cows. The average number of cows per farm household is approximately 30 to 50. This scale is almost as same as the average scale in Chiba prefecture. But the household survey revealed that many farms have quit dairy farming recently. The main reasons are the low price of milk and the small management scale. In addition, every dairy farmer faces the problem of proper treatment of cow manure. Since the enforcement of the new waste disposal act, every livestock farm is forced to treat excreta in a proper waste treatment plant. This requires additional investment, which is unaffordable for small-scale and aged farmers.

Agricultural Marketing

In general, the agricultural cooperative in Japan (JA) takes the initiative in collection, transportation, price negotiation and other activities. But in Awa, the cooperative's activities are relatively limited. Many farmers ship their products by themselves or through voluntary groups. On the other hand, in response to growing concerns about quality and safety of products among consumers, small-scale and diversified marketing opportunities such as farmers' markets are widening, in which small lots of various products are acceptable.

5. Rural diversification in Awa

⁴⁶ For the relationship between rice farming and community activities, see the case study based on Census data by Ando (2002).

⁴⁷ See The Society of Agricultural Extension Service (1993).

5-1. Diversification of agriculture

As mentioned in section 4, many varieties of crops have long been cultivated along with dairy farming in Awa. Table 5-1 shows the components of agricultural output by commodity in value. Note the continuous decrease of the proportion of rice output. Although rice is cultivated by most farm households, its planted area per household is relatively small. And considerable amounts of rice are consumed at home. Therefore, the importance of rice cropping in the rural economy has been decreasing.

On the other hand, horticultural crops account for about half of the total output. Flowers in particular have increased in recent years. Floriculture not only contributes agricultural income, but also creates a beautiful landscape and indirectly contributes to the development of tourism.

Table5-1: Ratio of agricultural output by commodity in Awa

Year	Total output (million Yen)	Commodities					
		Rice	Vegetables	Fruits	Flowers	Livestock	Others
1971	16,110	25.0%	21.2%	5.8%	10.5%	34.5%	2.9%
1981	33,880	21.4%	17.5%	4.1%	15.1%	40.0%	1.9%
1991	38,310	16.5%	17.7%	4.4%	29.7%	30.2%	1.5%
2001	32,730	14.1%	14.1%	3.1%	32.5%	27.0%	1.3%

Source: Chiba prefecture

Many kinds of horticultural crops are grown, but the production area of each crop is usually small, distributed among one or two municipalities (See Table 5-2). An exception is rape bud⁴⁸, which is grown all over Awa in winter as a secondary crop after rice. Other important horticultural crops and their production areas (municipalities) are loquats (Tomiura and Tomiyama), mandarins (Miyoshi), strawberries (Tateyama), and carnations (Wada and Tomiura). Dairy farming accounts for most of livestock output. Although the number of farmers is decreasing, dairy farming still retains an important position in the region's agriculture.

Table 5-2: Main agricultural products in the study area (2000)

Municipality	Total agricultural output(million Yen)	Main products and its proportion to total output (%)					
		No.1		No.2		No.3	
Tateyama city	7,410	rice	15.2	milk	11.6	broiler	9.2
Kamogawa city	6,370	rice	28.9	milk	18.5	lily	5.8
Tomiura town	2,190	loquats	24.7	rape buds	15.2	rape buds	11.9
Tomiyama town	2,800	milk	45.4	rape buds	8.9	rice	8.6
Miyoshi village	2,620	milk	29.0	rice	15.6	rape buds	11.1
Maruyama town	3,800	milk	20.8	rice	13.7	rape buds	6.6
Wada town	2,670	milk	31.8	carnation	14.6	rice	8.7
Awa area total	34,940	milk	18.7	rice	14.3	rape buds	6.8

Source: Statistics by Chiba Prefecture

Note: Ratio is evaluated by sales

⁴⁸ Rape bud is the bud of rape blossom. It is harvested before blooming for food.

Traditionally farmers cultivated various crops in dispersed small plots and raised small numbers of domestic animals. This subsistence-oriented peasant farming system was rational under high production risks. However, technology has reduced production instability, while local markets have been integrated by modern transportation systems, resulting in more commercialized agriculture under competitive markets. Concentration on fewer crops suitable for local production and market conditions to achieve efficient large-scale farming was a major nationwide policy target from the early 1960s to the late 1980s. The agricultural structure in Awa was a disadvantage in this context. The role of agriculture in the region declined drastically then. However, its role has been reconsidered in new perspectives since the 1990s. Environmentally-friendly production systems are in demand, and consumers want more high-quality and specialty products. In this sense, Awa still has a potential for providing various products aimed at consumers' needs.

5-2. Diversification of farm household economy

Table 5-3 shows the general situation of farm household in Awa, compared with the average in Japan. Although these figures show that Awa farm households are slightly more engaged in agriculture as major income source than the average in Japan, most agriculture in Awa is managed by part-time farm households. The head of the household usually works outside of the farm. Therefore, aged or women farmers are engaged mainly in farming.

The high proportion of part-time farm household indicates the dependence of household income on non-agricultural sectors. In many cases, the head of household (usually male) or his children work in offices and factories close to home. But the recent depression of the Japanese economy has negatively affected the regional economy of Awa. Some factories have reduced or stopped operation, and job opportunities have been decreasing. Under these situations, diversified farming and agricultural marketing have been re-evaluated in terms of employment and income generation. In addition, many city workers who once left from their rural home are now returning at the age of 60⁴⁹ and taking up farming again. Some are eager to enter new types of agribusiness, described below.

Table 5-3: Data of farm households in Awa		
	Awa	Japan
Total no. of commercial farm households	7,267	2,336,908
Percentage of...		
Business farm h/h	27.8%	21.4%
Full time farm h/h	27.6%	19.8%
Part time farm h/h I	16.6%	15.0%
Part time farm h/h II	55.8%	66.8%
Part time farm h/h II in which household head is engaged in farming	15.2%	14.8%
Source: Agricultural census 2000		
Notes:		
1. A business farm h/h is a household which earned its main income from farming, in which the main cultivator who is <65 years olds and works > 60 days in farming.		
2. A part-time farm h/h I is a household which earned its main income from farming. A part-time farm h/h II is a part time farm h/h other than h/h I.		

⁴⁹ They are called the "Baby boomer generation". They are the biggest cohort in the Japanese population structure, and are expected to enter the agricultural sector. Sixty years old is the expected age of retirement in many Japanese enterprises.

5-3. Introducing agribusiness

1) Development of Direct marketing channels

Since the 1980s, facilities for direct marketing of agricultural products and processed foods have been founded in Awa. The number of these facilities has gradually increased in the last 10 years (see table 5-4). As various fruits and flowers can be grown in Awa, pick-your-own farms have become popular. Many tourists visit these farms to pick flowers, strawberries, mandarins, and loquats. Pick-your-own farms extend over most of Awa. Farmers' markets have also increased. In Miyoshi and Tomiyama, farmers' markets have grown to large-scale complex facilities, in which some local cultural events are held, and many farmers bring various products there. The annual turnover of each market exceeds 100 million yen. Therefore, farmers' markets have developed as an economically important marketing channel. Medium and small-scale markets have also emerged around Awa, and provide fresh products for consumers. Some women farmers' groups have founded food processing facilities. Members make various processed foods such as fruit jam, soybean curd, rice cake, and pickles. Most are traditional home-made foods. These products are sold mainly at farmers' markets. These activities have created a new marketing channel and give residents an opportunity to reconsider the value of traditional foods in rural areas.

Table 5-4: Number of facilities related to direct marketing in Awa (2002)	
Type of facility	Number
Pick-your-own service	94
Farmers' markets (permanent)	37
Processing facilities (including restaurant)	31
Small-scale morning markets	5
Source: survey by Awa agricultural extension center	

These activities have had various effects on participant farmers. First, they have created new direct-marketing channels from farms to consumers. Even though the management scale of each activity is not large, the activities give farmers a source of income. Second, they give many farmers various opportunities to conduct community-related business. For example, farmers' markets enable both large-scale and small-scale farmers to ship their local products. Various farmers (including part-time, aged, women, or new) participate in the activities and enjoy both economical and social benefits. Third, new agribusiness has gradually constructed a rural-urban linkage through marketing activities. Since many urban residents visited the markets, farmers learn the needs of consumers directly, and can improve growing or processing methods. Urban people also realize the value of rural communities through the direct and intimate communication with farmers at the site. As a result, it is probable that the development of direct marketing activities has contributed greatly to the increase in the number of visitors. The total number of tourists in Awa slightly increased from 1.2 million in 1990 to 1.3 million in 2000. But in some municipalities where few tourists used to visit, the increase was dramatic. For example, visitors to Miyoshi increased from less than 100 thousand in 1990 to 450 thousand in 2000⁵⁰.

2) Linking agribusinesses

As many types of agribusiness activities were founded, some groups began to exchange information and establish linkages among them. In Awa, two typical examples are described.

⁵⁰ See Sakurai (2002)

The first example is the formation of agribusiness network in Miyoshi. Several groups were separately founded for the purpose of agribusiness in the early 1990s. They had no relationship each other at the time, even though they shared common interests. But in the late 1990s, spontaneous and informal meetings were often held among groups, and members began to exchange information and share common issues. As a result, the following activities were started (Figure 5-1).

- Establishment of farmers association for joint negotiation with travel agencies to improve customer management of pick-your-own gardens.
- Accumulation of agribusiness facilities related to local foods in Michi-no-Eki⁵¹.
- Continuous support from the village office.

In Miyoshi, the relationship among agribusiness groups is horizontal. Therefore, there seems to be no strong leader to lead groups in some direction. But continuous discussion resulted in the gradual development of member groups' spontaneous and original strategies.

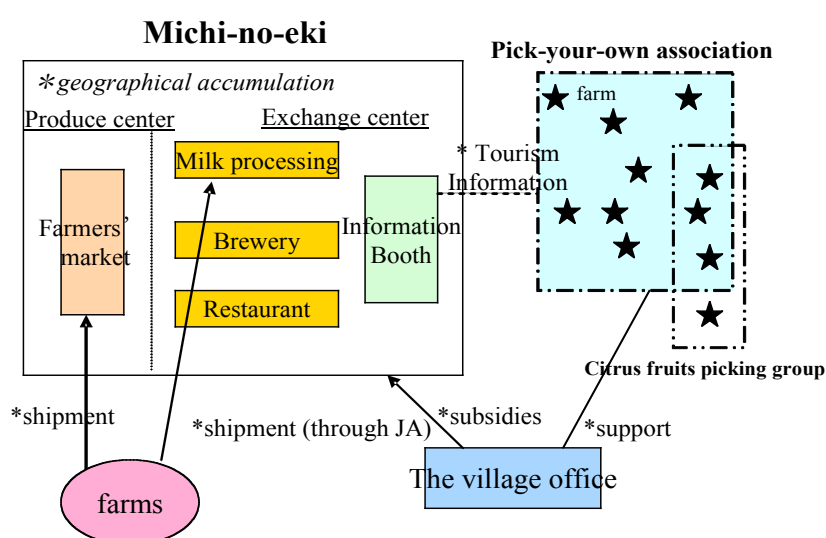


Figure 5-1: Network formation of Agribusiness in Miyoshi village

Another example is seen in Tomiura, where Michi-no-Eki was also constructed. In contrast to the case in Miyoshi, the town office took the leading role from the planning stage. A third-sector company, funded completely by the town office, was founded to manage Michi-no-Eki. The staff of Michi-no-Eki draws up new agribusiness projects (pick-your-own, processing, etc.) and invite local farmers to participate in those projects. In Tomiura, the relationship among agribusiness groups seems to be vertical. But several cultural events held by Michi-no-Eki give local residents the opportunity to understand the strategy and mitigate the negative aspects of the vertical relationship.

Since the agribusiness activities are usually locally based, social aspects seem to help the formation of networks among groups. The difference between Miyoshi and Tomiura is a

⁵¹ “Michi-no-Eki” literally means “railway station on the road” in Japanese. The former Ministry of Construction introduced the idea, and many facilities have been constructed by municipalities. In Michi-no-Eki, a resting place for drivers, an information booth, a shop and a restaurant are usually operated.

good example of the process of network formation, but deeper consideration needs more data about community factors (including social capital).

6. Results of surveys and discussions

6-1. Outline of community-level survey

Movement of residents in rural hamlets

Table 6-1 shows the numbers of households which moved out of or into the rural hamlets surveyed during the last 10 years. More households moved in than moved out. An increase in demographic mobility is apparent in the study area. Over half of the residents who moved into hamlets were newcomers from the town far away (“I-turn” migration). On the other hand, relatively few people moved back to their home hamlet (“U-turn” migration)⁵².

Table 6-1: Numbers of households that moved out of or into hamlets in the last 10 years

	average	maximum
Moving out	3.1	22
Moving in	5.4	27
I –turn	3.2	22
J- turn	1.8	18
U-turn	0.4	4
Source: community survey data		

Evaluation of the situation in hamlets

Table 6-2 lists recent situations in target hamlets concerning typical recent issues in rural society. High score shows satisfaction by respondents. Many respondents evaluated the present state of their hamlets positively in general. But they also evaluated some issues negatively, such as the situation of regional economy, job opportunities, abandoned farmland, and forest management. Economic conditions and the management of resources are common problems faced by remote areas in Japan; respondents felt that these situations had been getting worse in the last 10 years. This symptom indicates that rural residents are worried about the future of their hamlets.

Table 6-2: Evaluation of situations of target hamlets

issues	Present state	Comparison with 10 years ago
Environmental problems derived from livestock	2.4	2.2
Abandoned farmland	2.2	1.6
Forest management	2.2	1.7
Landscape of the hamlet	2.8	2.0
Access to primary school	2.8	2.2
Facilities for sports and cultural activities	2.7	2.1
Elderly care	2.6	2.3
General situation of regional economy	2.1	1.5
Job opportunities	2.1	1.6
General evaluation of living condition	2.4	1.9

Source: community level survey

Note :

Present state: 1 = very bad, 2 = bad, 3 = no problem.

Comparison with 10 years ago: 1 = worse, 2 = no change, 3 = improved.

⁵² “J-turn” refers to people who move into the community from neighboring towns.

Activities of eco-friendly farming

Since environmental problems became a great matter of concern, MAFF has recommended since late 1990's that farmers adopt eco-friendly farming practices. Consumers' demands for eco-friendly agricultural products have also been increasing. Therefore, the development of eco-friendly farming is expected to diversify and vitalize the rural economy.

According to the survey, 39 hamlets (69.6%) out of 56 have adopted eco-friendly farming. The spread of each activity is shown in Table 6-3. As many dairy farms are located in the area, activities related to livestock farming (manure treatment and compost application) are often adopted, and chemical reduction follows. But labor-intensive practices like organic farming have not been diffused yet.

Table 6-3:Activities of eco-friendly farming in Awa area		
Activities	Hamlets practicing the activity	Proportion
Soil enrichment with manure	34	60.7%
Reducing agricultural chemicals: rice	25	44.6%
Proper manure treatment	21	37.5%
Reducing agricultural chemicals: others	18	32.1%
Organic farming	13	23.2%
No chemical fertilizers	11	19.6%
Cooperation between arable and livestock farming	9	16.1%
Others	2	3.6%
Source: community survey data		

Introducing value-added products

To attract consumers' attentions, many farmers are trying to produce value-added products. The activities directed to value-added products could be a direct indicator of the development of local agribusiness. According to the survey, 25 hamlets (44.6%) were engaged in some activities directed to value-added products (Table 6-4). But compared with eco-friendly farming, adoption of activities has been addressed limited. The reason seems to be the difficulty in searching for buyers and the inexperience of farmers in sales promotion.

Table 6-4:Activities for introducing value-added products in the Awa area		
Activities	Hamlets practicing the activity	Proportion
Using regional or unique trademarks	12	21.4%
Contract farming to retailers	9	16.1%
Organic farming and marketing	8	14.3%
Chemical-reduced farming and marketing	8	14.3%
Regional food processing	8	14.3%
Growing high-quality products growing	5	8.9%
Contract farming to manufacturers	4	7.1%
Others	4	7.1%
Source: community survey data		

Conservation of natural habitats and cultural heritage

As most of the surrounding nature, including forests, is secondary, proper resource use and management has contributed to the conservation of precious natural habitats and cultural heritages. The existence of natural habitats and cultural heritage sometimes gives opportunities for supporting collective activities by residents and people interested in the conservation.

Table 6-5 shows the distribution of conservation activities in the study area. Only festivals and events are preserved in many hamlets. Some festivals have been restored after having been abandoned long ago. Although many residents point out the difficulty of finding successors in younger generations, festivals are still important social events and attract people. On the other hand, only a few examples of the conservation of natural habitats were found.

Table 6-5: Activities for the conservation of natural habitats and cultural heritage in the study area		
Rural resources for conservation	Hamlets practicing the activity	Proportion
Traditional festivals or events	37	66.1%
Rivers or streams	7	12.5%
Traditional architecture or streetscape	4	7.1%
Swamps or farm ponds	3	5.4%
Terraces (paddy fields)	2	3.6%
Village forests	2	3.6%
Others	11	19.6%
Source: community survey data		

Rural – urban exchange

In the past couple of decades, many researchers and practitioners have pointed out the importance of rural–urban linkages for sustainable development of both rural and urban economies. The number of visitors from urban areas has gradually increased. In response, various activities related to rural–urban exchange have started. These activities include agribusinesses such as farmers’ markets and pick-your-own farms.

Table 6-6 shows the activities related to rural-urban exchange reported in the study area. The most common activity is farmers’ markets. Farmers’ markets are found in almost all of Awa, and various types of farmers participate. Farmers’ markets provide many farmers with supplemental income and close contacts with consumers. Pick-your-own farms constitute another important agribusiness and attract many tourists. The mild climate and natural beauty of Awa are advantages for arranging various types of pick-your-own sites. On the other hand, educational and participative programs are conducted in a few hamlets. The many effects of these activities have been highlighted, but it will take time to diffuse them.

Table 6-6: Activities related to rural-urban cooperation in the study area		
Activities	Hamlets practicing the activity	Proportion
Farmers’ markets	35	62.5%
Pick-your-own farms	16	28.6%
Educational programs about rural life	8	14.3%
Direct marketing to consumers	6	10.7%
Farm inns	4	7.1%
Cultural exchange by events	4	7.1%
Forest management	4	7.1%
Voluntary farming	3	5.4%
International exchange	2	3.6%
Others	4	7.1%
Source: community survey data		

Rural community agreement

In 2002, MAFF started a direct payment program for rural community revitalization and proper management of rural resources. Eligible community groups in hilly and mountainous areas can receive direct payment. But it is necessary to draw up a formal “rural community agreement” signed by most residents in order to get the authorization from the municipality. Therefore, the existence of an agreement indicates a high level of social capital, especially bonding SC. Twenty-one hamlets (37.5%) have already made an agreement among residents.

The objectives of agreements are, for example, maintenance of paddy terraces and crop rotation.

Various group activities in rural communities

The general meeting is a multi-purpose and formal decision-making body in rural hamlets. But there are many other voluntary groups based on community ties, such as aged peoples' associations and young men's associations. Both functional groups, which are responsible for indispensable regional activities, and informal groups related to hobby and religious activities exist⁵³. To understand the structural social capital of the study area, we need to consider the distribution and level of various group activities. Table 6-7 lists typical local groups in the study area. As the sphere of each group is not limited to the territory of hamlet, distribution by geographical coverage is also shown. The level of activity is based on respondents' answers.

The main findings are as follows.

- The number of (formal) women's or young men's associations have decreased considerably. Aged people's groups and children's associations remain but the membership has been extended to municipality level owing to population decline.
- Functional groups are found in most hamlets, but the sphere of the groups exceeds the territory of the hamlet. These groups have a relationship with the municipal administration.
- In Awa, a traditional group activity called "Koh" remains in effect, and its sphere of activity is concentrated tightly within the hamlet.
- Levels of activities are around 2.0 (=active) in most activities. But the score is relatively low in women's association and young men's associations.

⁵³ For information concerning the variety of regional groups in Japan, see Torigoe (1985).

Table 6-7: Distribution of group activities in Awa area

Groups	No. of hamlets where group is active	Prop - ortion	Sphere of activities					Level of activity
			Hamlets	Former municipality	Municipality	Beyond municipality	Unknown	
Aged peoples' assoc.	45	80.4 %	30	7	5	2	1	2.0
Women's assoc.	16	28.6 %	14	2	0	0	0	1.4
Young men's assoc.	24	42.9 %	21	1	2	0	0	1.5
Children's assoc.	45	80.4 %	34	4	7	0	0	1.7
PTA (primary schools)	51	91.1 %	4	24	20	0	3	1.9
PTA (secondary schools)	50	89.3 %	1	13	32	0	4	1.9
Sports clubs for children	29	51.8 %	0	9	14	2	4	2.1
Fire Brigades	53	94.6 %	6	22	20	3	2	2.2
Hobby assoc.	17	30.4 %	4	2	9	1	1	2.1
Koh: traditional group	48	85.7 %	47	1	0	0	0	1.9
Others	8	14.3 %	7	1	0	0	0	1.8

Source: community survey data

Note: Level of activity is the average score by respondents. Score was evaluated as follows:
 “very active” = 3, “active” = 2, “not active” = 1.

6-2. Impact of structural social capital on rural activities

This section analyzes the impact of structural social capital on the performance of rural activities, including rural diversification. To standardize the data on the activities of regional groups in each hamlet, the author used the score of the level of group activities in each hamlet⁵⁴ for the indicator of structural social capital. This score is an aggregate of the activity level score of each group evaluated by respondents.

To measure the performance of rural activities, the following topics were selected.

a) Agricultural production

- Coordination of set-aside program
- Evaluation of irrigation system management

b) Rural diversification

- Introduction of eco-friendly farming
- Introduction of value-added products
- Conduct of activities related to rural-urban exchange

c) Evaluation and performance of rural resource management

- Evaluation of forest management

⁵⁴ The classification of the level of group activities is shown in the note to Table 6-7.

- Situation of abandoned farmland
- Evaluation of landscape around the hamlet
- Counter-measures to mitigate the damage by wildlife
- Conduct of activities to conserve natural habitats and cultural heritage
- Conclusion of rural community agreement

d) *Quality of rural life*

- Evaluation of elderly care
- Generic evaluation of the quality of life in the hamlet (compared with the quality in 10 years ago)

All hamlets were divided into two categories by the level of performance or the situation in each topic. For example, in the coordination of set-aside programs, hamlets were divided into group A (coordinated) or group B (not coordinated). Then the average scores of each social capital indicator were calculated, and the author compared the scores between categories. Finally, to test the statistical significance of the difference between scores, Student's T-test was conducted.

The results are presented in Table 6-8. Firstly, no significant difference in the level of social capital could be found in agricultural production or infrastructure management. Secondly, in the hamlets where programs related to rural diversification were introduced, the score was significantly higher than that of hamlets where programs were not introduced. Thirdly, in the evaluation and conduct of rural resource management, only the rural community agreement shows a significant difference in activity level between hamlets where the program has been concluded and hamlets where it is not concluded. Fourthly, no significant difference could be found in quality of rural life in general. Finally, there are four cases in which the t-test shows a statistically significant difference, and all are related to new types of rural activities introduced in recent years. Most activities are contributing to diversified rural development.

Table 6-8: Comparison of the performance of rural activities and social capital indicators

Dimension of performance	Scores of the level of group activities			
	Performance	No. of hamlets	Average	T-test
<u>a) Agricultural production and infrastructure</u>				
Coordination of set aside program in the hamlet	conducted	13	8.5	
	not conducted	42	7.6	
Irrigation system management	improved	22	8.0	
	no change / worsen	29	7.7	
<u>b) Agricultural and rural diversification</u>				
Introduction of eco-friendly farming	introduced	38	8.5	*
	not introduced	17	6.4	
Introduction of value-added products	introduced	19	9.2	*
	not introduced	36	7.1	
Activities related to rural-urban exchange	conducted	40	8.4	*
	not conducted	15	6.3	
<u>c) Rural resource management</u>				
Evaluation of forest management	no problem	26	7.1	
	bad / very bad	29	8.4	
Situation of abandoned farmland	no problem	38	7.7	
	bad / very bad	17	8.2	
Evaluation of rural landscape	no problem	46	7.9	
	bad / very bad	9	7.1	
Taking measures to mitigate the damage	conducted	24	8.7	

by wildlife	not conducted	31	7.1	
Conservation of natural habitats and cultural heritages	conducted	48	8.1	
	not conducted	7	5.9	
Rural community agreement	conducted	21	9.4	**
	not conducted	34	6.9	
<u>d) Quality of rural life</u>				
Evaluation of elderly care	no problem	37	7.4	
	bad / very bad	17	8.1	
Total quality of daily life in the hamlet (compared with the quality in 10 years ago)	no change	43	7.6	
	worsen	10	8.9	
Source: Community survey data				
Note: level of significance (T-test) is ** 5% *10%				
Note:ote: level of significance (T-test) is ** 5% * 10%				

Considering these findings, the author estimates that structural social capital is being accumulated in hamlets where various community activities are conducted. In addition, social capital has an impact on new types of rural activities in Awa, where traditional factors remain. How the historically accumulated social capital affects the new activities will be considered later in this article.

6-3. Distribution of social capital from household survey

Social capital cannot be grasped by only through a community survey. In particular, cognitive social capital can be grasped only by a household-level survey, because it is related to the respondents' perceptions and attitudes toward trust, solidarity, values, and norms. In addition, network formation, which is one dimension of structural social capital, can be assessed from a survey of individuals. The distribution of social capital grasped through the household survey is as follows⁵⁵.

Cooperation

Table 6-9 shows the willingness of the respondents to participate in community activities which seem to be beneficial to most residents but not beneficial to the respondent him/herself. Most respondents answered that they would participate in the activity. On the related question about the willingness to donate, the result was almost the same. Most residents in Awa seem to want to participate in collective action if it is signified as useful for community development.

Table 6-9: Willingness to participate in community activity which is not beneficial to the respondent		
	Frequency	Percentage
Never participate	0	0.0%
Likely not	1	1.0%
Don't know	4	3.8%
Likely less	47	45.2%

⁵⁵ Many researchers have categorized social capital into several dimensions. The author also relies on the grouping mentioned in previous surveys such as Grootaert and Bastelaer (2002), Grootaert et al. (2003), Ishida and Yokoyama (2004), but cannot explain all dimensions.

Surely participate	52	50.0%
Total	104	100.0%
Source: household survey data		

Social trust and social cohesion

Table 6-10 shows respondents' general trust in neighborhoods. Over 70% of respondents answered that their neighbors can be trusted but some did not agree.

Table 6-10: Social trust (general) of respondents

	Frequency	Percentage
People can be trusted	79	76.0%
You can't be too careful	22	21.2%
D.K. & N. A.	3	2.8%
Total	104	100.0%

Source: household survey data

Social trust is one dimension of “bonding social capital,⁵⁶” which ties people living in the same community and sharing some demographic characteristics. Another way to grasp bonding social capital is evaluating residents' awareness of social cohesion in the community. Table 6-11 shows respondents' assessment of the extent of differences among residents' characteristics in general. The range of responses is wider than the results of social trust. The results indicate that social cohesion has been loosing in some hamlets and residents also have signified the change.

**Table 6-11: social cohesion in the hamlet
(Q: To what extent do any such differences characterize your hamlet?)**

	Frequency	Percentage
To a very great extent	12	11.5%
To a great extent	29	27.9%
Neither great nor small extent	24	23.1%
To a small extent	31	29.8%
To a very small extent	8	7.7%
Total	104	100.0%

Source: household survey data

Reliability of public officials

The extent of reliability of public officials affects the conduct of community activities when the community has problems and needs some assistance from public organizations which are linked vertically. Table 6-12 shows the reliability of public officials who are involved in community activities or daily rural life. In general, many respondents trust public officials to some extent. But variance of the scores in the evaluation of officials directly related to agriculture (extension workers and cooperative staff) is larger than that of other types of officials, indicating that some respondents do not satisfy the performance of such officials.

**Table 6-12: Reliability of officials
(Q: To what extent do you trust ...?)**

	Ave. score	Variance
Municipal officials	4.1	0.84
Police officers	3.9	1.10
Agricultural extension workers	3.7	1.37

⁵⁶ See Grootaert et al. (2003)

Agricultural cooperative staff	3.5	1.25
Public officials (overall)	3.4	0.70
Source: household survey data		
Note: “Can be trusted to a very great extent” = 5		
“can be trusted to a very small extent” = 1		

Network formation

The research staff asked respondents to call to mid five important people (friends or acquaintances) in their daily life and to specify their sex, age (cohort), residence and occupation. The score of network diversification was calculated⁵⁷. The result is shown in Table 6-13. Respondents’ human networks are concentrated within the same sex. On the other hand, acquaintances are spread widely areas and the networks seem to be extending geographically.

Table 6-13:Extent of respondents’ human network (average)	
Dimension	Score
Sex	0.48
Cohort (age)	1.17
Residence	1.85
Occupation	1.27
Source: household survey data	
Note: scores were standardized by the standard deviation.	

Information access

Most respondents rely heavily on mass media for information concerning daily life, education and political and economic issues. But concerning agriculture, people’s reliance on radio and television was low, and agricultural organizations (cooperatives, extension service), friends, or hamlet-related groups have more importance.

Impact on agricultural performance

⁵⁷ Measures to calculate the score are as follows:

Compare the notified person’s attribute to that of the respondent,

Sex: if the same gender = 0, opposite = 1

Cohort(age): same cohort (within 10 years) = 0,

differs by 1 decade = 1, differs by 2 decades = 2 ...

Residence: same hamlet = 0, same municipality = 1,

same prefecture = 2, in Japan = 3, overseas = 4

Occupational situation: same occupation = 1, different or no occupation =2

Then scores of 5 notified people are aggregated on each dimension. The average score of each

dimension is divided by the standard deviation for standardization.

Table 6-14 shows the coefficients of correlation between social capital assessed at the

Table 6-14: correlation of social capital (personal level) and agricultural performance				
performance	Social capital			
	Social trust	Social cohesion	Network diversification	Reliability of officials
Agricultural output per capita	-0.057	0.084	-0.028	-0.152
No. of the types of diversified activities	0.120	-0.057	0.013	-0.012
No. of the types of marketing channels	0.036	-0.127	0.100	-0.090
Source: household survey data				
Note 1: The score of the trustworthiness of public officials is the aggregate of average scores for the 5 types of officials listed in Table 6-12.				
2: Score of network diversification is the aggregate of the average scores of the 4 dimensions in Table 6-13.				

personal level and three indicators of agricultural performance: annual agricultural output per capita (farm worker), number of agro-related activities (including agribusiness)⁵⁸, and number of marketing channels. Each correlation coefficient indicates that there is statistically little or no correlation between agricultural performance and social capital. The impact of cognitive social capital on agricultural activities cannot be explained statistically from these survey data.

6-4. Regression analysis

This section describes a regression analysis to confirm the level of impacts of social capital on rural development.

Agricultural output and physical/human/social capital

Not only social capital but also other factors such as physical and human capital affect the performance of agriculture and community activities. If agricultural output is selected as the indicator of farm-household welfare, the relationship can be estimated as follows⁵⁹:

$$\ln Y = a + bPC_i + cHC_i + dSC_i + e$$

Where Y = total agricultural output per one household farm worker

PC_i = physical capital indicator

HC_i = human capital indicator

SC_i = social capital indicator

e = error term.

The following variables were selected as indicators of each form of capital.

⁵⁸ The following eight activities were listed on the questionnaire for the elements of agro-related activities; farmers' markets, pick-your-own service, interchange events for consumers, food processing, farm-inn, support of farming experience programs, community garden, and other specified activities.

⁵⁹ This model has been used by many other researchers such as Grootaert et al. (2002) and Narayan and Pritchett (1999).

Physical capital:

- household size
- size of cultivated land
- dummy for livestock (1 = livestock kept, 0 = livestock not kept)

Human capital:

- years of education of the respondent

Structural social capital:

- agro-related organization index⁶⁰
- network diversification index

Cognitive social capital:

- bonding social capital index⁶¹
- trustworthiness of public officials

The result is shown in Table 6-15. By adjusting independent variables to avoid multiple co linearity, the author derived two models. In both cases, cultivated land, years of education and agro-related organization index gave statistically significant effects. Agro-related organization index gives a positive effect on agricultural output. This indicates that group activities related to agriculture enhance the welfare of member farm households. On the other hand, other factors related to social capital did not give statistically significant effects. In particular, t-values of cognitive social capital are low. But the signs of effects (plus or minus) are consistent in both cases. Bonding social capital might have negative effects.

**Table 6-15: Agricultural output and physical/human/social capital
(regression analysis: OLS model)**

Dependent variable: Total agricultural output per household farm worker (ln)						
	Model I			Model II		
	Coefficient	t-value		Coefficient	t-value	
Physical capital						
Household size	0.016	0.22				
Cultivated land	0.002	3.13	***	0.002	3.20	***
Dummy for livestock	0.305	1.11		0.325	1.18	
Human capital						
Years of education (respondent)	0.122	1.85	*	0.120	1.82	*
Structural social capital						
Agro-related organization index	0.040	1.79	*	0.039	1.79	*
Network diversification index				0.019	0.39	
Cognitive social capital						
Bonding social capital index	-0.032	-0.77		-0.031	-0.74	
Constant	2.844	3.24		2.819	3.27	
Adjusted R ²	0.201			0.202		
DW	1.44			1.44		

⁶⁰ This index is the aggregate of the respondents' evaluation of all of agro-related organizations

in which household members participate. The degree of participation point is as follows:

very active = 3, somewhat active = 2, not active = 1

⁶¹ Bonding social capital index = 5(binary score of social trust) + (score of social cohesion)

Number of observations	101	101
Source: household survey data		
Note: ***, **, and * indicate 1%, 5%, and 10% levels of significance respectively.		

Rural diversification and physical/human/social capital

As the indicator of diversification, the author used the conduct of agro-related activities. In the household survey, research staff listed 8 types of agro-related activity.⁶² According to each

Table 6-16: Rural diversification and physical/human/social capital (logistic model)

Dependent variable: Conduct of agro-related activities (binary)						
	Model I			Model II		
	Coefficient	P-value		Coefficient	P-value	
Physical capital						
Household size	-0.091	0.53		-0.041	0.77	
Cultivated land	0.004	0.07	*			
Dummy for livestock	0.489	0.38		0.516	0.35	
Human capital						
Years of education (respondent)	0.274	0.05	**	0.266	0.05	**
Structural social capital						
Agro-related organization index	0.075	0.10	*	0.106	0.01	***
Network diversification index	0.039	0.68		0.021	0.82	
Cognitive social capital						
Bonding social capital index	0.056	0.49		0.057	0.47	
Constant	-4.739	0.01	***	-4.485	0.01	***
Accuracy of prediction	67.3%			72.1%		
Correlation ratio	0.178			0.164		
Number of observations	104			104		

Source: household survey data

Note: ***, **, and * indicate 1%, 5% and 10% levels of significance respectively. respondent's answer, binary scores were as follows.

- 1 = respondent engaged in any agro-related activity
- 0 = no agro-related activity

The equation for estimation is based on the same frame of the previous model, but as the dependent variable is binary, logistic regression model was applied for estimation.

The result is shown in Table 6-16. By adjusting independent variables to avoid multiple co-linearity, the author derived two models.

The accuracy of prediction and correlation ratio indicates that these models have low predictive power. Even considering this problem, though, both indicate that human capital (education) has a positive impact on the diversification of agricultural production and marketing. The agro-related organization index has a positive effect on social capital in both cases, while cognitive social capital is not statistically significant.

6-5. Discussions

⁶² Activities listed on the questionnaire are as follows: farmers' markets management, pick-

your-own service, interchange events for consumers, food processing, farm-inn, support

of farming experience programs, community garden, and other specified activities.

The results of the community survey reveal the positive effect of social capital on community-based collective actions. In particular, the analysis of structural social capital shows the impact of social capital on the activities that were initiated in recent years. Community-based social organizations usually have few linkages to agricultural production. For example, the traditional groups called Koh originate from religious gatherings or collective village works other than agriculture⁶³. Functional groups around the hamlet such as fire brigades and Parent Teacher Associations (PTA) also have no direct relation to regional agriculture. Therefore, these group activities have few connections to daily farming practices, and they are not likely to have direct effects on collective activities related to farming in this area, such as irrigation management or the coordination of a set-aside program. But the continuity of these group activities fosters the relationships among members and makes loose networks in and around the hamlet. Since these activities are not related to economic activities, networks among members extend horizontally. These groups form the minimum unit that confirms and maintains horizontal relationship among residents in the community. If a new issue or task becomes a matter of great concern in the community, the existence of this loose horizontal network could provide a foundation for social gatherings, offering an affable forum for discussion, support, and exchanging information. It is worthy of note that the existence of loose and horizontal networks that are not related to industry could facilitate residents' collective activities.

On the other hand, the ambiguous results of the household survey might be caused by the problems of data collection. The regression analysis shows that structural social capital can be accounted in the same way, as physical and human capital. It could be said that the degree of participation in agro-related groups, one of the dimensions of structural social capital, has an impact on household activities related to agriculture and rural diversification. Statistical analysis of the household survey also shows that dimensions of cognitive social capital are not as accountable as structural social capital. But analyzing cognitive social capital is difficult and depends deeply on the design of the questionnaire.

In conclusion, the author can report two main findings. First, at the community level, the continuity of various group activities has accumulated social capital, and the social capital has had positive effects on several community activities, including new activities such as agribusiness. The accumulation of social capital provides the potential for activating community activities and has contributed indirectly to diversified rural development in Awa. Second, the impact and direction of social capital could change depending on the target of activities or projects. In Awa, continuity of group activities not directly related to agriculture offers opportunities for accessing or founding new types of agro-related activities. On the other hand, cognitive social capital seems to have little impact on agricultural performance.

7. Conclusions and policy implications

7-1. Conclusions

Firstly, the analysis of various group activities indicates that the accumulation of structural social capital supports the community activities by preparing the preconditions for discussion. The case study in Awa area also indicates that horizontal networks made by long-term regional activities have positive effects on the formation of new types of activity, including agribusiness. Generally, in previous Japanese rural studies, the negative aspects of rural traditions, e.g., persistence of land ownership and conservative decision-making processes, were emphasized as the obstacles for social modernization. On the other hand, many rural

⁶³ Characteristics of Koh are described in Takeuchi (1957), Fukutake (1976), and Torigoe (1985). Fukutake stresses the importance of horizontal network and equality of membership in Koh.

communities have lost the vitality of their community activities. In this situation, the author thinks that the performance of the remaining rural activities should be reconsidered. The results of the survey show the potential for positive impacts of traditional cultural activities on the development of new activities.

Secondly, the results of quantitative analysis indicate that the level and direction of the impacts of social capital differ depending on the situation of the target community. The regression analysis based on household survey slightly suggests that structural social capital has a positive effect on agricultural output, but might have a negative effect on the diversification of marketing channels. The regression analysis also revealed that the level of the impact of each dimension of social capital is statistically different. The results of the community survey also indicate that the accumulation of group activities that are not related to farming practice might have positive effects on new types of diversified activity than ordinary types of agricultural production activity. These findings show that the way in which social capital affects community activities depends on the economic and social conditions of the target area. In the case of Awa, agricultural infrastructure, especially that related to rice farming, has already been well developed in many hamlets. This is one reason why social capital affects relatively new types of activity, even though the source of social capital seems to be traditional group activities.

Thirdly, through the qualitative investigation of the study area, the author described the development of rural diversification. Various agribusinesses have started in Awa, providing new income sources and opportunities for rural-urban exchange. The survey also reveals that a variety of rural residents participate in these activities, including aged farmers and women farmers. In addition, activities have not developed independently. Networks of various agribusiness activities operate in the study area. The author stress that agribusiness activities are not only the activities supported by social capital, but also the place where social capital accumulates.

Finally, the survey revealed that the management of some rural resources had serious problems. Forest management is a typical example of poor management. This finding is not directly related to the objective of the survey. But the management of rural resources is partially related to villagers' ways of life. Therefore, this issue needs to be considered in the context of social capital analysis.

7-2. Summary of survey process

The research staff designed both the community and household surveys. Before designing the surveys, the working team talked with extension workers and municipal officials, which they found helpful for coordinating questionnaires and being familiar with local context of the study area. The findings of the pre-test made the survey process more effective. Still, many mistakes and inappropriate treatments occurred, such as limitation of survey resources, sampling problems, and difficulties in selecting key persons.

The structure of questionnaires and the method of interviews definitely affect the collection of accurate data, especially that on cognitive social capital. Cognitive social capital can be grasped only through the responses to well-organized questionnaires or through long interviews with respondents. In this survey, the working team relied on previous studies conducted by the World Bank⁶⁴ for the questionnaire design and other research methods. But still many misunderstandings were found during and after the conduct of the survey.

⁶⁴ See Grootaert et al. (2003). This article gives example of errors and misunderstanding in

social capital surveys.

Since people are now more aware of their rights to privacy, and because long interviews impose a burden on respondents, researchers should take care in contacting respondents beforehand so that they can understand the objectives of the survey and cooperate fully.

7-3. Policy Implications

The importance of group activities which build structural social capital was emphasized. But it is dangerous to extend one finding to broader cases. Social capital contains several dimensions, and the degree of its impact differs according to the general conditions of the survey area. Before conducting a project involving the concept of social capital, researchers need to evaluate both the distribution of social capital and the general conditions of the target area. But if the survey is properly conducted and useful information is collected about the area, the results of a social capital survey offer useful knowledge for planning and conducting a project smoothly. Data collected in Agricultural Census also offer useful information on the distribution of social capital⁶⁵. Preliminary analyses would be helpful.

The possibility of boosting social capital is a controversial issue. In Awa, traditional and continuous activities are a source of social capital. In this case, it seems difficult to enforce traditional factors directly and rapidly. But during the survey, the research staff observed the formation of new networks among agribusiness units. Various types of activity form rural-urban linkages. Rural diversification can allow the formation of new networks and linkages among people, and social capital can accumulate and contribute to the development of new activities in a chain reaction.

7-4. Remaining Issues

Firstly, although newcomers are increasing in rural communities, the author could not investigate their characteristics. Nearly all new residents are not engaged in agriculture. But they usually meet old residents and sometimes attend the same community activities. In addition, the new residents have changed the style of general meetings in some hamlets. New residents' opinions and conduct might change the distribution and characteristics of social capital. It needs detailed investigation.

Secondly, the author could not investigate the function of women farmers' groups. In many rural communities, activities of women's groups contribute to the production of processed foods (especially traditional products) and other agribusiness activities⁶⁶. In Awa, there are some women farmers' groups. But in both the community and household surveys, women farmers' activities were not observed so often. This fault could be due to the bias in the selection of respondents mentioned in section 3. Additional case studies should be investigated.

Thirdly, functions of cognitive social capital could not be specified well in this survey. The reason for the ambiguous result seems to be the shortage of sample data from the household survey and the problem of the research method, including the questionnaires. Since the design of the questionnaire to assess cognitive social capital is affected by the local context of

⁶⁵ The National Agricultural Census has collected much data on rural communities in every 10 years. But the data have not been utilized by government officials or researchers recently. Changes of research topics also make the utilization of data difficult. See Hasumi (2003).

⁶⁶ Recent activities of women farmers' groups are described by Iwasaki and Miyagi (2001).

the study area, researchers should prepare questionnaires carefully and conduct surveys at several study sites for comparison.

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8. REPUBLIC OF KOREA

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The Trend of Changes in Korea Rural Communities: Case Studies of Three Villages in Central Region (Dae-jeon Area) of Korea

1. The Purpose of this study

This study was to inquire into the change of Korean rural society from 1985 to 2001 through three case studies. The objectives of this study are Firstly, to identify the change of Korean rural communities, the trends of the changes, and the process of the change at village level. Secondly, to identify how rural people responded to the trends of the change of Korean rural society. Thirdly, to provide lessons to policy-makers who need to know how policy makers prepare the changes, and help rural people adjust to the trends in positive ways. Finally, to provide policy makers the information which might help them produce better one.

Contents of the research

1) Modeling of Rural community change's trend

The researchers tried to create a model which could describe the change between 1985 to 2001.

Fundamental elements of rural communities which might indicates the patterns and rules were identified. One conceptual model composed of the elements was produced to systematically provide an integrated view on the change.

2. Research Sites

<Table 1> Research sites in Daejeon Area chosen

Regional Character	Name of the Village	Number of households in 1985	Number of Household in 1997
Near Urban Area	Jeung-Chon	58	49
Open Field	Ya-hwa-2ri	51	48
Hilly Area	Song-guk-2ri	34	25
Mountainous Area	Dae-yang-2ri	50	25

1) Reasons for Selection as Study Sites

Four different villages which had different regional characteristics were chosen for this study because the researcher wanted to inquire into both general patterns of the changes in different regions, and difference between the regions. Four different landscapes are firstly, near urban village which is close to a city, and it was under process of urbanization, secondly, open field was In Korea, the landscape is important to differentiate the way of life in a village from other's. The land would substantially influence their ways of agriculture (crops, acreage and consumptions), social interactions and economic activities. The researcher reviewed the statistics to figure out the four different villages representing the four different landscapes. The researcher chose four villages which were located near by Daejeon (one of metropolitans in Korea). The four different villages representing each different landscape were selected.

<Table 2> Selected sample villages

Landscape	Name of Village	No. of Households		Changes
Near Urban	Jeung-Chon Vil. Gi-Sung-Dong, Seo-Gu, Dae-Jeon Metro.	1985 58	1997 49	Became a part of Dae-Jeon Met. in 1989.
Open Field	Yahwa 2ri, Chae-woon-myon, Non-San City.	51	48	Became a part of Non-San City in 1996.
Hilly	Song-Guk 2ri, Cho-Chon-Myon, Bu-Yo City	34	25	
Mount.	Dae-Yang 2ri, Nam- I – myon, Kum-San County	50	25	

3. Findings

1) Population

The population of the village shrank from 779 to 401 between 1985 and 1997. About 5.4% of the population reduced every year. The rate (9.1%) was the highest at the village in mountainous area. The rate was (3.7%) the lowest at the near urban area. The rate was stiff at Mount. Population reduced in the village with somewhat different rate. Those trends indicated that the rate of population reduction might be related the degree to which agricultural conditions were worse comparing others.

<Table 3> Population Change

	Near Urban	Open Field	Hilly Area	Mount. Area
Population 1985	224	232	140	182
Population 1997	143	129	71	58
Reduction	81	103	69	124
Reduction Rate Per-one Year	3.7	4.8	5.5	9.1

2) Emigration to Urban Area

508 villagers emigrated from the villages between 1985 to 1997. More than 50% of the emigrates left rural area because of new jobs every year. Entering higher education was the second critical reason for the emigration.

<Table 4> Purpose of the Emigration and Number of emigrates (percentage)

Year	Employment	Higher Education	Military Service	Etc.	Total
1985	166 (58.5)	97(34.2)	17(5.9)	4(1.4)	284(100)
1988	157 (62.5)	67(26.7)	19(7.6)	8(3.2)	251(100)
1994	77 (56.6)	38(27.9)	14(10.3)	7(5.1)	136(100)
1997	76 (62.8)	30(24.8)	9(7.4)	6(5.0)	121(100)

It is useful to review the purpose of the emigration and the trend of it. There are several seasons of the emigrations: looking for employment, higher education, military service and other reasons. Firstly, about 56-62 % of the emigrants left for better employment opportunities. The second wave of industrialization and urbanization was in the amid from 1983 to 1993. More employment opportunities were open in industrialized urban area including metropolitans. With increasing higher education, more young generation graduated college or junior college. They could take advantages of the opportunities in urban area. Higher education became the second reason of emigration because there was no higher education institutes in the rural area. About 25 to 34% of the emigrant left rural area for better education. In the regions there were no higher education institutes, but few high schools. The quality of high school education in rural areas had been considered lower to the urban area's. Entering colleges or university had substantially critical to upgrade social status and increase income. In the middle of 80's, the rate of entering above secondary education was over 30 % of high school graduates, and over 90% of elementary

graduates went to secondary schools. However, there were few or non secondary schools in rural area. As mentioned earlier, the quality of education in rural area is inferior to the urban areas'. Therefore, many students in rural area were supposed to leave for urban areas in order to pursue better education. The students who left rural area could not return to the rural area since most job opportunities for the higher educated opened in urban areas. Only few of them who wanted to succeed parents' farms returned to their own area. Thirdly, 7 to 10% of the emigrates left for military service every year. Military service has been mandatory in Korea since Korean War. Military service was a way of experiencing urban life style and more education. Through military service, service men learned driving, administrative works, repairing machineries or construction skills. These education helped the service men from rural area get jobs in companies or public sectors in urban area.

The total number of the emigrate decreased over years because the size of rural population became smaller. Only few of the emigrate went back to rural area.

<Table 5> Change of Major Demographic Index

구 분	Urban		Field		Hilly		Mount.	
	1994	1997	1994	1997	1994	1997	1994	1997
Gender Ratio	100.0	95.9	84.5	81.7	110.3	91.9	89.5	107.1
Ratio of family with seniors	70.0	64.2	57.0	64.2	44.7	77.1	78.8	103.8
Ratio of family caring kids	32.5	12.3	39.2	25.0	29.8	25.7	39.4	19.2
Ratio of Senior	150.0	520.0	100.0	258.8	85.7	270.0	176.9	540.0
모아비	18.5	10.3	26.5	20.8	6.3	44.4	75.0	20.0

With more demographic perspective, The researcher looked at some more demographic index in depth: gender ratio, ratio of family caring seniors, ratio of family caring kids, ratio of senior and 모아비. The researcher collected data between 1994 to 1997, thus he could not show the trend of change from long term perspective. Gender ration reduced in urban, field and hilly, but increased in mount. Ratio of family with seniors increased in the field, hilly and mount, but reduced in the urban. Ration of family caring kids decreased in the four villages significantly. Ratio of senior increased more than double in all villages.

An increase of women's participation in farming reflected on the gender ratio. In general, female population increased or reduced little bit comparatively. Ratio of family with seniors decreased in the urban, but increased the field, hilly and mount. Therefore, it is hard to generalize the trend. That the households in which seniors lived increased in the ruban, hilly and mount. might imply that ageing of the population in the field, hilly and mount. occurred lately compared to the urban. With the ageing of the population, the ratio of family caring kids decreased in all. In this regards, many schools have been closed since 1980. Two hundred twenty two schools have been closed in Kang-Won Province since 1980. Decrease of school age kids in rural area might be an indicator of population in the future. The population of the villages would decrease within 20 years. The ratio of senior population more than doubled or tripled in all villages.

Table 9 showed more data on the demographic changes in depth.

<Table 6> Change of population by age groups (1985~94)

구 분	Urban		Field		Hilly		Mount.	
	1994	1997	1994	1997	1994	1997	1994	1997
0 ~ 4	5	3	9	5	1	4	6	1
5 ~ 9	5	1	7	5	5	2	5	2
10 ~ 14	16	6	15	7	8	3	2	2
15 ~ 19	19	20	15	14	12	5	-	1
20 ~ 24	7	9	4	2	2	5	1	2
25 ~ 29	6	6	7	7	4	2	4	1
30 ~ 34	5	4	6	3	2	1	4	4
35 ~ 39	8	3	10	4	4	4	5	5
40 ~ 44	12	13	6	10	7	5	2	4
45 ~ 49	8	10	12	8	5	6	2	0
50 ~ 54	5	8	10	9	3	4	5	2
55 ~ 59	10	8	9	11	8	3	9	7
60 ~ 64	17	12	14	11	9	9	3	8
65 ~ 69	8	11	15	9	4	10	8	6
70세 이상	31	29	16	24	8	8	15	13
계	162	143	155	129	82	71	72	58

The Impact of emigration on family size and living pattern**<Table 7> Trends of change of Family size and composition between 1985 and 1997**

Family	1985	1988	1991	1994	1997
No Kid Single	11(5.7)	16(8.5)	24(13.9)	23(15.0)	25(17.1)
No Kid Couple	28(14.5)	49(26.2)	50(28.9)	45(29.2)	47(32.2)
Couple with Kid	84(43.5)	66(35.3)	56(32.3)	45(29.2)	39(26.7)
Grand Parents and Couple with Kid	68(35.2)	54(28.9)	41(23.7)	40(23.4)	34(23.3)
The Others	2(1.1)	2(1.1)	2(1.2)	1(0.6)	1(0.7)
Total	193 (100)	187 (100)	173 (100)	154 (100)	146 (100)

The impact of emigration on the demography of the villages is depicted in the <Table 10> Trend of change of family size and composition. Three generation families decreased from 1985(35.2%) to 1991(23.7%), and became stable (23%). Couple-with-kid decreased from 1985(43.5%) to 1997(26.7%). No-kid-couples increased from 1985 (14.5%) to 1997 (32.2%). No-kid-single family increased from 1985 (5.7%) to 1997(17.1%). With rapid increase of elderly population, no-kid family increased rapidly.

Table of farmers' age group compared by family size and composition showed that major family composition was one or two generation, and their average was about 60s. Three or more generation families became the minority in the amid of the change.

<Table 8> Table of Farmer's age group compared by family size and composition

Family composition	20s	30s	40s	50s	60s	70s	80s	90s	Total
Two or one generation Family	1	3	20	17	33	30	6	1	111
Three or more Generation Family	-	3	7	9	10	5	-	-	34

The Others	-	-	-	-	-	-	1	-	1
Total(Average)	1	6	27	26	43	35	7	1	146

<Table 9> Table Emerging and Deterioration of Farming Households

Regional Characters	Number of Households		Succession of farming	Emerging and Deterioration of Farming Households						
	1985	1997		Emerging			Deterioration			Decreasing
				New	Immigrant	Total	Death	Emigrate	total	
Near Urban Area	58	49	-	-	14	14	4	19	23	9
Open Field	51	48	2	1	11	12	1	14	15	3
Hilly Area	34	25	-	-	8	8	1	16	17	9
Mountainous Area	50	25	4	-	5	5	3	27	30	25
Total	193	147	6	1	38	39	9	76	85	46

The number of farming households reduced between 1985 and 1997. There were some differences between the regions: urban (15.6%), field (6%), hilly (26.5%), mount (50%). More inferior area in terms of agricultural conditions lost more households. Number of households became a half in mount. area 1997.

<Table 10> The Impact of farmer's ageing on the volume of cultivated acreage in 1985 and 1997

Age	1985		1997	
	Average Acreage	Average Family number	Acreage	Family number
20s	2,558	3.0		
30s	2,985	3.7	2,006	3.3
40s	2,872	4.6	2,422	3.7
50s	2,852	3.7	3,523	3.6
60s	2,755	3.7	3,493	2.5
70s	1,666	3.6	2,385	2.3

The researcher inquired into the impact of ageing on the acreage volume as showed in the table of the impact of farmer's ageing on the volume of cultivated acreage. The rural communities became ageing societies 1997. There were no farmers at 20s in 1997. As ageing became evident, the average acreage decreased: 2985 to 2006 at 30s' farms, 2872 to 2422 at 40's farms, but the average acreage increased at over 50s' farms. That could be interpreted as the main human resources of agriculture shifted from less than 40s to over 50s, and over 70s were still actively involved in farming.

<Table 11> Average of Cultivated Acreage, and Its Change between 1985 to 1997

Regional Character	Total Cultivated Acreage of Each Village			Average of Cultivated Acreage by Household		
	1985	1997	Rise or Fall Rate	1985	1997	Rise or Fall Rate
Near Urban	88,365	64,103	Fall	3,405	4,155	Rise

Area			21.5%			22.0%
Open Field	129,417	95,567	Fall 26.2%	1,840	2,003	Rise 8.8%
Hilly Area	110,409	68,888	Fall 37.6%	3,450	3,827	Rise 10.9%
Mountainous Area	133,697	50,273	Fall 62.4%	2,844	2,513	Fall 11.7%
Total	461,888	278,831	Fall 39.6%	2,799	2,998	Rise 7.1%

Table11 of average of acreage and its change depicts that the average acreage of the villages decreased by 39.6%. There are differences of the decrease rate among the villages. The decrease rate of the mount. was 62.4%. The hilly's was 37.6%. The open field was 26.2%. The urban was 21.5%. More farmers gave up farming at more inferior farming conditions. However, the average acreage of each farm increased by about 7.1%. Average acreage of individual farm increased by 22% in the urban, 10.9% in the hilly, 8.8% in the field, but it decreased by 11.7% in the mount.

Farming Products and Average Acreage

<Table12> Comparison of Farming Type Pattern by 1985 and 1997

Products	1984	1993	1997
Rice (ha)	1.48	1.73	1.56
Korean Cabbage (ha)	1.65	1.38	1.43
Straw Berry (ha)	0.23	0.28	0.27
Cattle (Number)	7.4	9.0	23.1
Pig(Number)	36	97	109
Chicken(Number)	1500	4400	7200

Table12 of farming products and average acreage describes how farm size of each crop changed from 1984 to 1997. The farm size of rice, strawberry and Korean cabbage was stable. The numbers of livestock increased by more than 300% in 13 years. The farmers had a certain limitation to increase their acreage because of the limitation of land.

Changes of Economic and Social Groups

Table 13 shows the change of economic and social groups in the villages. The researcher categorized social groups in the villages into two groups: economic and social groups. Economic groups includes mutual irrigation group, Private small bank, mutual financing club, mutual benefit group for rice, farmer's club and specialized farming team in which the people would work together in order to increase economic benefits and stability. Social groups includes mutual group for funeral, mutual group for marriage, social group for village harmony, women's club and senior club in which the people interact for social purpose. In the urban many economic groups deteriorated: private small bank, mutual financing club. Farmer's clubs became inactive in all villages. Specialized farming team occurred in the field and mount. The specialized farming team was a new form of economic groups.

<Table 13> Change of Economic & Social Groups

구 분		Urban		Field		Hilly		Mount.	
		1986	1997	1986	1997	1986	1997	1986	1997
E C O N O M I C	Mutual Irrigation groups	1	1	0	0	0	0	0	0
	Private Small Bank	1	0	0	0	0	0	0	0
	Mutual Financing Club	2	0	0	0	0	0	0	0
	Mutual benefit group for Rice	0	0	3	0	0	0 (Two disappeared)	0	0
	Farmer's Club	1	(1)	1	(1)	1	(1)	1	(1)
	Specialized farming team	0	0	0	1 (Strawberry)	0	0 (Hot pepper disappeared)	0	1 (Fresh Veg.)
S O C I A L	Mutual group for Funeral	10	3	4	2	4	3 (One Disa)	12	6
	Mutual group for Marriage	2	0	1	2 (One Dis.) (Two Emerg.)	0	0	3	1
	Social group for village harmony	5	6	2	2	1	1	7	3
	Women's club	1	(1)	1	(1)	1	(1)	1	(1)
	Senior Club	0	1 (Estb. 1989)	0	1 (Estb. 1987)	0	1 (Estb.1997)	0	1
Total		23	11(2)	12	8(2)	7	5(2)	24	12(2)

● number in () was not active

More social groups were active comparing to economic groups. Mutual group's number reduced, but still active. Mutual group for marriage disappeared in the urban and hilly, and reduced in the mount. but increased in the field. Social groups for village harmony were still active. Social groups for village harmony increased in the urban, and sustained in the field, hilly, but reduced in the mount. Women's clubs became inactive in all villages. Senior clubs arise in all villages. Korea government sponsored construction and maintenance of senior club center.

The trend of the change of economic and social groups reflects that old relationship based on economic concerns became weak because new economy systems replaced the old mutual groups. However, the social groups were sustained. Several social groups became one or few large groups. The scale of the social groups became large.

<Table 14> Social groups in rural villages

구 분	Total		Urban		Field		Hilly		Mount.	
	1986	1997	1986	1997	1986	1997	1986	1997	1986	1997
Kinship group	2	2	1	1	0	0	1	1	0	0
Territorial	8	8(1)	1	1	1	2	3	3	3	2(1)
Economic Group	11	3(3)	5	1(1)	4	1(1)	1	(1)	1	1(1)
Social Group	55	33(4)	18	10(1)	8	7(1)	6	5(1)	23	11(1)
Total	76	46(8)	25	13(2)	13	10(2)	11	9(2)	27	14(3)

Table social groups refer that kinship and territorial groups were active and playing roles for the villages, and economic groups became inactive and lost its roles they played in the villages.

<Table 15> Change of Collective Facilities and Space

	Urban	Field	Hilly	Mount.
Disappeared or Deteriorated Facilities or Space	Collective Water Supply Facility	Communal Water Well	Communal Storage, Communal Water Well, General Store	Collective Water Supply Facility, Shrine of Shaman, Communal Storage
Newly Constructed	Parking Area' Bus Stop' Shrine of Ancestor worship, Fitness Center	Parking Area Resting Place	Parking Area	
Maintained	Communal Storage General Store Water Well	Communal Storage		Bus Stop
Change of the Name	"Village Center" <input type="checkbox"/> "Resting Place for Seniors (This places were used in different ways) <input type="checkbox"/> The Mount. redesigned it , the others constructed new buildings			

Table 15 change of collective facilities and space describes that collective water supply facilities disappeared in the four villages, communal storages disappeared in the two villages (the hilly and the mount.), the general store disappeared in the hilly, and a shrine of shaman in the mount. It might be understood that individual households had their own water supply facilities, therefore, collective water well became unnecessary. As well as the economic group disappeared, collective facilities for collective economic activities disappeared.

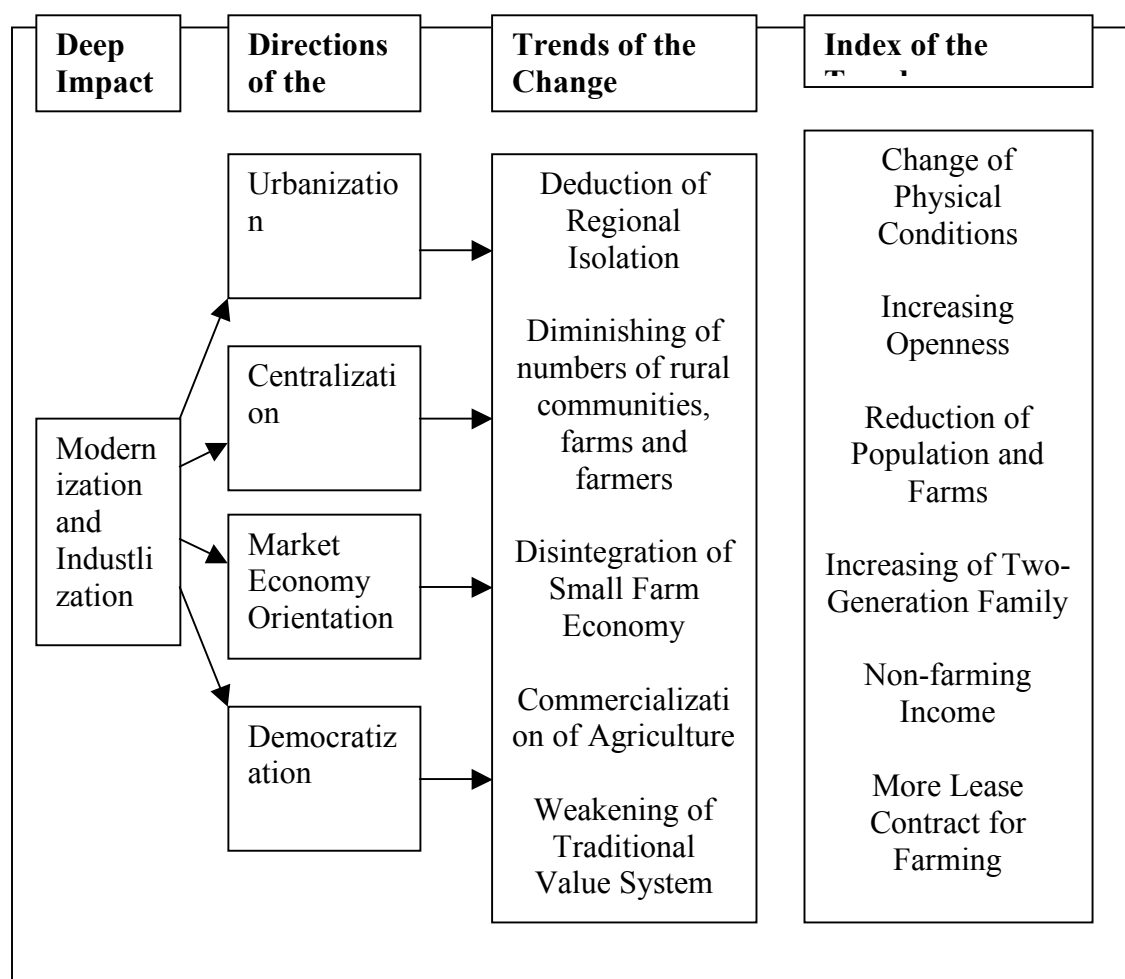
Communal storages were maintained in the urban and the field. This would refer that economic cooperation was maintained in some way.

There were newly constructed parking areas in the urban, the field, and the hilly. Construction of parking area confirms that there were a lot of changes throughout the village people's ways of life. More than half households in rural area possessed cars in middle of 90s. Having a car would provide much more mobility to the people. They could go and shop at cities. This referred that their life style became urbanized. There are no data on TV possession in this report, but TV possession of rural household in 90s might be over 95%. The urban life style and their ways of life have been showed to rural people without any limitation. Average TV watching time was over 3 hours in 1990. The traditional rural culture or ways of life has been regarded as retarded and useless in the industrialized society. The urbanization of rural people's way of life might have a huge impact the rural communities. The differences of cultural aspects between the cities and the countries became feeble.

The name of village center changed to senior's resting house. This refers that ageing is evident in the villages.

Conclusion and Discussion

A Conceptual Model of Rural Communities' Change and Its Trends



The conceptual model of rural communities' change and its trends has four categories. Firstly, fundamental reasons of the change and its trends are the driving force of the change: modernization and industrialization.

Modernization had two faces in which the transformation of feudal society into modern one, and the westernization are interwoven. Transformation of feudal society into modern one refers to the enlightenment for a betterment of human life accompanied by a significant change of structure including economic, educational, cultural and material structures. The modernization was not completed, but still going one. Therefore, the society might be defined as a transitional society in which a variety of evolutionary and revolutionary changes occurred.

Secondly, directions of the change are the rationale of the changes: urbanization, industrialization, market economy orientation and democratization. Thirdly, trends of the change are the key concept of the change: the reduction of regional isolation, the diminishing of numbers of rural communities, farms and farmers, disintegration of small farm economy for self-consumption, commercialization of agriculture, weakening of traditional value system, deterioration of rural communities and emerging different regional community. Lastly, index of the trend would be used to measure the trends: change of physical conditions, increasing openness, reduction of population and farm numbers, increasing of two-generation family, non-farming income, lease contract for farming, urbanized life style, mechanized farming, change of values and modernized cooperation based on individualism.

9. LAO PDR

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On Community-level and Household-level surveys

1. Abstract

The efficient provision of infrastructure services is essential to spur the growth of the rural economy by increasing the flexibility in the pattern of production, distribution and consumption of goods and services and through strengthening the rural-urban linkages.

This study is to intend to analyze the combination between the road network development and community development with community participation in terms of planning, implementation and maintenance in five villages of Phonhome zone of Oudomxay province.

The Integrated Rural Accessibility Planning Project (IRAP/UNDP 1995-2000) is a capacity building project in 8 provinces including Oudomxay province. In 1996-97 UNDP Bangkok has provided fund for a program namely Participatory Planning of Rural Infrastructure which successfully implemented in the selected zone of Xay District and the output of the program is to give the villagers to reach their need such as rural water supply, primary school, small scale irrigation and road infrastructure.

This study is to assess the institutional framework, legislation and economic growth to support the road maintenance and to reduce the poverty in terms of increasing the income generation for the community.

The rural road routine maintenance by Village Maintenance Committee (VMC) will continue in order to increase the ownership of community and contribute their resource to the maintenance. The good condition of the road will facilitate the transportation of agricultural products to the market or the buyers will access to the village to buy their products.

2. Introduction

Laos is a poor country and poverty eradication is the main objective of the government policy.

The Government's strategic framework for the National Growth and Poverty Eradication Program (NGPEP) was based on a nation-wide consultation and participation process, which highlighted the following inter-linked components:

- An in-depth assessment of the poverty situation in the country, together with its causes, with a focus on poor districts.
- The environment for sustainable economic growth.
- National action plans for the main strategic sectors and trans-sector areas, as well as for specific national programs, in response to poverty eradication priorities.
- Mobilizing resources for optimal use consistent with national expenditure framework.
- A participation and implementation strategy.

Rural infrastructure, particularly rural road is one of the important issues.

The immediate objectives are:

- i) To develop the skill of District Communication Transport Post and Construction Office (DCTPCO) staff on rural transport planning in relation with the rural development program and poverty alleviation.
- ii) Ownership of community on the community road maintenance.
- iii) Improve the income Generation.

To strengthen the rule and regulation of the road sector the government has endorsed the Road Law. The Road Law in Lao PDR (Prime Ministry Decree No 12/PO on 04/26/99) defines the road categories as follows:

National Roads include roads connecting the national capital to the provincial and special zone capitals, roads to international borders, roads of national importance with regard to socio-economic and defence-security purpose;

Provincial Roads include inter-provincial roads, roads connecting provincial capital to district centres, river ports, tourist and important historic sites;

District Roads include inter-district roads and roads connecting district centres to the villages, river ports, tourist and historic sites of the district; and

Rural Roads include roads connecting villages to villages and to various production and service centres of the villages.

The Road Law also defines Urban Roads as roads within a designated urban area and Special Roads as roads used specifically for the production and service of a sector of activities, the national defence and security and the forest preservation zone.

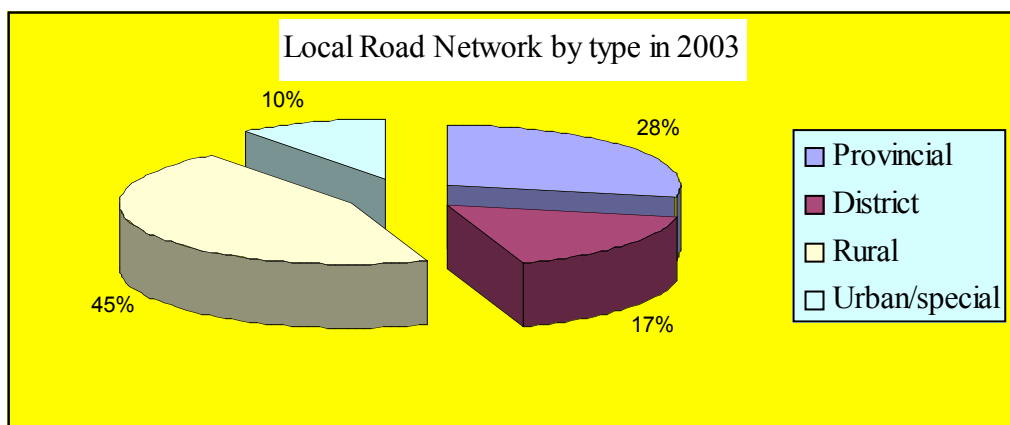
Table 1: Road Condition by type in Lao PDR

Type of Road in Km										
Category	National			Provincial			Urban/District/Rural			Total
	Paved	Gravel	Earth	Paved	Gravel	Earth	Paved	Gravel	Earth	
Good	754	232	120	21	860	563	288	309	910	4 059
Fair	646	619	344	191	302	845	47	472	2 100	5 477
Poor	1 149	581	478	47	233	1 502	39	636	2 520	7 185
Bad	1 041	503	553	503	930	1 784	20	400	1 470	7 204
Total	3 591	1 935	1 495	672	2 325	4 694	394	1 816	7 000	23 922

From table 1 we can see that the local roads (Provincial, District and Rural) are still in fair and bad condition.

Table 2: Local Road Network by type in 2003

Type	Provincial	District	Rural	Urban/special
Paved	197.6	31.2	13.9	483.4
Gravel	3038.4	1825.7	815.1	1174.3
Earth	3248.8	2032.8	9575.4	714.1
Total	6484.8	3889.7	10404.4	2371.8



In the chart the high percentage of the road is the Rural Roads (45%)

Table 3: Roads Network in Oudomxai

Type	National	Provincial	District	Rural	Urban/special
Paved	250.00	0.00	0.00	0.00	4.14
Gravel	64.00	160.80	225.60	34.35	27.07
Earth	0.00	87.00	184.50	151.60	32.78

In Oudomxay province, most of the roads are unpaved except National Road. Road condition survey in the table 4 is used to assess the quality of road maintenance which has been carried out by the community along the District Road No 1802, Konoy – Nam Leng-Sanangpri (21km), where the villages of Phonehome, Vangmonh, Nachang, HouayKhay and HouayTam are located respectively.

Table 4: Condition Survey Data for Road Maintenance Assessment in 2003

Road No	Start point,km	Ending point,km	Surface type	Traffic type	Road width, m	Topo Zone	Accessibility	Surface condition	Drainage condition
1802	0	21	2	3	5	3	1	1	1

Table 4 shows the different indicators of the road condition such as:

Surface type:	2 = gravel
Traffic type:	3 = 51-150 or 5-10 heavy vehicles
Road width:	5 = 4.5-5.5 meters
Topo zone:	3 = mountainous
Accessibility:	1 = open 12 month a year
Surface condition:	1 = good
Drainage condition:	1 = good

In fact, this section of the road is still good condition. The road No 1802 is a District Road with one Village Maintenance Committee (VMC) has been established in 1999.

Table 5: Labour Based Routine Maintenance Implementation by Village Maintenance committee(VMC)

Rd No	Road name	Road Class	District	Km to km	Responsibilities	House-holds	Population	Tools set	VMC contract amount, \$	No of contract	Stock pile material
1802	Konoy-Sanangpi	3	Xai	0+00-3+00	Ban Konoy	178	979	2		1	NA
				3+00-5+00	Phonhome	55	331	2			
				5+00-8+00	Vangmon	66	376	1			
				8+00-10+00	Nachang+ Houaikhai	79	438	2			
				10+00-14+500	Houaitam	43	261	2			
				14+500-18+500	Sanangpi	40	240	2			
				18+500-21+500	Namliang	37	225	2			
	Total			21,5km	8	498	2.850	13	157.5		

Table 5 shows that the villages organized the road maintenance in each portion of the roads with number of households. The maintenance tools have been provided including costs of the tools.

The contract for road maintenance has been signed with a Village maintenance Committee (VMC).

The rural roads enhance village's income and reduce their poverty as the following tables, which have shown the different indicators in comparison between the year 1996 and 2003.

Table 6: Traveling Time (minutes)

Villages	Travel time to District Center 2003 (minutes)	Travel time to District Center 1996 (minutes)
Nachang	25	200
Houay Khay	26	140
Houay Tam	25	170
Vangmone	20	125
Phonhome	18	90

The travel in 2003 is faster than 1996.

Table 7: Possessions

Villages	2003			1996		
	Television	Bicycles	Automobile	Television	Bicycles	Automobile
Nachang	0	4	0	0	5	0
Houay Khay	0	1	0	0	2	0
Houay Tam	0	5	0	0	0	0
Vangmone	1	6	0	0	3	0
Phonhome	0	10	0	0	5	0

Table 8: Income

Villages	Percentage of Household with Main income from Agriculture products	Agriculture products 2003	Livestock 2003	First cash income 1996	2nd cash income 1996
Nachang	95%	Rice, Maize	oxen,cows, buffaloes, goats,pigs, chicken	Agriculture products	no
Houay Khay	100%	Rice	oxen,cows, buffaloes, goats,pigs, chicken	Agriculture products	Livestock
Houay Tam	100%	Rice, Maize, peanut, job's tear	oxen,cows, buffaloes, goats,pigs, chicken	Agriculture products	Livestock
Vangmone	100%	Rice, Maize	oxen,cows, buffaloes, goats,pigs, chicken	Agriculture products	Livestock
Phonhome	95%	Rice	oxen,cows, buffaloes, goats,pigs, chicken	Agriculture products	Liquor

Table 9: Food Products

Villages	Main Food products 2003	Enough to feed 2003	Main Food products 1996	Second Food products	Third Food products 1996
Nachang	Rice, vegetable and Meat	Rice: not always, Vegetable: Always, Meat: No, never	Maize	Cassava	no
Houay Khay	Rice, vegetable and Meat	Rice: not always, Vegetable: Always, Meat: No never	Maize	Cassava	no
Houay Tam	Rice, Maize, cassava	Rice: yes always, Maize: not always, Cassava: Not, always	Maize	Cassava	no
Vangmone	Rice	Not always	Cassava	Maize	Peanut
Phonhome	Rice, Maize, cassava	Always	Rice	Peanut	Cassava

This table is to compare the main food products in 1996 and 2003. Except Vangmone has only one main product but the other remaining villages increased in 2 or 3 products. In 2003 the food products are more sufficient, based on rice and also second products too. Some agricultural product has been sold at home.

3. Objective

3.1 The main objectives of the long-term development strategy are:

- To sustain economic growth with equity at an average rate of about 7 per cent, considered as the necessary rate for tripling per-capita income of the multi-ethnic Lao population by 2020.

- To halve poverty levels by 2005 and eradicate mass poverty by 2010.
- To eliminate opium production by 2006 and phase-out shifting cultivation by 2010.

3.2 The immediate objectives are:

- To develop the Community Road Model
- To strengthen the synergy with the sector concerned like between Ministry of transport and Ministry of agriculture.
- Capacity building for rural road management to the Xay District and village maintenance committee members.

4. Method and data

Hypothesis of study: Maintaining the rural road by community to ease the community development.

Working hypothesis:

- To improve the road maintenance by community
- To improve the living condition and income generation

4.1 Survey method

The village selection is in the location of rural-urban linkage. In Oudomxay province the distance of 10 to 20 km is in the sub-burgh. The household selection is to keep all of five villages because they are all in the road catchments area.

1/ Village level:

The village survey form has simplified to be easy understood because the community is one of ethnic group with low education background. The questionnaire is to be used for interview and data collection in 5 villages of Phonhome zone on socio-economic characteristic and the other sectors as: water, health, education, roads, agriculture, market and income generating activities. The questionnaires are used during key informant interview during which people knowledgeable about the village, the key informants are village committee, National front, Women association, Youth organization, teacher, nurse (if available) and others, the number should not more than 15 persons. The expectation of the village survey is to compare the condition in 10 years ago. A team of enumerators has been trained in data collection technique by the staff of Local Road Division. The interview time is around 2-4 hours per village.

2/ Household level:

Household survey is used to collect qualitative data at the village level (241 households). Household surveys require more resources to implement and analyze. Household surveys are used occasionally for research purposes to gather more qualitative data for a specific geographical area or sector, to establish base line data bases for impact assessments and to determine travel patterns of rural households. The interview has been done in 241 households and the key informants were leaders of households or his spouse. During the survey some household were busy with their farming activities so the enumerators should select the night time for interview. The time spending is around 1-2 hours if there is no problem on translation.

The road access needed to have an inspection following the condition survey along the road and its infrastructure such as converts and bridges etc. This survey needed to have the trained technicians and using a system to run so call Provincial Maintenance Management System (ProMMS), the output of this system will give us the maintainable roads which should be funded and the non-maintainable roads that we should consider if we need to rehabilitate them or not.

4.2 Impacts of Expected outcome

The outcome is to strengthen the community development with improvement of two fundamental and complementary way:

- 1) through prioritization of main products to sustain the income generation.
- 2) through maintenance of roads with community participatory approach

5. Profile of study village/households

The village survey has been done in 1996 during the IRAP (Integrated Rural Accessibility Planning) project at Xai District, Oudomxay Province. These five villages are namely Nachang, HouayKhay, HouayTam, Vangmone and Phonhome has been done again in 2003 by APO programme.

5.1 Characteristics of the Survey Area

Table 10: Village and Households

Village code	Selected villages	Number of households	
		Before, 1996	After survey
04 01 173	Bane Phonehome	53	54
04 01 172	Bane Vangmone	65	66
04 01 166	Bane Nachang	40	39
04 01 168	Bane Houay Tam	43	43
04 01 167	Bane Houay Khay	40	39
	Total	241	241

This figure shows that the number of households after the survey is still the same.

The Villages have Presidents by Appointment of District Authority with involvement of the different social mass organizations in the villages. There are two main ethnic group such as Khamu (Lao Theung) and Luu (Lao Loum). For Khamu in three villages, they are spiritualism and in one village, Christian. The Lao Loum, Luu, ethnic group is Buddhism in one village. The population in the study area is increased respectively. 20 years ago, the population is only 8% of current population, ten years later is 15% and during the day of survey, the population increases up to 3.15%.

The households in the area are also increased. 20 years ago the households are 21% of current population and 59% in ten years later. The households increased after the survey is 2.99%.

Table 11: Population growth in the survey area

Villages	Number of Household 2003	Population 2003	Number of Household 1996	Population 1996	Percentage of population increased
Nachang	39	213	27	186	14.52
Houay Khay	39	225	15	81	177.78
Houay Tam	43	261	34	215	21.40
Vangmone	66	377	52	274	37.59
Phonhome	54	330	34	227	45.37
Total	241	1406	162	983	

The households out-migrated from the area over the last ten years are 12 households equally 5%.

The households migrated in the area from outside over the last ten years are 42 households equally 18%.

The size/density of the village is suitable for 2 villages and too much for 3 villages in terms of population growth. In fact according to the new rule for village establishment it is suitable.

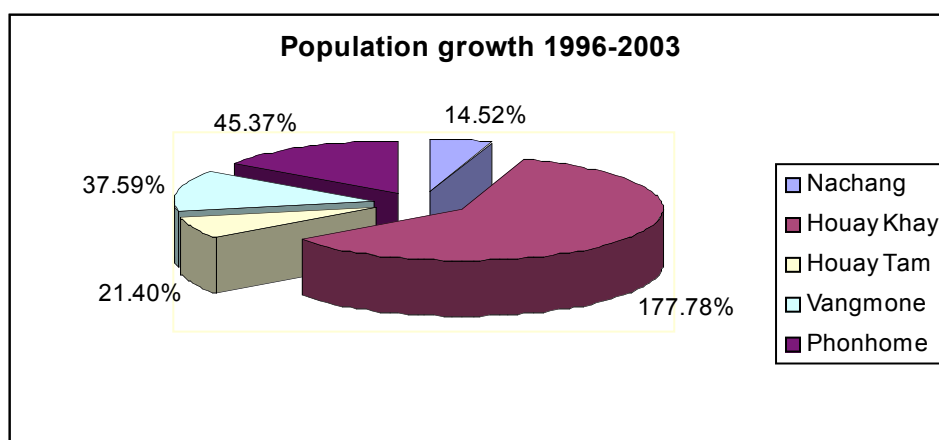


Table 12: Village areas

Villages	Village area, ha	Agricultural Area, ha	Fallow area, ha	Grassland area, ha	Forest area, ha	Waste land, ha
Nachang	850.63	317.5	11.85	0	156.26	68.66
Houay Khay*	723.7	127.65	10	0	528.75	117.7
Houay Tam	480	27.59	0.4	0	294.36	55.92
Vangmone*	18052	18000	0	0	51.8	81
Phonhome	180	85.1	10.82	216	930	20
Total	20286	18557.84	33.07	216	1961.2	343.2

Five Villages area is 20,286.00 ha

Agricultural area including fallow area is 18,557.84 ha

Agricultural area is under fallow currently is 33.07 ha

Grassland area in the area is 216 ha

The Forest area is 1,961.17 ha

The Waste land (non-arable) area is 343.23 ha

The Xay District Authority except Vangmone and Houay Khay villages has reformed three villages land. The average Distance from Provincial Capital and District capital to the survey area is 22.4 km with 54 minutes of the traveling time. Most of means of transport is Tuk tuk and the Travel cost is 0.60 \$US per trip. During the household survey, we have interviewed 98.76% of head of households, including 94.19% male and 5.81 female. The head of the household with age in between 20 to 59 years old is 93%. The new families that they are married less than one year are 0.83%, divorced families are 0.83% and widowed 7.88%. Most of the head of households occupations are Farmers (95%).

5.2 On Children

One wife gave birth in average per household 3 boys and 2 girls.

There are 1 boys and 1 girls in average died before 5years.

Ideally each household wished to have 2 boys and 2 girls.

Table 13: On House building

Roof Type	Number of households	Percentage	Average Price, \$
Thatched	101	41.9	200.36
Tile roof	34	14.1	783.23
Zinc	106	44.0	534.95

The table 13 shows that the highest percentage of roof type is Zinc following with thatched roof and tile roof respectively.

Table 14: On Household members by age

Age	<5Yrs	6-16Yrs	17-5Yrs	36-50Yrs	>51Yrs
Members	176	432	445	211	142

From this table we can see that the members with age for productive are still balance with the non-productive members.

Table 15: Household members by Marital status

Marital Status	Married	Single	Divorced	Widowed	Unknown
Percentage	39.4	55	0.5	3.4	1.7

We observed that the divorced and widowed members in 5 villages covered only 4%.

5.3 Occupation of villagers

The first Occupations of households member are almost farmers, and it covers 95.4%.

5.4 Infrastructure

The villages are accessible by vehicle all year round only 4.5 years ago.

The villages organize the maintenance in March to June every year and participated by all household in the study area 2-4 times a year. The District Office for Communication Transport Post and Construction initiates the works.

Table 16: Road Access

Villages	Road access 2003	Road access 1996
Nachang	All year round	7 months
Houay Khay	All year round	7 months
Houay Tam	All year round	7 months
Vangmone	All year round	7 months
Phonhome	All year round	no road

Before 1996, there were no road access to Phonhome village but it was only trail and the community had to across the streams many time.

Table 17: Road Public Transportation

Villages	Transport services 2003	Transport services 1996
Nachang	Tuk- tuk	No services
Houay Khay	Tuk- tuk	All year round
Houay Tam	Tuk- tuk	No services
Vangmone	Tuk- tuk	No services
Phonhome	Tuk- tuk	No services

Public transportation is available since 1999 by Tuk-tuk (small pick up with 6 to 8 seats) or hand tractor.

There are no any facilities in this area such as: Electricity, Public telephone, and Cellular phone. There are the services in the District Center at around 22.4 km. There is one market for agricultural products which is located in Phonhome, 5.25 km in average. There are 6 shops in 4 villages.

5.5 Life and Environment

The adult men smoke and drink are higher than 90%.

The adult women drink occasionally is about 8%.

5.6 On Means of transport

In the study area, there are only 1 motorbike, 29 bikes, 38 carts, 1 car and 15 hand tractors.

5.7 On the Other possessions

Table 18: Household possessions

Rice mill	Fish pond	Sewing machine	TV	Video	Radio	Others
34	41	28	17	10	24	60
16%	19%	13%	8%	5%	11%	28%

Almost the Head of households traveled outside the village to regular paid employment by car, which are only 7 households.

5.8 Environment/Life Assessment

The environment in the study area is almost not so serious but it is varied village to village.

The air pollution is a little change from 10 years ago and it is still very serious.

The forest destruction is also very serious in the area.

In general the environment, compared with 10 years ago is still worsened.

Table 19: Forest

Village	Ownership	Land area (ha)	Quality of the forest	Quality of the forest ten years ago	Is it totally degraded
Houay khay	village	632	good	very good	No
Houay Tam	village	315.11	good	very good	No
Nachang	village	281.38	good	very good	No
Phone home	village	930	good	very good	No
Vang mone	village	2500	good	very good	No

In 2003, there are only 2 villages like Nachang and Phonhome have arranged to plant tree in the village land. For the tree plantation there is no subsidies and it cannot be privatized the trees planted on those lands.

Regulation on Government and Village Forest

Normally the Ministry of Agriculture and Forestry has authority to make the rules and regulation for the government forestry, but for the village forestry, the District authority and village head have power to make rule to protect the forestry. The provincial authorities on behalf the government enforce the regulation in all level and the villagers with a formal committee enforce in the village level.

Forest Management in the village

It is only one village, which is no forest management because this village has planned to combine with the other village. Villagers have formed the formal committee of Nachang village in 1997 and villagers have created in the other three just in 2004. The income in selling timber is in between 3 to 5 percent.

Table 20: Forest Management by the villagers

Villages	Activities	Number of participants	Number of days	Daily wage \$	Who pays	Who arranges the activities
Nachang	Plantation	36	5	1.5	Government	Government
Phonhome	Forest watching and fire watching	12	10	1.0	village paid labor	village security

It is only this two villages actively participated in the forest management

5.9 Education

Table 21: Primary school

Villages	Percentage of children school age attending 2003		Completed school (grade 1-5) 1996	Completed school location	How far ? (Km)
	Boy	Girl			
Nachang	11	15	No	Phonhome	5
Houay Khay	5	8	No	Phonhome	8
Houay Tam	80	80	No	Phonhome	5
Vangmone	80	80	No	Phonhome	2
Phonhome	60	50	yes		0

5.10 Literacy

The household members who at least can write own name are covered 61.3% including 70% of adult age. Average age of children to go to school in the area is 6 years old for both boy and girl. There is 45% of children with age to go to school are not attending school including 28% of girl. The children are enrolled from year 1 to year 5 are 59% of school age children, however the percentage of attending and not attending is still equal around 50%. Location of the nearest completed primary school, is approximately 5 km. The primary school has been located 7 years ago.

Table 22: Secondary school

Villages	Number of high school graduate in the village 2003		Do pupils go to secondary school 1996	Where do they go?
	Man	Woman		
Nachang	2	0	yes	Phonhome
Houay Khay	3	0	No	Phonhome
Houay Tam	3	0	yes	Phonhome
Vangmone	3	4	No	Phonhome
Phonhome	2	1	yes	Phonhome

Location of the nearest secondary or middle school is 10 km. The secondary school has been located 3 years ago since 2000. There are 5 males who got high-school graduates currently living in the village and none for girl. No one had college/university graduates currently living in the village. In Laos, there is three-education level such as 5 years in primary school, 3 years in low secondary school and 3 years in

high secondary school. Children should spend 5 years to complete primary school, 8 years for low secondary school and 11 years for high secondary school.

5.11 Climate

In the past ten years, four villages are suffered from drought 2-4 times and minimized the agricultural production down to 75% of output. Villagers took action from drought are to borrow money from relative and to sale domestic animals, handicraft, forestry product to save their life. One village suffered from flood and the agricultural production to flood in normal year is 80%. Villagers took action from flood are to work in the town or to sale forestry product. In the study area, the average of yearly rainfall is 44.88 mm. The highest monthly average is 33 Celsius in April. The lowest monthly average is 12 Celsius in January. Location of the weather station is in Xai District.

5.12 Credit

Only one village can access to commercial bank, four of them can access to cooperative bank and to informal credit within villagers. Percentage of households can access formal credit is 10-20% in 3 villages. The villagers use to borrow money from cousin in the village.

5.13 On Financial Status

During the past one year, the household borrows money from:

Table 23: Source of borrow

Source of borrow	Household	Total amount	Av. Borrowing per household
Cousins	23	\$923	\$40
Village cash	20	\$377	\$19
Relatives	4	\$130	\$33
Women associations	2	\$20	\$10

The table 23 shows that villagers believe their relatives and cousins more than the bank and the amount of borrowing money is not too high. After 3 to 6 months all household has paid back 61% of the borrowing household.

After the harvest of 2003 raining season, the household has made a financial surplus or a deficit as describe in the table 24.

Table 24: Surplus and Deficit

Total surplus, \$	Even	Deficit	If surplus, then what	Households
\$22,319	27 households	\$2,055	1. Savings in the bank	5
			2. Investment/Purchase of durable goods	2
			3. Purchase of consumables	163
			4. No idea yet	2

The surplus amount is around 10 times than deficit amount.

The reasons that the households have made deficit is described in the table 25.

Table 25: Reasons of Deficit

Household	Total, \$	Av. Deficit	Reasons of deficit
38	\$2,055	54	Cultivation of job's tear and peanut
			Extend the second crop cultivation
			Second crop cultivation
			To buy seed of Maize and bean
			Cultivate sesame and buy pig
			Extend land for cultivation
			To buy seeds for crop cultivation
			Small Agriculture land
			Extend field for peanut plantation
			Produce sesame for sale

The reasons are almost to extend their agricultural products.

5.14 On Agriculture

Land ownership

Percentage of households in the village which income is mainly from agriculture is 98%.

Classification of the Agricultural households:

Almost 90% of the household is Land Owner, and Landless household are 35% in 2 villages only. The land reform has been implemented in 3 villages except VangMone and HouayKhay villages.

In the case of LEASE, for Un-irrigated land, the cost is around 15\$-33\$/ha. Market price of agricultural land for irrigated land is in between 500\$ - 5000 \$ per ha. Market price of agricultural land for un-irrigated land is in between 200\$ - 2000 \$ per ha. The villagers can convert forest into agricultural field without permission. In case to have permission, only village authority or District Agricultural Office has power to authorize. The cultivator can become the owner of the newly opened land with authorization of Local Authorities.

Agriculture Land Ownership

In the study area, the landowner cover 213 households and 28 households are landless. Out of this, the household with under fallow land is cover 54.4% for seasonal crop cultivation. Including 62 households have no net cultivation land. Only one household has rent in and leased out their land. The average value of the land is 1,470 \$US.

Irrigation sources of the plot in agriculture land (most recent year):

There are 29 households using irrigation scheme (traditional) in raining season only with a distance of 10m. The remaining 114 households use the other source (streams).

5.15 Irrigation

Area irrigated: 37 ha in 2 villages, Phone Home village is using irrigation scheme and Houay Tam is using the stream/river for irrigation.

There are no irrigation system neither from well. There is no water users' association in the village. Percentage of households members participate in water management/regulation activities during the last one-year is 54 households, 22.41% of total household.

49 households have 2.5 days labor contribution that cover 20.3% of total household. Their activities are Environment protection and Canal repair. The labor wage rate is 1.0 – 1.50\$/day)

Only 5 households or 2.1 % of total household have contributed money to pay labor and cement to repair the irrigation.

5.16 On the Most Important Agricultural Production in Agriculture Land during 2003 Rain Season:
Product:

In the study area, the percentage of households that the agricultural products are from lowland rice is 75% of total household, from highland rice is 22%, from both 2% and from the others is 1%.

Plot size of Lowland and High land rice field is around 0.7 ha/plot in average.

Plowing and Leveling:

For lowland rice cultivation, the percentage of households using the tractor for plowing and leveling is 16.1% and using plowing animals 48.1% of total household. For high land rice, the percentage of households using labor for plowing are 19.5% and using animals are 2.5%.

Average of seed is 50 kg/ha for both rice land type. Number of households using high yield varieties is 16 households, equal 7% of total household.

No use of fertilizer, manure and the chemicals for plant protection.

Total output in the year 2003 is:

In average, each household has output of 1272 kg for paddy a year.

Output sold: 230 bags; Weight: 30 kg/bag

The percentage of households which output of paddy is less than 0.5tons/ha covered 86.3%.

Threshing:

Most of households has used their owned threshing, 78.4%.

Irrigation:

Percentage of households using irrigation scheme, 14. % with 34 plots and no user's fee system.

5.17 Labor Input by Activities

Table 26: Activities of agricultural production

Activities	Male	Days	Hired male	Days	Total Daily wage	Female	Days	Hired Female	Days
Harvesting	341	1258	1177	601	35.5	395	774	1145	298
Plant Protection	3	11	4	0	0	2	10	20	10
Plowing/Leveling	241	1567	76	82	2.5	61	192	79	39
Seeding/Transplanting	297	609	792	224	14	297	398	898	142
Weeding	238	1781	464	692	17	230	838	403	338

For wage contract in the study area, most of the hired labor are Labor exchange and Help from cousin. Some case they need to pay labor with wage costs in between 1.00 to 1.50\$ per day.

Other Agricultural Products During the Past One-Year:

The other agricultural products are Peanuts (63% of households), sesame (30% of households), maize (29% of households) and job's tear (16% of households).

The plot size in the study area is 24.34 ha with the total output of 53,275.14kg. Last year the output product has been sold, is 17,644kg.

Table 27: Households Income During the Past One Year

Products 1	House-holds	%	Products 2	House-holds	%	Products 3	House-holds	%	Products 4	House-holds	%
Sesame	21	9%	Sesame	42	17%	Sesame	10	4%	Sesame	1	0%
Peanut	101	42%	Peanut	43	18%	Peanut	7	3%	Peanut	1	0%

Paddy	31	13%	Paddy	0	0%	Paddy	0	0%	Paddy	0	0%
Maize	41	17%	Maize	11	5%	Maize	17	7%	Maize	0	0%
Job's tear	10	4%	Job's tear	12	5%	Job's tear	12	5%	Job's tear	5	2%
Other products	7	3%	Other products	0	0%	Other products	1	0%	Other products	2	1%
No product	54	22%	No product	0	0%	No product	0	0%	No product	0	0%
Amount sold	\$1,494		Amount sold	\$922		Amount sold	\$248		Amount sold	\$220	

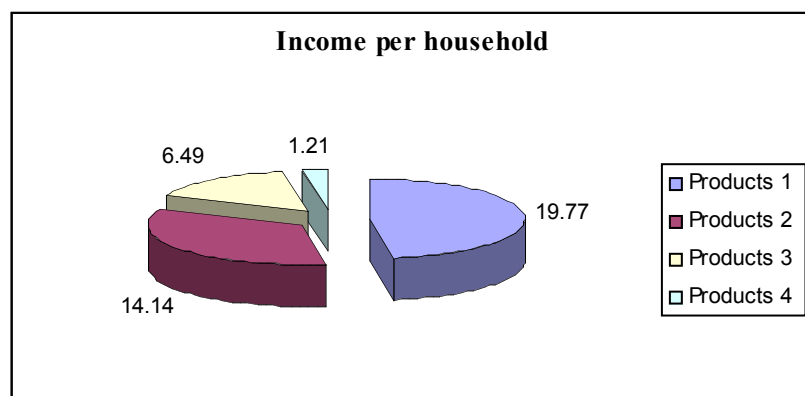
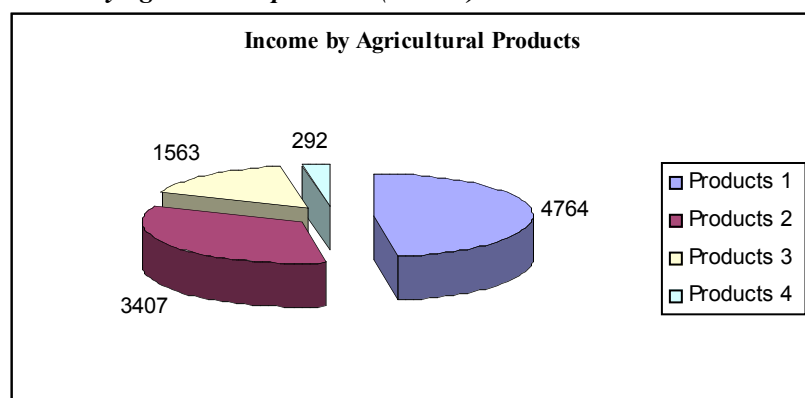
The table 27 shows that the product incomes are 2,884\$ and the income per head is 12\$US.

5.18 On Expenditure:

Total Cash expend per month is \$1,762. The household cash expenditure per month is 7.31 US\$/month per household.

During the Past One Year, the income Source from the sales of Agricultural Products is shown in the graphic below.

Income by agricultural products (in \$US)



5.19 Yield Change in Staple Food:

Staple food crop:

In the study area, three villages have reported that the rice is sometime enough but two villages are not enough. Rice and Meat have been improved. Vegetable and Maize are unchanged.

Household member having meat:

In 234 households having meat, the percentage of households having two kind of meat is 49% and 30% of households having 3 kind of meat. The highest percentage of households having meat at least 1 day/week is 39%, 33% of households for 2 days/week and 18% of households for 3days/week. The reason of crop

improvement is the introduction of high yield varieties (60% of households) and increase of water availability (40% of households). The reason of worse is soil degradation and short or no fallow (60% of households)

Table 28: Number of Livestock

Animal	Now	10 years ago	Comparison %	Price per one sold
Buffaloes	278	241	13%	250\$
Chicken	2784	4470	-61%	2\$
Cows	190	307	-62%	95\$
Goats	16	50	-213%	32\$
Oxen	61	108	-77%	114\$
Pigs	231	395	-71%	43\$

The minus (-) of comparison meant decrease of percentage.

Table 29: On Livestock Production

	Number Owned Currently	Purpose of keeping (household)			Sold in the past one year
		for use	for sale	Both	Number Sold
1. Oxen:	41	0	41	0	21
2. Cow:	132	4	128	0	41
3. Buffaloes:	308	221	43	44	47
4. Goats:	12	0	12	0	1
5. Pigs:	216	47	162	7	58
6. Chicken:	2679	801	582	1283	360
7. Others	8	2		2	0
7. Others, duck	49	2	2	2	0

The table 29 shows that the purpose of keeping for household used is 58.97% of households. The reasons for selling livestock last year are to buy medicine (10.9%) and to buy hand tractor, rice field, house construction materials, school maintenance materials, rice milk and rice. Most of animals have been feed by grazing and stall-feeding in the common forest/bush like oxen, cow, and buffaloes. While pigs and chicken are feed by stall feeding in their own field. No milk for purchase and sell in the study area and no milch animals in this area too.

5.20 Non-agricultural activities and non-local activities:

In the area, there are 2.3% of households which is self-employment and 10% of households which is Government employment. Local wage rate per day for private non-agricultural employment is 3.5 \$ /day.

5.21 Community Resources Management

Legal Ownership of the Forest Land in the Village :

The Village Owned 3,219.5 ha of Forest Land. The quality of the forest now is good, but in the past 10 years the quality was very good. Two villages carried out the Plantation Activities in June 2003 by the villagers which is no subsidies for plantation on those lands. A villager cannot privatize the trees that he/she planted on those lands. The Government made the regulations on Government Forest

Regulations on Villages Forest

The Villagers are not allowed and allowed under some regulations for timber, if not it will be a penalty. Green fuel woods are not allowed. The Dead/dried branches are open-access to only villagers in concerned villages. The Folders are open-access to any one in the villages. The regulations have been set up since 1995. The villagers with a formal committee or Government made the regulations and enforce.

5.22 Forest Management

There is a formal committee for forest management in the village since 1997. Only 1% of households in the study village have participated in the forest management committee. There is no Subsidies participation.

5.23 On Private Trees and Private Land forests:

There are no any primary forests that are owned privately. There is 1 village only that the forests converted from agricultural land by tree planting.

5.24 Drinking Water and Energy Source

The sources of drinking water in the village:

In the study area, the percentage of households getting tap water from overhead tank is 67% and from the other water source such as river or spring (16%), common well or borehole (15%).

The frequency of the household collection of drinking water in a day is 2.8 times/day.

People usually collects drinking water in a day:

Household member (male): _____ 0.5heads per household

Household member (female): _____ 1.2heads per household

Household member (children): _____ 0.3heads per household

Time collecting water in one round trip collection: _____ 2.6 minutes/one collection

Energy Sources for Cooking:

In the area, most of households is using fuel wood for cooking and they collected from the common forest. The fuel load last does for at least 90 days. If purchase the same amount of fuel wood in the market, the cost is around 20\$ per load. Frequency of fuel wood collection with less than 10days a year is 39% of households, between 10-14 days a year is 31% of households and between 15-30 days a year is 25% of households.

People usually go fuel wood collection in one-day collection:

Household member (male): _____ 104 heads per household

Household member (female): _____ 284 heads per household

Household member (children): _____ 38 heads per household

Household collect 129 kg/day of fuel wood and spend around 4 hours/day. Household members participate in land use reform of the province.

5.25 Health and Environment

On Health in 5 villages

In 1996 there were no health clinic, some medical staff visited the village and almost people went to use the pharmacy and hospital at Xay District. In 2003 there are medicines available in the villages such as anti malaria, pain killer, antibiotic etc.

Health services 2003

In 2003 the health facilities are available in the study area. There are nurses to provide services and the location of the dispensary is in Phonhome village which is around 10 minutes from Nachang, Houay khay and Vangmone except Houay Tam village is a little bit far with 1,5 hours walk.

The health services are responsible to sale medicines and health education. The activities have been carried out the study area are the following:

Growth monitoring for infants and children, Family planning services, free distribution of condoms, child delivery services, vaccine services, health education programme, services by the community health workers. Most the services are free of charge and the budget is from the government and aid agencies.

Table 30: Health services for mother and child

Villages	Average children per married woman	in 20 years, the number of children decreasing	Percentage of woman, using contraceptives	Ten new babies expected, grown up to 5 years old	What kind of toilet
Nachang	5	decreasing	60%	10	Pit hold: 100%
Houay Khay	5	decreasing	50%	10	bush: 100%
Houay Tam	5	decreasing	50%	10	bush: 7%
Vangmone	5	decreasing	30%	10	Pit hold: 50%
Phonhome	5	decreasing	20%	10	latrine: 100%

During the past one year, the head of family have any diseases 31% of total head of households. Out of this, spouse (27%), daughter (19%) and son (16%).

Percentage by Diseases haven by head of households

Malaria: _____ 20.74% Bloody stomach: _____ 10.14%
 Nerve System Disease: _____ 5.53% Cold and Cough: _____ 4.61%
 Diarrhea: _____ 2.3% Stomachache: _____ 1.84%
 Tuberculosis: _____ 1.84% Waist pain: _____ 1.38%
 Lung: _____ 1.38%

There are 97.1% of households to know the global warning.

During the past one year, the household members have any diseases for which he/she had to go to health center/clinic/hospital as shown in the table 31.

Table 31: Diseases:

Head of households having diseases:			
1	Appendicitis	11	Lung
2	Blood	12	Malaria
3	Bloody stomach	13	Malnutrition
4	Cardiac	14	Mouth disease
5	Contaminated Disease	15	Nerve system disease
6	Diabetes	16	Nest
7	Heavy cough	17	Pancreas disease
8	Kidney	18	Stomach and Nerve system
9	Kidney and Lung disease	19	Stomach disorder
10	Liver	20	Waist pain

Table 32: Location of health service and patience:

Type of health facility	Patience	Total Admitted days	Average
Provincial Hospital	84	896	11
District Hospital	6	16	3
Dispensary	4		
Pharmacy	1		
At home	2		

Table 33: Source of expenditure:

Expenditure	Households	Percentage
Own cash	92	95%
Borrow from cousin	3	3%
Own cash and borrow	2	2%

The total expenditure of 97 patients is 6,997\$US and in average of 72\$US per patient. Community health workers role in the village is to sell medicines and provide health education. The cost on average to receive service from the facility is in between 0.2-1 \$. The households make use of traditional healer in 3 villages because it is able to use herb and can find easily. The health committee is available only in 1 village for health education and service. A married woman gives birth to 5 children per household in average. Number of children per mother is decreasing in 20 years. Percentage of married women are using contraceptives is around 20% to 60%. Within 10 children in the past 10 years there are only 5 children that the expect will grow up to five years old but now the Ten new-born babies which 10 of them are expected to grow up to five years old. There are 2 villages used bush for toilet and 3 villages used pit hole.

5.26 Organization or Groups in the Village

The main organizations are the social sector such as National Front, Women association, Youth Organization, Village volunteer, Defense, Security. In the zone center has more organization such as: Disputation committee, Forestry management, Veterinary, Village communication, Village custom, Water management. The main objectives of the different organization are to educate villagers in their field and to assist them.

5.27 On Income

On income from the different resources

The main income from occupation is only 5% and from agricultural products is 95%. The agricultural products in the study area are the following rice, maize, peanuts, job's tear. The other main income is livestock in 2003 such as oxen, cow, buffalos, goats, pigs, chicken. If we compare with 10 years ago, the number of livestock decreases in between 20% to 50%.

5.28 On Financial Status:

During the past one-year, the households borrow money from as identified in the table below:

Table 34: Sources of borrowing money

Source of borrow	Households	Total amount	Av. Borrowing
Cousin	23	\$923	\$40
Village cash	20	\$377	\$19
Relative	4	\$130	\$33
Women association	2	\$20	\$10

During the survey, the households informed that the borrowed money had been paid back only 61% of borrowed household.

After the harvest of 2003 rainy season, the household made a financial surplus as shown in table 35.

Table 35: Surplus

Total surplus, \$	Even	Deficit	If surplus, then what	Households
\$22,319	27 households	\$2,055	1. Savings in the bank	5
			2. Investment/Purchase of durable goods	2
			3. Purchase of consumables	163
			4. No idea yet	2

Table 36: Deficit

Household	Total, \$	Average Deficit, \$	Reasons of deficit
38	\$2,055	54	Cultivation of job's tear and peanut
			Extend the second crop cultivation
			Second crop cultivation
			To buy seed of Maize and bean
			Cultivate sesame and buy pig
			Extend land for cultivation
			To buy seeds for crop cultivation
			Small Agriculture land
			Extend field for peanut plantation
			Produce sesame for sale

6. Road construction project

The road No 1802 has been constructed since 1996 with financial support of UNDP Bangkok and implemented by ESCAP organization.

This road is to connect the National Road No13N to HouayKhay Village, 11km of length and 5m widths.

The objectives of project are:

- To alleviate the poverty of 5 villages such as Phonhome, Vangmone, Nachang, HouyTam and HouayKhay.
- To help community to increase there income during free time.
- To get more participatory from community.

Scope of work is:

- To construct 11 km of rural road by contractor
- To construct 9 converts by labor and to provide material by contractor.

Physical work:

- Survey and design of the road by 6 DCTPC staff and village members.
- Bush cutting along the road by 20 members from each village.
- Construct 9 converts, using 270 labors per day including 100 female labors in average.

Routine Maintenance:

After completion of the road construction, DCTPC in cooperation with CTPC Office to the District has established a maintenance group of each village for routine maintenance. The activities are the following:

- Bush cutting along the road side.
- Ditch cleaning.
- Drainage cleaning (converts).
- Small amount of land slide excavation to allow the traffic passing.

Road Maintenance contribution:

As agreed during the community meeting, the routine maintenance is the responsibility of 5 villages to contribute their labor force but the tools and materials will provide by the District.

7. Result

Analysis of data on the relationship between Road and poverty

After completion of the road link to the community, the living condition has been changed step by step. House building is more permanent with the good and qualified roof.

The weekly market has been established since 1999 in Phonehome village and there are 6 shops in 4 villages. The zone market allows community to have opportunity to sale with good price and to buy good with low cost. The time spending to the market is less than before around 30mn. The household possessions increase more items such as rice mill, sewing machine, bicycles, radio and tape recorders etc... The agricultural products have been sold last year about 17,600kg at home and in the market. Water supply is still not clean and insufficient during the dry season but it is accessible and short distance for water collection. The children with school age can go to uncompleted school in the village or the nearest school and the secondary school is shorter than before 5 km. For health sector, the villagers can access to hospital, clinic, dispensary and pharmacy by the different type of transport. During the past one year there were around 50% of head of households had diseases and admitted in the hospital maximum 1 month. Percentage of woman, using contraceptives is around 20% to 60%. Married women give birth to max. 5 children per household in the survey area, it is less than 1 child in 10 years ago. The income of the 5 villages rather increased with selling the main agricultural products.

On Financial Status, the household can borrow money from the different resource and the surplus increased up to US\$ 22,319 in 2003 but the deficit is still not clear because the reasons are to extend or buy land and seeds for second crops plantation. An average household cash expenditure per month is 7.3 US\$ per household. The number of livestock seems to be decrease and the reasons to sale out are for use in the household, to buy medicines, hand tractors, rice fields, house construction material and school material for children. The energy consumption for cooking is 100% of fuel wood. The community collects fuel wood in the common forest/bush. The collection time is around 4 hours with 129kg of wood per day. The drinking water is accessible and the frequency of water collection is only 2.8 times a day.

From the result above the community of 5 villages have faced out problems and objectives to solve to minimize the problems and access to the poverty eradication.

The main problems that the household is facing out:

Table 37: Main problems of fetching water

Village	Households	Fetching Water	Reasons
Houay Khay	10	Big problem	In raining season, water is not clean in the river and too far The water in use now is not clean and not enough Slightly road in raining season
Nachang	17	Big problem	Dirty water in raining season in the river
Phonehome	7	Big problem	Dirty and not enough in dry season
Vangmone	20	Big problem	No enough in dry season and no money to buy

Table 38: Main problems of collecting fuel wood

Village	Households	Collecting Fuel wood	Reasons
Houay Khay	12	Big problem	Female labor, carry too heavy and too far
			Too hard in wet season
			No people to collect because children go to school
Nachang	8	Big problem	Dirty road in raining season
			Female labor to carry and too far from the village
			Transport on the back
Phonehome	7	Big problem	Use human force to carry and too far
Vangmone	12	Big problem	Fuel wood too far and no road access
			Spend too much time

Table 39: Main problems of going to the land

Village	Households	Going to Land	Reasons
Houay Khay	12	Big problem	No road access and too far
			Land less for Rice field and cultivation
Nachang	2	Big problem	Dirty Road in raining season
			No access road to the land
Phonehome	6	Big problem	Bad road condition and across the river
			No road access and Too far from the road
Vangmone	10	Big problem	No transport and too far
			Too far

Table 40: Main problems of transporting crops to house

Village	Households	Transporting Crops to House	Reasons
Houay Khay	2	Big problem	No road access and too far
Houay Tam	4	Big problem	Too far to carry crops
Nachang	2	Big problem	Far from land and far from the road
Phonehome	7	Big problem	Bad road access and bad condition
			No road access and too far
Vangmone	9	Big problem	Land location is too far
			Too heavy to carry

Table 41: Main problems of buying household items

Village	Households	Buying Household Items	Reasons
Houay Khay	4	Big problem	Financial issue
			No money
			Not enough money to buy

Table 42: Main problems of going to school

Village	Households	Going to School	Reasons
Houay Khay	1	Big problem	Too far

Table 43: Main problems of going to district center

Village	Household	Going to District Center	Reasons
Houay Khay	1	Big problem	In raining season, no transportation

The minor problems in the study area are the following issues:

- _ Transporting Crops to Market
- _ Transporting Other Goods to Market
- _ Going to Clinic/Dispensary
- _ Going to Road

To access to the capital of the province , there is no problem.

The main priorities that the household would like to lessen the problems.

Table 44: Main priority

Sector	Priorities
Finance	- Access to revolving fund of village
	- Credit for cultivation and livestock
	- Credit for livestock and Cultivation
Cultivation	- Access to second crops
	- Fencing wire
	- Land for livestock and Cultivation
	- Gov. Assistant from Agriculture staff
Livestock	- Animal for plowing
	- Animal for Transport
Rice field	- Extend low land rice field (paddy field) and more land for rice
	- Government to provide machine for rice field extension
Irrigation	Irrigation scheme for rice field
Drinking Water	Spring Water
	Improve clean water to get enough water for drinking
Road	The road to Houay Hia to land
School	Primary School in each village
	Secondary school in the zone
Electricity	Electricity
Health	Near health facility and Dispensary in the village
	Gov. to help building the community toilets
Others	Government assistance for permanent livelihood in the area

8. Conclusion

According to the problems faced out and the priority that the community to be lessens the problems, it can be concluded as the following points:

1. Road maintenance

The Road Maintenance in the survey area should continue with the participation of the community under the Village Maintenance Committee (VMC) and implemented by the Village Maintenance Group and supervised by the District Officers. The Ministry of Communication Transport Post and Construction (MCTPC) will provide fund for tools, materials to VMC and training fund to Division of CTPC to train the District staff and VMC members for the maintenance technique and management. In order to run the training with the good result and useful for the practice, Local Road Division(LRD) has to provide the training materials and trainer at the beginning and then the DCTPC staff has to be trained as trainer and continue to organize by themselves to the other district staffs. The training will focused on the rules and regulation in use to facilitate the work to be done with community participatory. The roads have to select by the condition survey and using the road maintenance management system to run for periodic maintenance.

2. Income generation

In the study area, the main sources of income are almost from the agriculture products and livestock. The income is not high enough to increase their living condition cause of the market is still small and the farmers are not access to the credit to develop their products. Although the farmers requested to extend their rice field, land for second crop cultivation and to get animal for plowing. The traders have ability to reach the place where they can buy crops and livestock with the good price. Those crops are sesame, maize, beans etc.

If the road is in bad condition and muddy, the traders cannot access to the villages and the price of the crops will be lower or the farmers have to bring the crops to the market by themselves. So the road should be good condition and the follow up and supervision of the road maintenance has to be made by the CTPC office to the District.

3. Ownership of community road

The last 20 years, the government has spent extremely high in terms of budget to construct the road network in Lao PDR and the last 10 year the government launched up the policy which focused on the maintenance either routine or periodic maintenance. Every year the ceiling of the budget of the road sector is around 40 to 45% of the total budget. With this amount of budget, it is still not covered all the need of 18 provinces to maintain their own road network. The Local Road Division is one of the division of Department of Roads has discussed with the different donors to overview the road condition in the rural area and the workshops have been organized with the participation of foreign experts and consultants. The workshop has been raised up the question on the ownership of rural infrastructure for the rural roads as such. The reason is to leave responsibility for the maintenance activities to the community after the investment of the government for the construction. The method to mobilize the community to involve into the concept is that the government staffs in the district level have to be able to organize the participatory meeting with the community before the road construction or rehabilitation or the road is already in the maintainable condition. The meeting is to explain the purpose and the need of the road access in the good and bad condition to the community. The District staffs use to facilitate the meeting to get the result from the meeting. The community will establish the Village Maintenance Committee (VMC) leading by a chairman, which elected by the villagers and approved by the District Governor. The VMC will have a short training on road maintenance management and then they will assist the village living along the road to create the Village Maintenance Unit under control of the village deputy head, which is implemented according to the agreement between the District CTPC and VMC. It is non-paid labor system and the community provides free of charge their labor in the certain amount of work, If the work to be done is higher than estimation like the land slice or road slice and in this case the VMC should report to the District CTPC to use the government fund to maintain it but the community should open the road by clearing the obstacle. In each road that the community had established the VMC, the District CTPC had to provide fund for training and deposit the materials along the road for spot filling. The District staff will supervise and comment on the completed work three to four time a year with provision of training or materials. The VMC has to report to the District governor and CTPC Office on the road maintenance and the need for fulfill their task mentioned in the contract between VMC and District CTPC.

4. Rules and Regulation

During the interview, the forestry sector needs to develop the rule and regulation for forestry protection and management. The community needs to participate to the reforest program of the government. The forestry committee has to be strengthened in terms of support from the District and Village Authority in dissemination of the rules and regulation of the government to the community. The Village forestry committee needs to improve regularly their knowledge from the training organized by the District Agriculture and Forestry Office (DAFO). The land of some village should be reform to enforce the community to involve on the reforest program of the government up to year 2020.

5. Synergy policy

The road maintenance with participation of the community will successfully implement and the community will feel that they are ownership of their asset if there are some incentive and profit from the

road. Normally the road itself is not enough for the community development if there is no any social and economical sector involved in the implementation team. In the recent years the integrated rural development programs are almost in the Agriculture sector for poverty alleviation. These kinds of program are always including the road components for accessibility to transportation and to market. The experience shows that the rich community is aware to road maintenance with their contribution in cash or in kind. At the same time their benefit and their loss are also depending on road condition and road safety like Phone Home village before and after the road construction. The MCTPC and MAF have discussed about the synergic issues between two ministries to implement the project with hand in hand and to work in own field with high responsibility. The community then participates with the different interventions and it makes sense on poverty eradication more than implemented by individual sector. The 5 villages in the survey area have to increase their agriculture product in order to increase their incomes and contribute their resource to the road maintenance to access to the market in order to alleviate the poverty.

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10. ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
APB	Agricultural Promotion Bank
AWPB	Annual Work Plan and Budget
CPC	Committee for Planning and Cooperation
DAFO	District Agriculture and Forestry Office
DCDC	District Committee for Drug Control and Supervision
DCTPC	Department of Communication, Transport, Post and Construction
CTPCO	Communication, Transport, Post and Construction Office
DPC	Department of Planning and Cooperation
DPH	Department of Public Health
DPO	District Planning Office
EIRR	Economic Rate of Return
ESCAP	Economic and Social Commission for Asia and Pacific
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GNI	Gross National Income
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IRAP	Integrated Rural Accessibility Planning
LAO PDR	Lao People's Democratic Republic
LCDC	Lao National Commission for Drug Control and Supervision
LRD	Local Road Division
LSRSP	Lao-Swedish Road Support Project
LWU	Lao Women's Union
LYU	Lao Youth Union
LXB	LaneXang Bank
MAF	Ministry of Agriculture and Forestry
MCTPC	Ministry of Communication Transport Post and Construction
MOF	Ministry of Finance
MTR	Mid-Term Review
NAPES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NTFPs	Non-Timber Forest Products
PAPD	Provincial Agriculture and Forestry Office
PIP	Public Investment Programme
SIDA	Swedish International Development Agency
SPC	State Planning Committee
UNCDF	United Nations Capital Development Fund
UNDCP	United Nations International Drug Control Programme
UNDP	United Nations Development Programme
VEWs	Village Extension Workers
VVWs	Village Veterinary Workers
WFP	United Nations World Food Programme
WUA	Water Users' Association
WUG	Water Users' Group

10. MALAYSIA

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Social Capital and Rural Community Development in Malaysia

Abstract

A brief description of the country profile is first presented, followed by a short review on the theoretical framework on social capital. The paper proceeds with empirical results and discussion from a survey of sixty household heads representing six villages in two sub-districts of Kuala Selangor, Selangor Malaysia. This study found that the three welfare indicators studied (rice yield, health status and household expenditure) are influenced by a few 'community factors' or social capital variables as well as human capital and other household's characteristics. Based on the coefficient of the social capital variables generated from the analyses, its impact on community development in Malaysia is at most minimal, at least under the present development policies. Human capital variable, proxies with years of formal education contribute positively to productivity as well as health status of farmers studied. Therefore, investment in education is important to enhance the livelihood of the farming community.

INTRODUCTION

A Brief Country Profile

Malaysia was created in 1963 through the merging of Malaya (independent in 1957) and the former British Singapore, both of which formed West Malaysia, Sabah and Sarawak in North Borneo, which composed East Malaysia. Singapore separated from the Federation in 1965. It is located in Southeastern Asia, peninsula and northern one-third of the island of Borneo, bordering Indonesia and the South China Sea, south of Vietnam. The climate is tropical with a total area of 329,750 km².

The estimated population of Malaysia today is at around 25.6 million people of whom about 34% is below 15 years old. Malaysia is a multiracial and multi religious country. The people comprise of the Malay and other indigenous (58%), Chinese (27%), Indian (8%), others 7%. Major religions are Islam, Buddhism, Hinduism and Christianity.

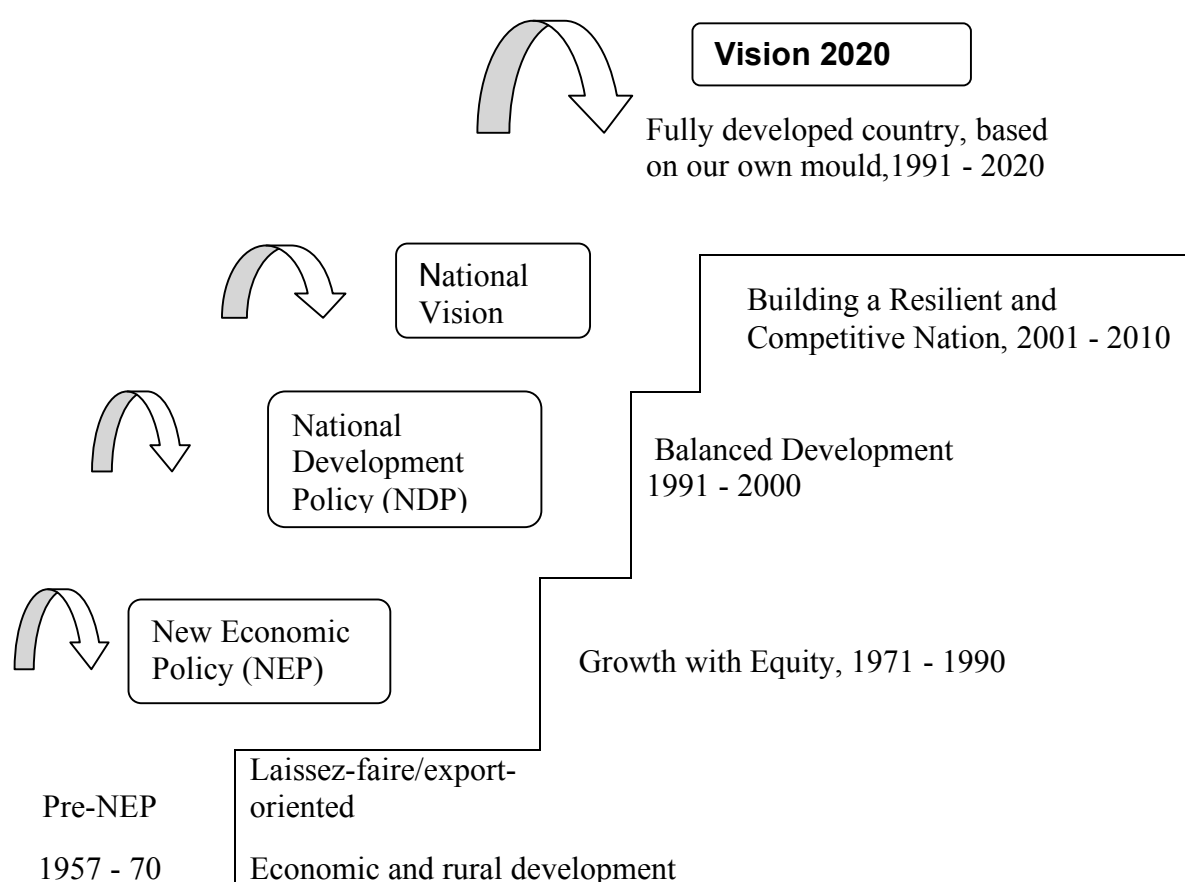
Malaysia is a middle-income country that has transformed itself from a producer of raw materials into an emerging multi-sector economy by the late 1990's. GDP in 2001 grew only 0.5% due to an estimated 11% contraction in exports, but a substantial fiscal stimulus package mitigated the worst of the recession and the economy rebounded in 2002, but remains vulnerable to a more protracted slowdown in Japan and the US, top export destinations and key sources of foreign investment.

For the first three decades since independence, agriculture was the main contributor to the national economy and has been the driving force behind the economic growth of the country. The rapid industrialisation during the last decade led to a decline in the sector's relative contribution to national income, export earnings, employment and investment. For example, the share of agriculture to Gross Domestic Products (GDP) has steadily declined from 20.8 percent in 1985 to only 8.4% in 2002. Its contribution declined because the national economy as a whole registered a higher growth rate of 8.7 percent as compared to only 3.0 percent for agriculture during same period. Appendix 5 shows some selected economic indicators for the nation.

Major Economics Policies and Community Development

Community Development (especially rural development) in Malaysia has always been an important agenda of the government. It has both sociological and political objectives primarily in addressing poverty issues. Malaysia started giving priority to overcoming issues of poverty soon after independence in 1957. Improvements were made to then existing infrastructure and special attention was paid to the agricultural sector. In enhancing economic growth, Malaysia introduced the New Economic Policy (NEP) in 1970. It concentrated on maximizing poverty eradication efforts through 'In-Situ Development' Projects and New Land Development. The key policy objective is growth with equity. This period saw the creation of many federal and state agencies as the vehicle in the implementation of the NEP. Subsequent major economic policies are the National Development Policy (NDP), 1991 – 2000; and the National Vision Policy (NVP), 2001 – 2010. **Figure 1** shows the evolution of all the major economic policies and their major policy objectives. It should also be noted that in 1991, The Vision 2020 Policy was introduced. The policy not only focuses on reducing poverty among those in the low-income bracket, but also aims to raise the status of the rural areas, making them developed, attractive and economically viable. The implementation of the economic policies mentioned above has been quite successful. Our poverty rate decreased from 49.3% in 1970 to 5.1% in 2002 (Anon 2004). This tremendous decrease was due to implementing strategies that focus on restructuring the society, increasing ownership of assets and equity to the needy communities, and reducing the poverty gap between the rural and urban communities, and among racial groups.

Figure 1: Major Economic Policies of Malaysia



Source: The Economic Planning Unit, Prime Minister Department

The poverty line income (PLI) for Malaysia differs based on region and is adjusted periodically. In the Malaysian context, Rahmah (2004), defined it as 'an income sufficient to purchase a minimum basket of food to maintain household members in good nutritional health and other basic needs such as clothing and

footwear, rent, fuel and power, transport and communication, health care, education and recreation'. Table 1 below depicts the definition of PLI for various regions in Malaysia.

Table 1: Poverty Line income in Malaysia for 2002

Region	Family income per month(RM)*	Household size
Peninsular Malaysia	529	4.6
Sabah	690	4.9
Sarawak	600	4.8

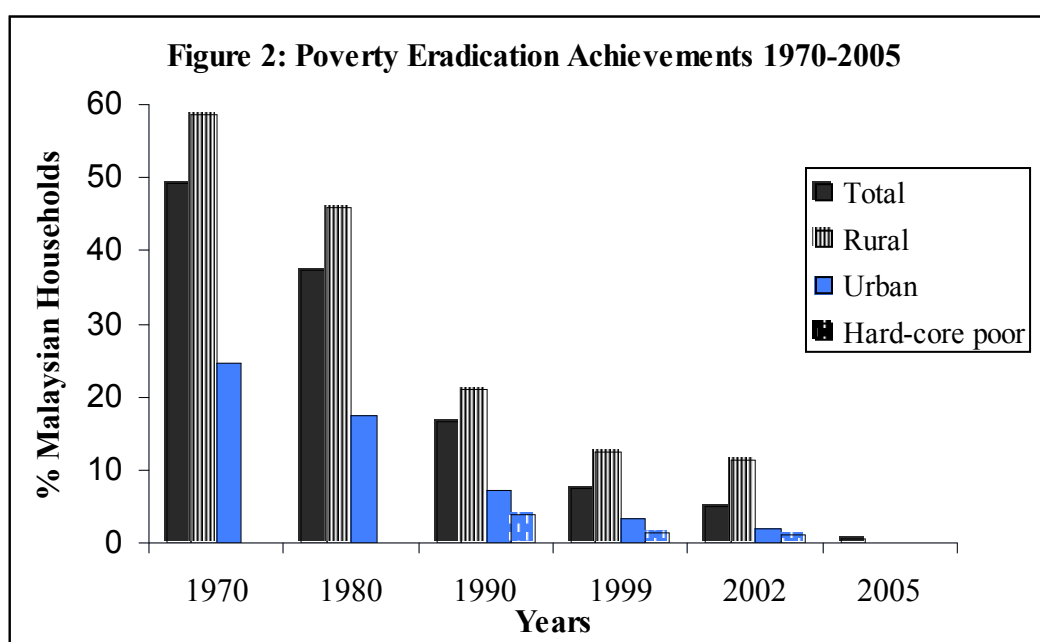
* 1US\$ = RM3.8

There is also another group of household known as hardcore poverty. Their household income is about half of PLI. In 1990, the hardcore poor accounted for 3.9% of the nation's households. By 2002, only one percent of such households remain in the country. Table 2 and Figure 2 below illustrate the progress made on poverty eradication in Malaysia from 1970 to 2002. The forecast for 2005 is, only 0.5% of the total households will remain under the poverty group.

Table 2: Poverty Eradication Achievements, 1970-2005

	1970	1980	1990	1999	2002	2005
Total	49.3	37.4	16.5	7.5	5.1	0.5
Rural	58.6	45.8	21.1	12.4	11.4	
Urban	24.6	17.5	7.1	3.4	2	
Hard-core poor	n.a	n.a	3.9	1.4	1	

Source: The Economic Planning Unit, Prime Minister Department



The Ministry of Rural and Regional Development (MRRD) is playing a key role in ensuring that the objectives and policies of national development are achieved. Its latest corporate objective is 'to promote / encourage effort in development and modernization of rural sector, guided by the philosophy and new strategies of Rural Development towards Year 2020, aligned with the national development objectives as stipulated under the National Vision Policy'. The focus is to bring changes to the people in rural areas to minimize the gap between rural and urban sectors. Generally, the MRRD, through its various regional development agencies implemented projects that cover wide ranges of socio-economics activities.

Agriculture development remains the mainstay of its strategy and thus the Ministry often works in tandem with the Ministry of Agriculture.

Selected National Land and Regional Development Agencies and Projects

Since our independent in 1957, the government had established numerous formal and structured land development agencies or projects benefiting the vast majority of the rural population. Among the agencies / projects that played significant role in community developments are

- a. ***Federal Land Development Authority (FELDA)***: Landless farming family are settled in various land schemes (primarily oil palm and rubber) and finally given individual ownerships after the development cost is completely repaid through monthly instalment deducted the sales of agricultural output.
- b. ***Federal Land Consolidation and Rehabilitation Authority (FELCRA)***: This is more like a landlord-in-trust scheme whereby landowners lease their idle land to FELCRA for cultivation in return for monthly rentals or a right to participate in the intended economic activities. The farmers / landowners benefits through a profit-sharing arrangement as well as being employed as paid labour. Land productivity enhancement has been the main objective of this organization.
- c. ***Integrated Agricultural Development Project (IADP)***: The development of hundreds of mini estates and group farming projects to improve land productivity through organize farming employing professional managers and management. Various government agencies are involved to ensure the success of the project. The landowners are required to work as a team following work schedule prepared by the management of the project.
- d. ***Regional Land Development Agencies***: These are statutory body established under the Rural and Regional Development Ministries to develop a specific areas and type of economics activities. These statutory bodies support one of the latest programmes from the ministry, the “Vision Village Movement”. One of the objectives of “Vision Village” concept is to identify villages that have good attributes to be developed into model village from a social, economic, knowledge and moral perspective. Once it has achieved “Vision Village” status, the village will be used as a benchmark in developing other villages.

Community development in paddy granary area

Paddy cultivation is home to about 116,000 households who depend on rice as a major source of income, representing about 3% of total households in the country. The small holders produce paddy almost entirely. It is estimated that there are about 296,000 paddy farmers in the country. About 138,000 are located in eight rice growing areas (also known as granary areas) operating on about 212,000 hectares of rice field. This gives an average farm size of 1.5 hectares. However, about 65% of the farmers have farm holding of less than one hectare. There had been an overall increase in farm size due to the consolidation of farms into larger operating unit within the main rice producing areas.

The incidence of poverty in the paddy sector is always one of the highest in the country. In 1990, the poverty level among paddy farmers stood at 40%, against its highest level at about 80% in the seventies. Recent observation of the main granary areas pointed to a lower poverty level as family income has improved through higher agricultural productivity as well as income from non-farm sources.

Justification of the Project

Integrated Community Development (ICD) Program was launched in 1996 with financial support from the Government of Japan (Munakata, 2002). The ICD was considered as an effective strategy to be adopted by the Asian Productivity Organization (APO) member countries (MC) for their overall socio-economic development. The APO envisions that all communities in MCs should enjoy reasonable living standards through proper sustainable community development approach.

Malaysia has been focusing on providing physical and human capital to develop a community. There is no formal consideration or recognition on the possible role of social capital in enhancing development. Toward this end, it is timely that the 'incidental' contribution of social capital to community development be recognized, quantified and nurtured

This report examines the economic and social status of villages under study as well as explains how community factors affect rural development. It also identifies critical success factors that need greater emphasis in formulating future integrated community development programme.

OBJECTIVES

The overall objective of this study is to investigate the effect of "community factors" on rural development in an agriculture-based community. Specifically, it includes:

- i) To document baseline information regarding social, human and physical capitals of selected community and households.
- ii) To investigate the role of social capital in community development relative to other factors such as human and physical capital.
- iii) To test and strengthened research tools on social capital analysis for application in future research.
- iv) To recommend policy options with regard to community development at the national level based on evidence on the contribution of social capital to the overall community development

METHOD AND DATA

Hypotheses

Since Malaysia gained independence in 1957, there has been a pragmatic approach in addressing the rural community development, specifically poverty issue. Historically, community development programme in Malaysia focused on the 'visible' capital such as human, physical capital and financial capital. There is no formal consideration or recognition on the possible role of social capital in enhancing development. Empirical evidence elsewhere, (Grootaert, and Bartelaer, 2001) shows that social capital contributes significantly to sustainable development. Thus, community factors or element of social capitals shall also contribute to the overall development of rural Malaysia.

Theoretical Framework

The concept of human and social capital is that people can invest in them to enhance their level like physical and financial capital (Sakurai, T. 2003). Social capital shares several attributes with other form of capitals. For example, it is not costless to produce, as it requires an investment, at least in terms of time and effort, if not always money. Trusting relationship among members of an organisation often requires years of meeting and interacting to develop.

Fukuyama (1999), argued that many of the definitions given to social capital refer to the manifestations rather than to social capital itself. He defined social capital as *an instantiated informal norm that promotes cooperation between two or more individuals*. The norms can range from a norm of reciprocity between two friends, all the way up to complex doctrines such as religion or cultural beliefs. The definition by the World Bank is *'Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions among people and contribute to economic and social development'* (Grootaert, and Bartelaer, 2001). Increasing evidence shows that social cohesion is critical for societies to prosper economically and for development to be sustainable. Social capital is not just the sum of the institutions, which underpin a society – it is the glue that holds them together.

Social capital can be a set of horizontal associations between people, consisting of social networks and associated norms that have an effect on community productivity and well-being. Social networks can

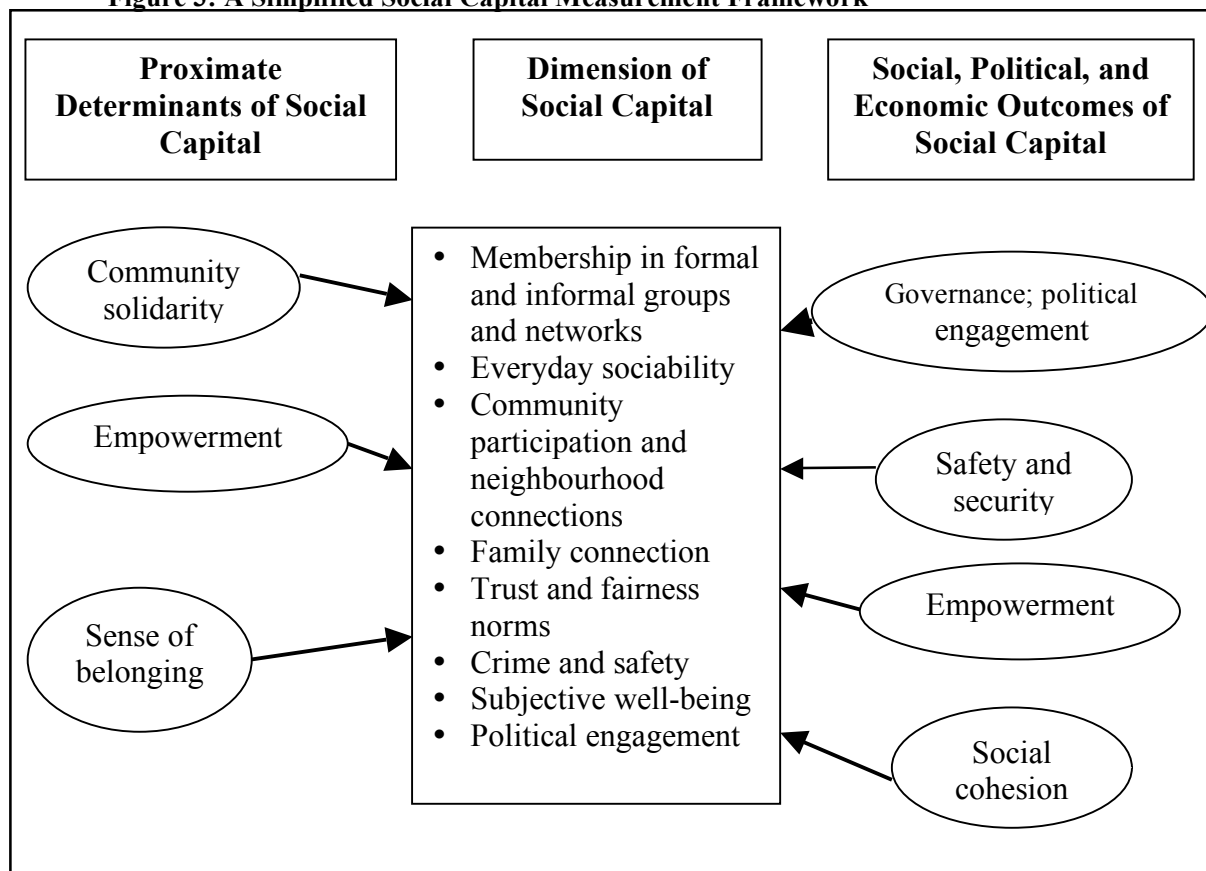
increase productivity by reducing the costs of doing business. In other words, social capital facilitates coordination and cooperation.

Measuring social capital is challenging because it comprised of concepts such as "trust", "community" and "networks" which are difficult to quantify. The challenge increases when one considers that the quest is to measure not just the quantity but also the quality of social capital on a variety of scales. Hence, measuring social capital may be difficult, but it is not impossible, and several excellent studies have identified useful proxies for social capital, using different types and combinations of qualitative, comparative and quantitative research methodologies (Woolcock and Narayan, 2000).

The most comprehensive definitions of social capital are multidimensional, incorporating different levels and units of analysis. Trust, civic engagement, and community involvement are generally seen as ways to measure social capital. Depending on the definition of social capital and the context, some indicators may be more appropriate than others may.

The conceptual basis for this study primarily follows the measurement of social capital framework developed by Narayan and Cassidy (2001). A simplified version of this framework is shown in Figure 3. In the model, neither determinants nor outcomes constitute exhaustive sets. There could be more variables, which the model does not cover. This is true as the social capital model, according to Grootaert and Bartelaer (2001) may currently be at the same early stage that human capital theory was 30-40 years ago. They suggested that social capital indicators should only focus on three types of proxy indicators: membership in local association and networks, indicators of trust and adherence to norms, and an indicator of collective action. Ishida (2003) also proposed network and memberships, social trust and collective action as proxy for social capital indicators.

Figure 3: A Simplified Social Capital Measurement Framework



Adapted From Narayan and Cassidy (2001)

Data Collection and Analysis

After a preliminary visit to the potential study area were conducted in the early part of 2003 to determine the manageable sample size based on the time and budget limitation. Our discussion with MARDI officers on the ground settle on personal survey of households from six villages in two sub-districts within the district of Kuala Selangor, in the state of Selangor. These villages shall represent a normal livelihood of a farming community in Malaysia, particularly in rice granary areas.

Survey respondents consisted of 10 households head from each village. Selection of household is based on modified stratified random sampling, where the Village Security and Development Community Chairperson (Pengerusi Jawatankuasa Pembangunan dan Keselamatan Kampung or JKKK) is automatically selected. This (the selection of the chairperson) is crucial because of the dominant role he plays in all aspect of community affairs. On top of the household questionnaire, the chairperson is also responsible to respond to community or village questionnaire.

Based on the understanding of the social capital concept acquired during the Tokyo meeting as well as literature search, a structured questionnaire was designed to capture the following data that is grouped into welfare indicators (mainly independent variables) and explanatory variables (dependent variables. The variables believed to influence community development (welfare indicators used as proxy) and to be collected are:

The welfare indicators:

- Household income
- Health status
- Expenditure pattern
- Rice yield; and,

The explanatory variables collected are:

- Household characteristics: age, religion, dependency rate, type of family
- Social capital variables: organization involved in, level of participation, frequency of attending meeting, and networking,
- Human capital: Education level of household heads
- Community profile: No. of households, infrastructure / facilities etc.

Two enumerators who are MARDI field officers stationed in the area conducted the field survey. They are very familiar with the area and have a good rapport with the villages. The survey was carried out after office hours, and to the convenient of the respondents.

This study uses both descriptive statistics and quantitative analysis by developing multiple regression models proposed by Sakurai (2003). Additionally, the study also incorporates qualitative analysis wherever appropriate in order to explain certain phenomena on the effect of all the explanatory variables to each welfare indicators.

THE STUDY AREA

The Reason for Selections of the Study Area

As mentioned earlier, the selected area is located in two sub-districts within the district of Kuala Selangor, in the state of Selangor, Malaysia. The area is located in one of the eight main rice granaries area in the country and is selected because it is one of the communities where high proportion of income is from agricultural activities. In view of the time and budget limitation, the basis of selection also due to the area being the nearest 'real' farming community from the author work place. Figure 4 and 5 give one an idea about the location of the study area. Additionally, Figure 6 shows a typical administrative structure in rural Malaysia.

Description of the Area and Villages Selected

Kuala Selangor is one of the nine administrative districts of the Selangor state. It was and still the most important rice growing area in the state. In 1920, about 4,000 hectares of rice were grown in the district, representing about half of the total rice area in Selangor ((Hill, 1977). Most of it however, was 'dry' cultivation which indicates lack of irrigation infrastructure.

Today, the North-West Selangor Integrated Agricultural Development Project or 'Projek Barat Laut Selangor' (PBLs), one of the eight main padi growing area in the country is within the district. All the eight main granaries practiced double cropping since the early 1970's due to massive infrastructure investment to facilitate double cropping. For example, by 1994, a total of 124,184 km. drainage canal and 74,256 km irrigation canal were built within that area. A comprehensive village survey conducted in 1995 found that Kuala Selangor had 8,725 rural households and a population of 44,883 people (Anon, 1995). Key baseline information regarding Kuala Selangor reported in the survey are:

- Racial breakdown: Malay (85.3%), Chinese (7.7%), Indian (6.9%) and others (0.1%)
- Educational level: No schooling (6.4%), primary school (42%), high school (46.2%), higher institution ((5.4%)
- Type of employment: Self-employed (61%), wage earner (39%)
- Type of self-employment: Agriculture (80.3%), trading (5.5%), others (14.2%)
- Basic amenities coverage: Water (99.9%), electricity (99.9%)

Another survey focusing on PBLs conducted in 1987 (Anon. 2004) revealed that only 66.8% and 85.6% of the households within the area were supplied with tap water and electricity respectively. In addition to farming, non-farming activities contributed about 40% of their income.

The latest profile on the selected villages surveyed is summarised in Table 3 below. This information is gathered from the village heads using a structured questionnaire.

Table 3 Profile of the Study Area or Villages

Sub-Districts		Sawah Sempadan			Sungai Burung		
Villages or Kampung		Kunci Air (KA)	Blok C/OJ (BC)	Sri Tiram Jaya (ST)	Parit 2 (P2)	Parit 1, Sungai Sireh (P1)	Parit 3 (P3)
Area (km ²)		8	3.8	17	7.5	4.5	7.5
Population size		597	950	2730	1,400	1287	1,300
Number of households		125	185	657	462	528	262
Family size		4.8	5.1	4.2	3.0	2.4	5.0
Distance from nearest town (km)		2.5	7	10	16	10	8
Employment for population above 18 year old (%)	Farmers	70	71	50	60	60	80
	Civil servants	10	5	20	15	10	5
	Private sector	10	9	20	15	20	10
	Old age & underemployed	10	15	10	10	10	5
Type of crops grown (%)	Padi	80	100	35	70	80	70
	Oil palm	20		60	25	10	20
	Others	0		5	10	10	10
Kindergarten		1	2	1	1	3	1
Surau (mini mosque)		1	2	1	4	7	4
Mosque		1	1	1	2	1	0
Public Phone		1	3	1	1	9	3
Community hall		1	1	1	2	6	4
Distance to elementary school (km)		0.5	0.5	0.5	4.8	2	0.5

Distance to high school (km)	2.5	5	0.5	6	6.4	6.4
No of Convenient Shop	2	8	1	4	9	6
No Coffee Shop	1	5	1	4	15	6
TV Availability	100	95	100	100	100	95
Telephone availability	80	65	70	75	50	50

“The nearest town” mentioned in the table is Tanjung Karang (see Figure 5). It is a relatively modern town with most of the population requirement for farming and daily needs are easily found. Mainly Chinese traders populate the town. They accounted for most the ‘trading’ type of self-employment in the 1995 survey. Padi farmers of Chinese descent are concentrated in Sekinchan sub-district, bordering Sungai Burung.

The family size of the six villages ranges from 2.4 to 5.1 per household. This is comparable with the size of 4.52 reported in the national census of 2002. Two of the villages (Parit 1 and Parit 2) have many shops and relatively small family size, which indicates urban-like characteristics. Selangor is one of the most urbanized state in Malaysia with almost 88% of the population are urban dwellers. Our observation shows that all the villages are conveniently accessible to medium size towns nearby as well as Kuala Lumpur (The nation’s capital) which is within 100km from the study area. The small household size is due to many of the children had left the village to work and live in the city, primarily Kuala Lumpur. Padi cultivation in this area is almost 100% mechanized, and thus manual labour requirement is minimal.

In terms of employment, there is not much different from the survey result of 1995 where 61% of the people were self-employed. The employment status of the six villages surveyed is between 50% to 80% working as farmers, which are considered as self-employed. About 10% of the population are above 60 years old. They are either retired farmers or those who settle in the village after spending their working age in the city. Since almost all operation in rice production currently is mechanized, the farmers have ample time for other economic or social activities. There are farmers who rent rice land from other owner within the village as well as from other villages and sub-districts. In other words, a village with small size does not means that the land the farmers work in is small, as their operations do not confine to land holding within the same village. It should be noted that those working as a government servant or working in the public sectors might also involved in rice farming.

Majority of villages grow padi as the main crop with one village (Block C/O/J) has no other crop except padi. However, in one of the villages surveyed (Sri Tiram Jaya), oil palm constitutes a higher percentage of land use than padi. Other crops grown to supplement padi and oil palm income are various types of vegetables.

Generally, the physical infrastructure in the area is good. Communication or transportation is not a problem as network of roads is well developed. All households have at least a motorcycle to move around. Some of the households even own one or more cars. Between 50 to 80 percent of the households owned fixed line telephone. However, all the villages are provided with at least on public telephone, with one of the village with the least percentage of telephone ownerships (Parit 1) has nine public telephone. Still, the percentage of telephone ownerships is not a reflection of the villager’s ease of telecommunication as some of them chose not to install fixed line telephone. This is due to the increasing popularity of mobile phone among the villagers. The rate charge is very competitive and the coverage has improved significantly. Almost all houses in the villages surveyed own a television set.

The village head indicated some social problems among the youth in the area. These problems include incidence of drug abuse and illegal racing (motorcycle racing). The facilities to channel these youth to some healthy activities are available in all the villages. For example, all the villages have at least one community hall (Balai Raya). Some basic sport facilities such as badminton courts are available at the community hall. During our visit these facilities are not utilise accordingly.

Figure 4: Location of the Study Area

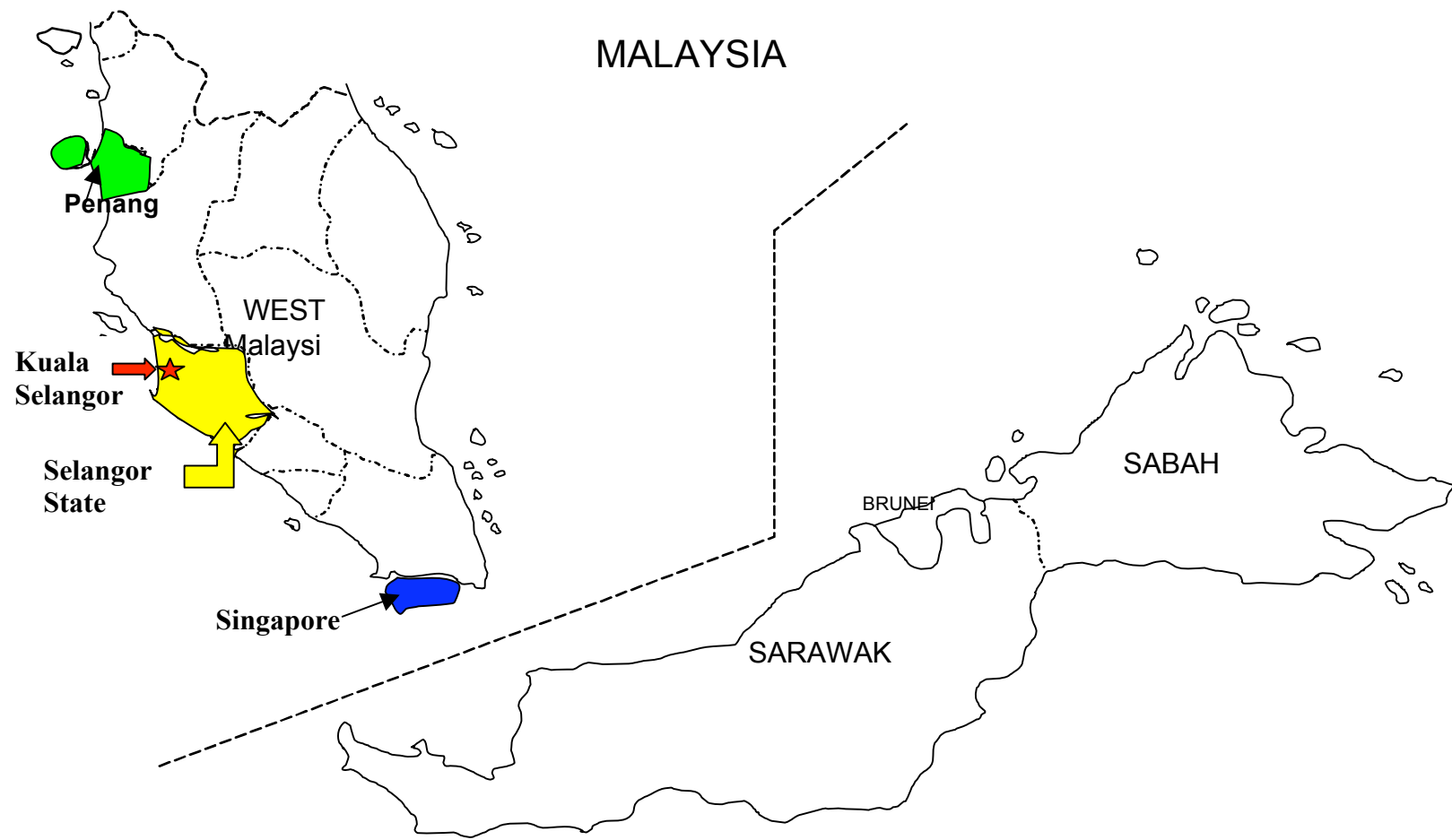


Figure 5 : Detail Location of Area or Villages Surveyed

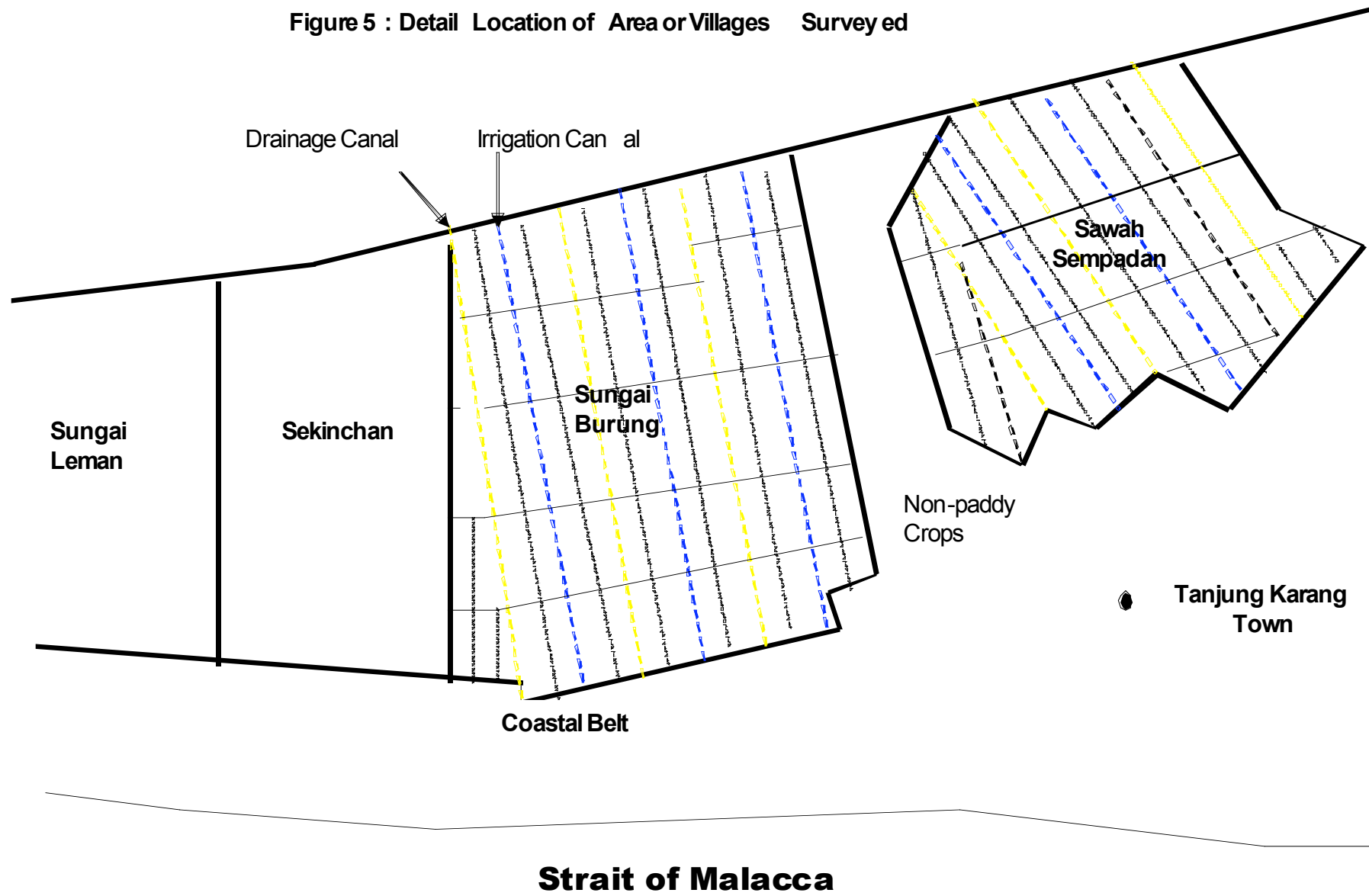
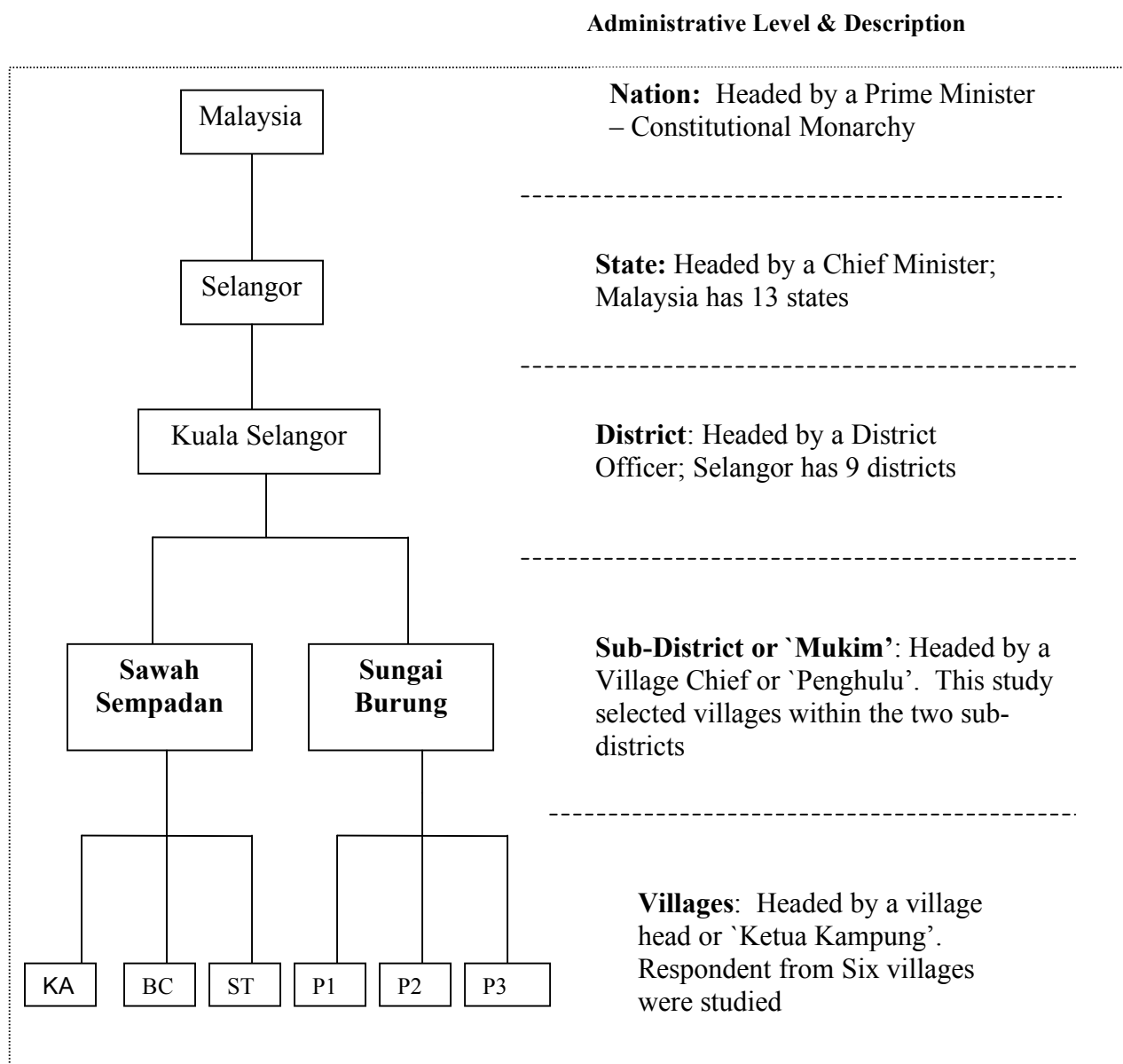


Figure 6: A Typical Administrative Structure in Rural Malaysia



EMPIRICAL RESULTS AND DISCUSSION

Profile Analysis of Respondents

Selected profiles and analyses of the respondents surveyed are presented below. These are the explanatory variables as well as the welfare indicators that will be used in the model specification later in this report. Since they were selected randomly, these profiles shall represent the overall situation or status of households in all the six villages surveyed. All the respondents involve in rice farming, but a small minority may not state farming as their main occupation.

Age distribution of households head

All the households head surveyed are male, with an average age of 47 years old. The majority (60%) of respondents are between 31-50 year old groups, which are considered the most productive age bracket.

Very few (3.3%) are young farmers indicating lack of interest for farming among the younger generation. Those age 51 and above are quite substantial. This group of farmers are usually less educated, thus may be less responsive to technological change introduced in rice production.

Table 4: Age of households head

Age range	Number of respondent	Percentage %
30 and below	2	3.3
31 – 50	36	60.0
51 and above	22	36.7
Total	60	100.0

Level of education

Table 5 shows that majority of farmers are not well educated, with more than 60% of them having only elementary education. They are however, literate except one farmer. Two of the respondents have college education, but they are not full time farmers. Farming in Malaysia is still considered a less attractive profession. Most high school leavers still prefer to work in the public sector. Otherwise, they will find job in the manufacturing and service sectors in the city that still employ immigrant workers.

Table 5: The education level of households head

Education level	Number of respondent	Percentage %
No education	1	1.7
Elementary	38	63.3
Lower secondary (SRP)	7	11.7
High school (SPM, STPM)	12	20.0
Diploma	1	1.7
Degree and above	1	1.7
Total	60	100.0

Gross income

The mean gross income reported is RM38, 445. The average net return as a percentage of revenue in the study area is estimated at 71%, which is higher than the average for the whole PBLs area (see calculation in appendix 1 and 2). Our survey revealed that rice-farming activities contribute about 76% of the gross income. Based on this information, estimates of mean household net income were calculated as shown in Table 7. The mean net income of RM29, 972 compare favourably with the national average. The latest figures reported in 1999 reveal an annual households' income of RM20,616, RM37,236 and RM29,664 for rural, urban and all households respectively (Henderson, et.al, 2002). Using 1990 constant prices, it took ten years for the rural households to double their income (1990 income was RM11, 412). The mean Malay household's income for 1999 stood at RM23, 808. Experiences suggest that respondents always under declared their income, thus the mean income reported here might be a conservative estimate.

Table 6: Gross income of households in 2003

Income range	Number of respondents	Percentage %
RM4,000 – RM25,000	16	26.7
RM25,001 – RM50,000	29	48.3
RM50,001 – RM100,000	14	23.3
RM100,001 and above	1	1.7
Total	60	100.0
Mean	RM38,445.00	
Income from padi	76%	

Table 7: Estimation of respondents' average household net income

Items	Gross	Net Income
Mean Gross Income	RM38, 445	
Rice farming proportion (76%) = .76 x 38,445	RM29, 218	
Average Net Income from rice farming activities = .71 x 29, 218.20		RM20, 745
Income from other sources = 38, 445 – 29, 218		RM 9, 227
Total Average Net Household Income		RM29, 972

Income from main occupation

Out of 60 respondents, only four or about 7% indicated that farming is not their primary job. Majority of farmers earned as much as the two teachers. The income range of RM20, 000 – RM40, 000 annually reflects wage scale of a graduate teacher or a very senior teacher with diploma qualification. In the Malaysia context, income of more than RM40, 000 a year is considered lucrative. The mean annual household income in Malaysia for 1999 for example was RM57, 216, and RM26, 448 for the top 20% and middle 40% of household respectively (Anon, 2001). Appendix 3 shows the detailed strata breakdown of household income in Malaysian

Table 8: Income from main occupation

Income range	Main Occupation			Total
	Farmers	Teachers	Gov. Staff	
RM1,000-RM20,000	17	-	2	19
RM20,001-RM40,000	23	2	-	25
RM40,001-RM60,000	13	-	-	13
RM60,001-RM80,000	1	-	-	1
RM80,001 and above	2	-	-	2
Total	56	2	2	60

Yield

All farmers in the area practice double cropping with no distinct variation between the main and off-season yield. The mean yield for the two seasons in 2003 was 12.6 tons or about 6.3 tons per season. This yield level is higher than the mean yield for the whole PBLs area, which registered yield of 5.49 tons for the main season in 2003. However, it is still below the aspiration of the government to achieve yields level of 10 ton/ha in the main granary areas. Table 9 below indicates wide variation in terms of achievable yield among farmers in the study area.

Table 9: Padi yield in the study area

Yield Range (ton/ha)	No. of respondent	Percentage %
≤ 10 ton	11	18.3
10.1 ton – 14 ton	34	56.7
≥ 14.1 ton	15	25.0
Total	60	100
Mean	12.6 ton / ha	

Household expenditure

Majority of household (60%) spent between RM501- RM1, 000 monthly. The expenditure includes the money spent on all households need, excluding cost of agriculture inputs. The mean spending is RM1, 025 per month indicating high spending pattern for those with high income. With a mean household income in excess of RM25, 000 a year, we can assume that some of the respondents do save their earnings.

Table 10: Household expenditure

Expenditure range	Number of household	Percentage %
RM350 – RM500	3	5.0
RM501 – RM1000	39	65.0
RM1001 – RM1500	11	18.3
RM1501 – RM2000	7	11.7
Total	60	100.0
Mean	RM1, 025	

Farming experience

In terms of farming experience, years of involvement is quite evenly distributed. There is still interest in rice farming is shown by 15% of the relatively new entrants into this economic activities.

Table 11: Years involved in rice farming

Range	No. of farmers	Percentage %
1 –10	9	15.0
11 – 20	14	23.3

21 – 30	18	30.0
31 – 40	11	18.3
41 and above	8	13.3
Total	60	100.0

Health situation

To gauge the respondents' health status, they were asked to state what they think of their level of health. The results as presented in Table 12 show that about half of the respondents believed that they are in excellent health condition.

Table 12: Respondents' health status

Healthy level	No. of respondent	Percentage %
Moderately healthy	19	31.7
Healthy	12	20.0
More healthy	29	48.3
Total	60	100.0

* More profile analysis of respondents, especially regarding the explanatory variables collected is attached in the appendix 4 this paper.

Model Specification and Estimation

In establishing the model specification, household level analysis approach proposed by Sakurai (2003) was adopted and tested. The general form of the model is:

$$W = \alpha + \beta S + \gamma H + \delta O + \epsilon$$

Where:

W = Welfare indicator for household

α = Constant term

S = variables representing social capital

β = Coefficient of variable S

H = Variables representing human capital

γ = Coefficient of variable H

O = Variables representing other characteristics

δ = Coefficient of variable O

ϵ = error term.

Clarification of selected variables used in the model

A. The welfare indicators

Health status: Household head perception on their health (1=least healthy, 10 very healthy)

Yield: Actual yield in ton per hectare in a year (double cropping)

Household expenditure per capita: Monthly per capita in RM, excluding agriculture inputs

The descriptive statistics of selected welfare indicators are presented in Table 13 below

Table 13: Welfare indicators

Indicator	Minimum	Maximum	Mean	Standard Deviation	N
Health status (scale 1-10)	5	10	7.8	2.2	60
Yield (tonne)	8	27	12.6	2.8	60
Household expenditure per capita (RM per month)	50.00	800.00	280.7	185.5	60

B. Explanatory variables

Frequency attending community activity: This include only formal organisation activity

Involvement in formal organisation: Years respondent has been member of organisations

Participation in organisation: Number of organisation respondent is a member

Dummy importance of PPK: PPK is 'Persatuan Peladang Kawasan, or Area Farmers Organisation.

Perception on the role of PPK (Important= 1, No=0)

Dummy community trust: Perception on trust (All can be trusted =1, No = 0)

Dummy involvement in PPK: Involve in PPK activities =1, Not involve = 0

Dummy level of participation: Office bearers = 1, just a member = 0

Main income of household: Income from padi activities for year 2003

Land holdings: Hectare of owned and rented land for 2003 operation

Years of formal education: Number of years attending schools or colleges using government approved curriculum.

The descriptive statistics of selected explanatory variables are shown in table 14.

C. A Brief description of PPK - Area Farmers Organisation (AFO)

In view of the dominant role played by PPK in agriculture communities, as well as it being the most important formal organization for farmers, a brief background information of PPK is presented. Prior to the formation of Farmers' Organization Authority (FOA) and the Farmers' Organization in 1973, there were 1531 agro based cooperative societies and 119 farmers associations serving the farmers in the rural areas. However, they were governed by different ministries and departments. This had resulted in overlapping of functions among the farmers' institutions. Thus, the Farmers' Organizations Act 1973 was enacted to specifically reorganize the farmers' associations and agro-based co-operatives. Under this Act, farmers' associations were dissolved and re-registered as farmers' organizations while the agro-based co-operatives were reorganized to become member units of the farmers' organizations.

There are numerous PPK in the country. Basically, there is one PPK in almost all administrative area that has agricultural activities in the country (excluding Sarawak). The PPKs are supported by a government agency under the Ministry of Agriculture and Agro-based Industry, specifically the FOA. The main function of the FOA is to promote, stimulate, facilitate and undertake economic and social development of Farmers Organizations (FOs) and to register, control and supervise FOs and to provide management services, including training to FOs.

To date, there are 208 PPKs in the country, of which 14 are in Selangor. The objectives of PPK are to improve farmers' economics and social status; enhance knowledge and skill; increase yield and income and to create farmers community that is progressive, self-reliant, prosperous and united. To realise these objectives, the PPK is empowered to engage in business related to a wide area of agribusiness such as production and marketing of agricultural products, including processed products; trade in agricultural inputs; providing agricultural services (such as agricultural mechanization) and facilitate as well as provide cash deposit services for rural community. In short the primary function of PPK is to serve as 'service centers' where the service providers will channel every service that are required by the farmer members. 'Service Providers' are the various government departments and agencies that provide services such as extension, supplies, etc that have been identified by the Ministry of Agriculture and Agro – Based Industry.

Table 14: Selected explanatory variables

Indicator	Minimum	Maximum	Mean	Standard Deviation	N
Frequency attending community activity	0	36	8.8	9.3	60
Involvement in formal organisation	0	43	17.3	11.4	60
Participation in organisation	0	6	3.1	1.6	60
Main income of household(RM)	2,087	87,958	30,579	18,265	60
Land holdings (Hectare)	0.6	10.3	3.6	1.2	60
Age of household head	29	67	47.5	10.5	60
Years of formal education	0	18	7.6	2.8	60

Table, 15, 16 and 17 summarise results on the determinants of all the three welfare indicators using multiple regression models.

Determinants of health status

The model yields relatively high R^2 of 0.536, which is high for a social science research. More than 50% variation in health level of respondents is explained by the model. Old respondents as expected are not as healthy as the young respondents. On the social capital variables, those attending more community activity (structural social capital) are usually less healthy. This phenomenon occurs because old farmers normally have more time to spend on community activities and they are more loyal to their organisation. The other two structural social capital variables used in the model are not significant. Perception on the importance of PPK, and whether people can be trusted represent the cognitive social capital. Those who think PPK is important are relatively healthier. However, community trust variable is not significant. Education level show positive effect on respondent's health level. A more educated respondent is healthier than those who are less educated.

Determinants of padi yield obtained

In terms of yield achievement in the study area, the best-fit model with R^2 of .221 include six social capital predictors with at least 10% level of significance. Frequency of attending community activities and duration of involvement in organisation contribute to yield level. For example, an additional of one attendance of community activity, the farmers' yield will increase by about 0.06 ton per hectare (other variable remain constant). The dummy variables built in the model indicate that farmer's membership in PPK and official status in any formal organisation has some bearing on level of padi yield achieved. Involvement in PPK and holding position in organisation causes a decline in padi productivity. These variables merit further investigation, as the role of PPK, specifically was to facilitate productivity improvement efforts by the government. The only human capital used in the model, proxies with years of education of household head shows a positive relationship with yield level obtained by farmers. Many government agencies responsible to develop PBLs render intensive extension and advisory services. Thus, rice farming in that area is quite well established and to transfer any new technology successfully may require certain level of education on the part of the recipients.

Determinants of monthly household expenditure per capita

Table 17 presents the regression results for this welfare indicator. Higher spending on household expenditure should indicate a better standard of living. The most significant variables are size of rice area (both owned and rented). Those who rent more rice land are supposed to be more enterprising and should generate more income. Consequently, they command better spending power. This study indicates that an increase of one hectare in land size will swell per capita household spending by about RM125.00 per month. Both structural social capital variables (attending community activities and years of involvement in formal organization do not have any influence on their amount of per capita household spending.

Household spending amount is also shaped by involvement in PPK and level of participation (holding official post or just a member in organisation). Farmers who involve in PPK activities are spending less for household expenditure relative to those who do not participate. Those holding official post in PPK spent relatively more on per capita household expenditure compare to ordinary members. The office bearers are believed enjoying more economics benefit from their position, thus have more spending power.

Table15: Determinants of Health Status in Sungai Burung and Sawah Sempadan.

Dependent Variable (Health status)	Health Status
Household Level Variables	Coefficients
Social Capital	
Frequency attending community activity	-0.0177 (-1.827)**
Involvement in formal organization	0.0046 NS
Participation in Organization	-0.182 NS
Dummy importance of PPK	1.164 (2.434)**
Dummy community trust	0.875 NS
Human Capital	
Years of education of household head	0.193(1.891)**
Other household characteristics	
Age of household head	-0.119 (-3.128) *
Main income of household	0.0000169 NS
Constant (□)	12.336 (6.324)*
R ²	0.536
Number of Observations	60

OLS is used for the estimation. t-statistics are in parentheses.

* ** *** Indicate 1%, 5%, and 10% level of significance.

NS = Not significant

Table 16: Determinants of Yield per hectare in Sungai Burung and Sawah Sempadan

Dependent Variable (Yield)	Yield
Household Level Variables	Coefficients
Social Capital	
Frequency attending community activity	0.0587 (1.228)**
Involvement in formal organization	0.0851 (1.627)**
Participation in organization	-0.284 NS
Dummy importance of PPK	-0.190 NS
Dummy involvement in PPK	-1.425 (-1.389)**
Dummy level of participation	- 2.267 (-1.387)**
Human Capital	
Years of education of household head	0.204 (1.202) **
Other household Characteristic	
Age of household head	-0.284 (NS)
Constant (□)	12.079 (3.788)*
R ²	0.221
Number of Observations	60

OLS is used for the estimation. t-statistics are in parentheses.

* ** indicate 1%, and 10% level of significance.

NS = Not significant

Table 17: Determinants of Monthly Household Expenditure per Capita in Sungai Burung and Sawah Sempadan

Dependent Variable (E)	Expenditure per Capita
Household Level Variables	Coefficients
Social Capital	
Frequency attending community meeting	14.047 NS
Involvement in formal organization	-0.1643 NS
Dummy importance of PPK	996.764 (2.085)**
Dummy Involvement in PPK	-866.622 (1.802)***
Dummy level of Participation	1526.902 (1.676)***
Other household Characteristic	
Age of household	-34.212 NS
Land holding (owned and rented)	125.073 (2.335)**
Constant (□)	3376.502 (2.826)*
R ²	0.278
Number of Observations	60

OLS used for the estimation. t-statistics are in parentheses.

* ** *** indicate 1%, 5%, and 10% level of significance.

NS = Not significant

Some Qualitative Analysis

Health status of household heads

About half of respondents consider themselves very healthy and these include those are not members of any formal organisation. The table indicates that those who are members of many organisations tend to be less healthy and vice versa. Old farmers might be involved in many organisation compare to younger farmer who see himself or herself more capable and thus less dependent on help from organisation or community.

Table 18: Health Status and Membership in organisation

Health Status	No. of Organization			
	0	1-2	3-4	≥ 5
Medium Health (N=19)	-	5 (26.3%)	9 (47.4%)	5 (26.3%)
Healthy (N=12)	1 (8.3%)	4 (33.3%)	2 (16.7%)	5 (41.7%)
Very Healthy (N=29)	1 (3.4%)	14 (48.3%)	11 (37.9%)	3 (10.3%)
Total	2	23	22	13

Padi yield achieved and membership in organisation

Memberships in organisation cause a negative effect on productivity. The two respondents who are not member of any organisation achieve relatively higher yield. Out of 13 respondents with membership more than five organisations, 30% of them are in the poor performance bracket (Annual yields less than 10 tons per hectare). This poor performance among those who are active in community activities could be due to less time and energy devoted to farming. The other reason is, being active in organisation offer alternative income generating activities, thus forfeiting some income from farming is tolerable.

Table 19: Relationship between Yield and Membership in Organisation

No. of Organization	Yield Range (ton/ha)		
	≤10	10.1-14	≥14.1
0 (N=2)	-	1 (50%)	1 (50%)
1-2 (N=23)	3 (13.0%)	14 (60.9%)	6 (26.1%)
3-4 (N=22)	4 (18.2%)	12 (54.5%)	6 (27.3%)
≥5 (N=13)	4 (30.8%)	7 (53.8%)	2 (15.4%)
Total	11	34	15

Padi yield achieved and social trust

About eight of respondent have absolute trust to everybody and they are not as productive (in terms of yield) compared to those who have reservation to trust everybody. Majority that gained high padi yield are from the later group. The former group of respondents are probably simple people and less motivated and competitive spirit. However, with the small sample, we cannot conclusively assume that they are less productive.

Table 20: Yield and Social Trust

Social Trust	Yield Range (ton/ha)		
	≤10	10.1-14	≥14.1
Everybody can be trusted (N=8)	2 (25%)	5 (62.5%)	1 (12.5%)
Need to be careful (N=52)	9 (17.3%)	29 (55.8%)	14 (26.9%)
Total	11	34	15

Padi Yield and Collective Action

In terms of yields achieved, there is not much different, whether farmers frequented community meeting or not. Those not attending community activities do have high and low level of padi yield. Probably not much benefit is gained from such meeting (as shown in Table 16)

Table 21: Yield and frequency attending community activity a year (Collective action)

Frequency	Yield Range (ton/ha)		
	≤10	10.1-14	≥14.1
0 (N=18)	3 (16.7%)	11 (61.1%)	4 (22.2%)
1-10 (N=26)	6 (23.1%)	14 (53.8%)	6 (23.1%)
11-20 (N=8)	1 (12.5%)	4 (50%)	3 (37.5%)
≥ 21(N=8)	1 (12.5%)	5 (62.5%)	2 (25%)
Total	11	34	15

Padi yield and health status

Respondent with excellent health condition achieved consistently higher yield than those who are not as healthy. However, there are those who are very healthy (13.8%) attaining less than 10 ton per hectare yearly. This is possible as although they are healthy, resource spent on rice farming may not be sufficient. Many of the farmers also involved in other economic activities.

Table 22: Padi Yield and Health Status

Health Status	Yield Range (ton/ha)		
	≤10	10.1-14	≥14.1
Medium Healthy (N=19)	4 (21.1%)	12 (63.2%)	3 (15.8%)
Healthy (N=12)	3 (25%)	6 (50%)	3 (25%)
Very Healthy (N=29)	4 (13.8%)	16 (55.2%)	9 (31%)
Total	11	34	15

Household expenditure and membership in organisation

Those who are not member of any organisation spent relatively more on household expenditure. However, the distribution is quite even, indicating that household spending is independent of the number of organisation the farmers are a member.

Table 23: Relationship between Expenditure and Membership in Organisation

No. of Organization	Expenditure Level (RM)			
	≤ 500	501-750	751-1000	≥ 1001
0 (N=2)	-	-	1 (50%)	1 (50%)
1-2 (N=23)	1 (4.3%)	5 (21.7%)	12 (52.2%)	5 (21.7%)
3-4 (N=22)	1 (4.5%)	2 (9.1%)	11 (50%)	8 (36.4%)
≥ 5 (N=13)	1 (7.7%)	3 (23.1%)	5 (38.5%)	4 (30.8%)
Total	3	10	29	18

CONCLUSION AND POLICY IMPLICATION

Efforts to develop rural community in Malaysia has always focused on providing infrastructure facilities to the community coupled with allocating high proportion of the national budget to enhance human capital through education. This is reflected by Malaysia consistently spending high proportion of her development budget on agriculture and rural development, transportation and on education services. For example, out of almost RM40 billions spent on development in 2004, 8.6%, 22.5% and 14.4% were for agriculture / rural development, transportation and education respectively (Anon 2005). Budget for education has always outstripped that of security. Strategies on harnessing social capital were never institutionalised explicitly in our national development policy.

To measure poverty by comparing income group is known as relative poverty. In Malaysia, to identify the poorest of the poor, the government introduced the concept of hardcore poverty. A household is considered in the hardcore poverty group if its income is half of the poverty line or less. The concept of absolute poverty and hardcore poverty is used in the implementation of the national poverty eradication programmes. In Malaysia, the poverty group identified comprises of fisherman, padi farmers, coconut

growers, estate workers, rubber smallholders, agriculture labourers and villagers in Chinese New Villages. This study only focuses on padi farmers in the most productive area, and we found hardly any evidence of poor households. Poor padi farmers are mostly tenant or landless farmers, while our samples are mostly owner operators that also improve their income by renting more rice land. PBLs, as the most productive area has the highest rental rate of RM1, 000 per season (see appendix 1) . Even at that rate, there is hardly any idle land left. The government main poverty eradication strategies, at least in PBLs area, seem relatively successful. Among the strategies are:

- Increasing productivity through new and modern production technologies
- Movement from low productivity to higher productivity activities or sectors.
- Improving quality of life through various assistance programs implemented by federal and state agencies
- In short it is a two prong strategies of wealth creation and quality of life enhancement

The outcome and lessons learned from this study, although not highly conclusive, is that social capital has more positive than negative effects to rural community development. The study area has well developed agriculture infrastructures such as irrigation and drainage systems as well as formal organizations for farmer welfare. Thus, it is timely that more focus and resources be given to social capital development. Investment in harnessing social capital both at community and household levels may further enhance farmers' quality of life. Social problems such as juvenile delinquency are increasingly serious problems in the area (according to our interview with village heads). Experiences suggest that improving income level alone cannot solve the problem, and social capital might play an important role in future community development. Therefore, specific policies aiming to enhance our social capitals, supported with programs and budget allocation is deemed crucial to hasten our general community development.

As mentioned earlier, this study does not cover the whole spectrum of the focus groups. Furthermore, all the respondents are Malay of the Javanese stock. Their belief and cultural behaviour may not provide sufficient variations for more meaningful results. Besides fishermen and the other poverty groups identified earlier, there are also regional poverty issues such as those in East Malaysia, The East Coast and the Indigenous population of Malaysia. A bigger and more comprehensive study covering larger samples is required to understand the effects and role played by all the 'community factors' on national community development. It does not necessarily limited to rural community development, but should also include urban. In fact, urban dwellers outstripped rural households in Malaysia today.

The poor are characterized by among others, low level of education, skills, poor living conditions and not or less active in community or association activities. Some kind of collective action among them could better facilitate their development. Recently, the Ministry of Agriculture and Agro-based Industries launched Ministry of Agriculture Incorporated (MOA INC.) concept. Its main aim is to improve the livelihood of the farming community by modernizing the agriculture sector. This concept sees agriculture as a viable business venture through value adding activities. A few value-adding activities were identified as suitable for the rural communities (Abu Kasim and Hamdzah, 2003). Among them are snacks, sauces, and condiments in which much of the raw material are readily available or can be produced easily by farmers. A special program is being implemented in which specialized agencies will assist participants in technological assistance, financing and marketing of their produce. The critical success factors in this programme require social capital inputs as well as other capitals. For example, all their produce will carry one brand 'Malaysia Best' promoted by a specialised agency. Quality assurance and control monitored by another agencies. Besides, the participants in this program are encouraged to form a consortium to benefit from the economy of scale. To be able to work and be involved in this kind of activities require a high degree of social trust, collective action and organisation networking.

Theory on social capital as we know it is at the early stage of development, what more in this country. Continuous capacity building is crucial to improve understanding and analytical skills to conduct a good research. The understanding on the dynamics of community, household behaviour, organizational behaviours and various other sociological dimensions is crucial in social capital research. As for analytical skills, other quantitative as well as qualitative techniques such as factor analysis or scenario analysis might produce a better understanding of social capital role in community development.

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Appendix 1: Cost and Return of one Hectare Paddy Production by Seeding During Main Season 2002/2003 for the Study Area

	Details	Cost/sales RM/ha
A	YIELD = 12.6 tons /2 seasons = 6.3 tons / per season Average price = RM700/tonne Price subsidy = RM250/tonne Revenue = 6.3 x 950	<u>5,985.00</u>
I	COST OF INPUT	
a	Seeds	146.67
b	Fertilizers (Including Subsidies)	230.00
c	<i>Control of Weeds</i>	38.00
d	Control of Insect & Diseases	230.00
	SUB-Total (I)	644.67
II	COST OF LABOUR/OPERATION	
a	Preparation of paddy field	183.00
b	Preparation of seeds	-
c	Repair of bunds	116.67
d	Sowing of seeds	37.50
e	<i>Fertilizing</i>	33.30
f	Control of Insect & Diseases	100.00
g	Control of water & Maintenance of bunds	-
h	Harvesting & Transportation	595.00
	SUB-TOTAL (II)	1,065.47

III	Quit rent/water rates control	-
	TOTAL AVERAGE COST BY OWNERS (I) (II) (III)	1,710.14
IV	Rental of Land	1,000.00
	TOTAL AVERAGE COST BY TENANTS (I) (II) (IV)	2,710.14
B	AVERAGE NET RETURN BY OWNER = 5,985.00 – 1,710.14	4,274.86
C	AVERAGE NET RETURN AS PERCENTAGE OF REVENUE = (B/A) x 100%	71%

Source: Primary survey data on the six villages in 2003

**Appendix 2: Cost and Return of one Hectare Paddy Production by Seeding During
Main Season 2002/2003 for PBLs**

	Details	Cost/sales RM/ha
A	YIELD = 5,492kg = 5.492 tonnes Average price = RM700/tonne Price subsidy = RM250/tonne Revenue = 5.492 x 950	<u>5,217.00</u>

I	COST OF INPUT	
a	Seeds	183.50
b	Fertilizers (Including Subsidies)	527.80
c	<i>Control of Weeds</i>	243.20
d	Control of Insect & Diseases	224.80
	SUB-Total (I)	1,079.30
II	COST OF LABOUR/OPERATION	
a	Preparation of paddy field	201.40
b	Preparation of seeds	-
c	Repair of bunds	-
d	Sowing of seeds	14.60
e	<i>Fertilizing</i>	216.00
f	Control of Insect & Diseases	247.25
g	Control of water & Maintenance of bunds	-
h	Harvesting & Transportation	442.10
	SUB-TOTAL (II)	1,121.35
III	Quit rent/water rates control	48.50
	TOTAL AVERAGE COST BY OWNERS (I) (II) (III)	2,249.15
IV	Rental of Land	1,000.00
	TOTAL AVERAGE COST BY TENANTS (I) (II) (IV)	3,249.15
B	AVERAGE NET RETURN BY OWNER = 5,217.00 – 2,249.15	2,967.85
C	AVERAGE NET RETURN AS PERCENTAGE OF REVENUE = (B/A) x 100%	57%

Source: Adapted from Paddy Statistics, various issues, Ministry of Agriculture and Agro based Industry, Malaysia

Appendix 3: Distribution of Household Income by Strata: Malaysia 1979-1999.

Percentage of Households	Income Share (Percentage)							
	1979	1984	1987	1990	1993	1995	1997	1999
Overall								
Top 20%	55.8	53.2	51.2	50.4	n.a	51.3	52.4	50.5
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	5202	6854	6268
Middle 40%	32.4	34.0	35.0	35.3	n.a	35.0	34.4	35.5
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	1777	2250	2204
Bottom 40%	11.9	12.8	13.8	14.3	n.a	13.7	13.2	14.0
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	693	867	865
Rural								
Top 20%	53.2	49.5	48.3	47.1	n.a	47.4	48.2	47.9
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	3153	4130	4124
Middle 40%	34.4	36.4	36.7	37.1	n.a	37.1	36.6	36.5
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	1235	1564	1577
Bottom 40%	12.4	14.1	15.0	15.8	n.a	15.5	15.2	15.6
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	515	649	670
Urban								
Top 20%	55.6	52.1	50.8	50.6	n.a	49.8	50.2	48.7
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	6474	8470	7580
Middle 40%	32.1	34.5	35.0	35.1	n.a	35.7	35.6	36.5
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	2323	3000	2844
Bottom 40%	12.3	13.4	14.2	14.3	n.a	14.5	14.2	14.8
Mean Household Income (RM)	n.a	n.a	n.a	n.a	n.a	842	1193	1155
Parity Ratio								
Urban:Rural	1.77	n.a	n.a	1.70	1.75	1.95	2.04	1.81
Chinese:Bumiputera	1.90	n.a	n.a	1.76	1.78	1.80	1.83	1.74
Indian:Bumiputera	1.29	n.a	n.a	1.31	1.29	1.33	1.46	1.36

Source: Eight Malaysian Plan, 2001-2005, Ministry of Finance, Malaysia.

Appendix 4: Profile Analysis Tables

Table 1: Years of involvement in formal and informal organization

Range	No. of respondent	Percentage %
Not involve	2	3.3
1 –10	24	40.0
11 – 20	14	23.3
21 – 30	14	23.3
31 – 40	5	8.3
41 and above	1	1.7
Total	60	100.0

Table 2: Membership in organization

Range	No. of respondent	Percentage %
0	2	3
1-2	23	38
3-4	22	27
5 or more	13	22
Total	60	100

Table 3: Frequency attending organization activities

Range	No. of respondent	Percentage %
0	18	30
1-10	26	43
11-20	8	13
21 or more	8	13
Total	60	100

Table 4: Degree or level of participation

Organization	Participation level			Total
	Chief, secretary, treasurer	Committee members	Members	
PPK (farmers association)	3	1	27	31
JKKK	4	8	2	14
Mosque	3	10	4	17
Mini Mosque (Surau)	5	18	2	25
Death Fund	4	7	24	35
Politic	6	9	17	33
Teachers parent organization	2	5	23	30

Table 5: Perception towards organisation

Organization	Percentage level %		
	More important	Important	Not important
PPK	45.0	18.3	36.7
JKKK	45.0	8.3	46.7
Mosque	45.0	10.0	45.0
Mini Mosque (Surau)	43.3	18.3	38.4
Death Fund	40.0	38.3	21.7
Politic	45.0	16.7	38.3
Teachers parent organization	45.0	36.7	18.3

Table 6: Type of household

	No. of household	Percentage %
Single family	12	20.0
Nuclear family	34	56.7
Extended family	14	23.3
Total	60	100.0

Table 7: Social trust indicator

Level of Trusts	No. of Person	Percentage %
Everybody can be trusted	8	13.3
Need to be careful	52	86.7
Total	60	100.0

Table 8: Perception on usage of water

Rate	No. of respondent	Percentage %
Not enough	25	41.7
No problem	35	58.3
Total	60	100.0

Table 9: Technology adoption indicator

Variety	No. of respondent	Percentage %
MR 219	52	86.7
MR 220	9	15.0
MR 211	5	8.3
MR 202	1	1.7

Appendix 5: Key Economic Indicators of Malaysia

Indicator	1970	1995	2002
Gross Domestic Product (1978 prices), RM Million	21,548	120,309	219,309
<i>Contribution from: (%)</i>			
Services	38.2	44.3	57.0
Manufacturing	14.8	33.1	30.1
Construction	4.1	4.5	3.3
Mining	14.2	7.4	7.2
Agriculture	30.9	13.5	8.4
Exports at current prices, RM Million	5,163	185,325	354,475
<i>Contribution from: (%)</i>			
Manufacturing	11.1	79.6	85.3
Mining	5.2	5.8	6.1
Agriculture	74.4	13.1	5.0
Others	9.3	1.5	3.6

Source: Economic Report, Ministry of Finance Malaysia, Various issues

11. MONGOLIA

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Programme Officer
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1. Abstract

Mongolia is developing country, moving from a centrally-planned economy to a market economy since the 1990. With 2.5 million inhabitants (2000), it is one of the least densely populated countries in the world. 1.7 inhabitants per km². Half of the total 2.5 million people live in rural areas and their main source of wealth is livestock.

In the rural areas, the majority of the population comprises semi-nomadic herders. The predominant economic activities in Mongolia are all closely related to herding.

In 1990, 33 percent of all workers were employed in the agricultural sector. By 2004, that figure had grown to 44.5 percent.

Over the same period, the national herd has increased by 30% to 34 million herds in 1999. Despite the impressive livestock numbers, it should be noted that less than 50% of the herder households own a herd that is large enough to be viable under present condition. This is defined to range between 100 and 200 heads of livestock, depending on location and access to services and resources. The consecutive Zud (severe winter) of 1999-2000 and 2000-2001 have meant the loss of some 7 million heads of livestock, and the national herd has not yet fully recovered from this calamity.

A severe shortage of water has further added to the vulnerability of livestock and the incomes of herders. In the rural areas between 1990 to 2000, at least 60% of the 35 000 engineered and or deep water wells fell which were established in the socialist era are out of operation. The water shortage had its adverse impact on the availability of pasture.

After transition 1990, people had to pay for everything such as like education, veterinary service, well rehabilitation etc.

The above mentioned all factors have been caused the poverty.

As any other developing country, the poverty is the one of the biggest problem in Mongolia, especially in rural areas. By 1995, it was estimated that over one third of the population had incomes that placed them below the poverty line. According to the official statistics, about more than half of the rural population belong to the poor and vulnerable groups, who are mostly engaged in agricultural production.

To alleviate or reduce poverty, to develop rural areas, we have to address the problems causing the roots of the poverty, in other words to increase the agricultural production, only source for their livelihoods participation with rural communities. As of today, in such rapidly changing world, knowledge, information and communicated activities are essential for rural communities to respond successfully to the opportunities and challenges of social, economic and technological changes, including those that help to improve agricultural productivity, food security and rural livelihoods.

In this report, we will introduce some beginning outputs and result of the Rural poverty reduction programme has been implemented in Arhangai and Huvsgul, Bulgan, Hentii aimags \provinces\, which rank amongst the very poorest areas in the country since July 2003. The purposes of the Programme are to achieve a sustainable increase the capability to access to economic and social resources, including education, health, micro finance and social networks through rural community-herders group participatory.

2. Introduction

Mongolia is totally land locked and covers an area of 1.57 million km². With 2.5 million inhabitants (2000), it is one of the least densely populated countries in the world.

By 1988, at the end of the central-planning period, the country had achieved self-sufficiency in food production and produced a great deal of meat for export. However, due to the political change, the emerging market economy and rapid privatization at the beginning of the last decade, all economic activities of the country slowed as production subsidies ended.

Today, after more than a decade of experience, the structural changes needed for the growth in the agricultural and food industry are slowly crystallizing.

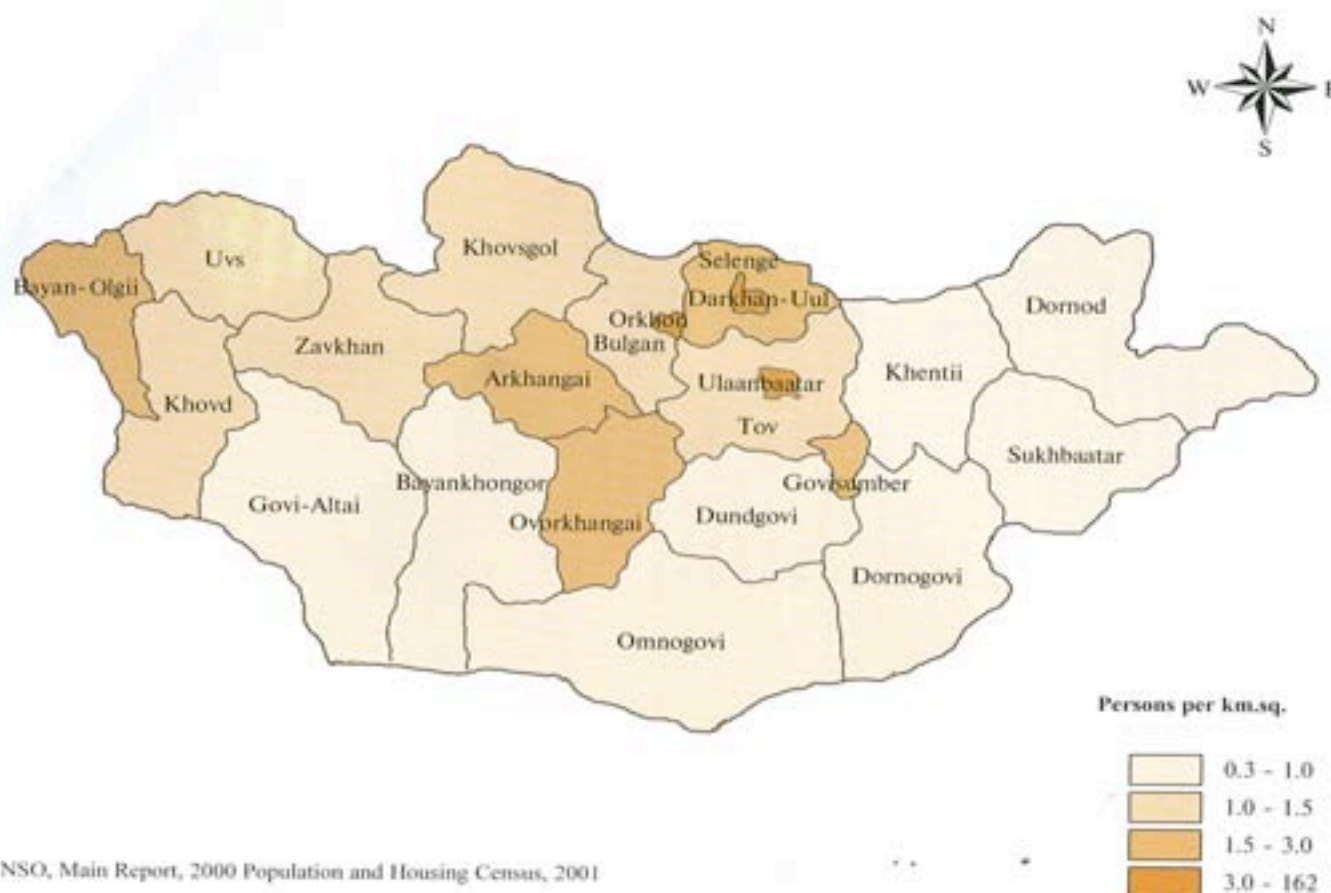
Mongolia used to export several hundreds of thousands of tones of cereals annually to Russia. This production system largely disappeared after the privatization of state farms. Today, Mongolia's agricultural sector is unable to cover the national requirement of bread cereals. Only the centrally located aimags \provinces\ have significant crop production. Farming today consists mainly of vegetable cultivation, including potatoes as the secondary staple crop, and is principally aimed at satisfying demand from urban areas and meeting household nutritional needs.

According to the official statistics, about more than half of the rural population belong to the poor and vulnerable groups, who are mostly engaged in agricultural production. The average per capita poverty line is estimated at about USD 14 per month, or about 0.5 per day. In 2000, the national statistics office conducted the Participatory living standard assessment using participatory methods to deepen the understanding of poverty.

The consequence of the natural disaster "Zud" (severe winter) occurred last several years, millions heads of livestock have lost and many herders have been facing a difficulties.

The first Rural poverty alleviation project started in Arhangai, Huvsgul aimag since 1996 and aimed to assist the vulnerable, poor herders through a livestock re-distribution scheme and support to veterinary assistance and winter fodder production. The experience of the project shows that livestock re-distribution is an important tool to improve livelihood of poor herders in an individual way. However, the disastrous effects of two consecutive Zud teach that poor herders require a wider approach than simply increasing livestock numbers. Indeed, larger herds may become the fierce enemy of increased livestock value as ranges become increasingly depleted and overgrazed Moreover, this success has allowed some vegetable growers to reconstitute a herd through barter with livestock. However, stronger focus was required on technical support services, to enhance rural community participation on the rangeland management, rural financial capacity building and the promotion of rural communities IGAs.

Map-1. Population Density, by aimag and city, 2000



Source: NSO, Main Report, 2000 Population and Housing Census, 2001

3. Target area-Programme area

3.1 Reason of the selection

Rural poverty reduction programme \RPRP\ has involved again the first Rural poverty alleviation project areas-Arhangai and Huvsgul aimags and the new aimags of Bulgan and Hentii, which also rank amongst the very poorest areas in the country.

3.2 Natural conditions

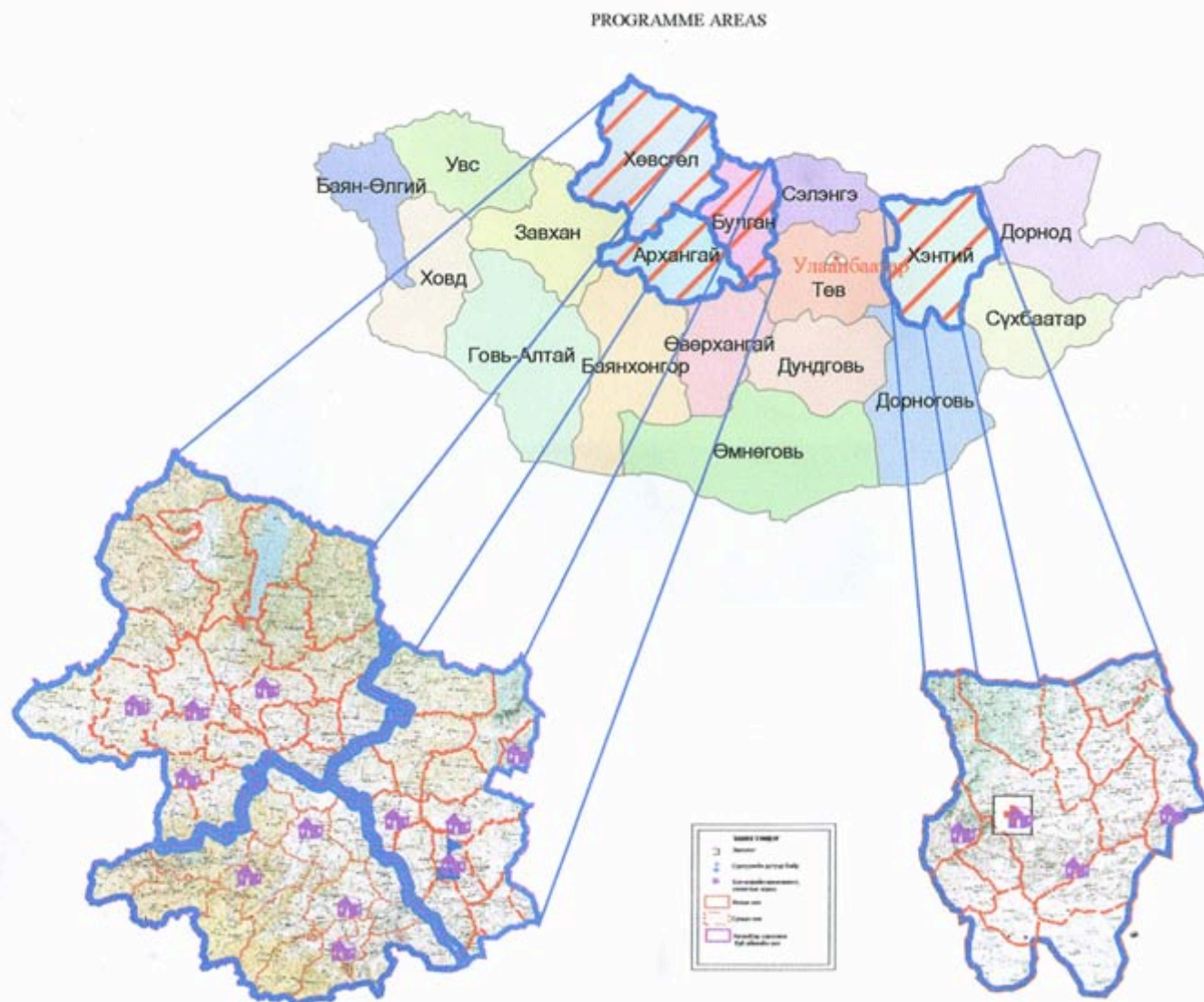
The total land area of the four identified RPRP aimags is about 285,000 km², which represents 22% of the national surface area. The largest land mass is formed by Huvsgul aimag with over 100,000 km² and the smallest by Arhangai and Bulgan with about 50 000 km² each. Total recorded population density of about 1.2 inhabitants per km², which is well below the national average of 1.7. Arhangai and Hentii provinces are the most and least densely populated aimags. Recorded population evolution over the past decade shows a modest overall demographic growth of about 0.5% per annum. The number of households is about 88 000 and the average household size will therefore be of the order of 4 persons. About 7500 households will be female-headed, representing more than 8% of the total. The population is predominantly rural: the lives in the quite small but remote Bags centers (villages) or belongs to the Khot ails, which are principally nomadic or semi-nomadic herding communities.

Geography

For planning purposes the rangelands of the RPRP area can be subdivided into three main types: high mountain zone, forest steppe zone and steppe zone.

Soil type

The four aimags have suitable soil conditions for crop production with gray or black sandy loam, a pH ranging from 6 to 7 and organic matter content in the soil ranging from 1 to 3.8.



3.3 Historical development

- Land use and farming system

a. Livestock activities

Around 70% of the land has been degraded to some extent. This is partly because the increased livestock in recent years has forced herding communities to exploit the land area of useable pasture land has steadily been shrinking. Much of the land used to raise crops has been subject to soil erosion. Almost half the 1.3 million hectares of arable land have had to be abandoned. Over the past 20 years average yields of wheat have fallen by half. This is a result of a number of different factors including poor agricultural practices and lack of quality inputs, including improved seed varieties.

Herding on open rangeland is the predominant livelihood system in rural Mongolia. The RPRP area is no different in this respect. With the exception of very limited parts of mountain peaks and occasional rocky outcrops elsewhere, virtually all land in Mongolia is suitable for herding one or more commonly, several livestock species. Whilst there are variations in relative importance of species kept across the RPRP aimags, each zone appears to support roughly comparable numbers of animals. The five major kinds of livestock of Mongolia, including camels, horses, cattle, yaks, sheep and goats are raised in RPRP areas. The estimated total livestock population of RPRP areas in 2000 is 7.4 million head. Total livestock number in RPRP areas has increased by 26.9 % since 1990, but the variations are uneven among species. Goats increased significantly by 41.33 and 146 %.

b. Cropping activities

Before privatization in Mongolia, aimags of Arhganai, Bulgan and Huvsgul had crop plantations covering a large multiple of the area cultivated today for cereal (mostly wheat). Only Hentii appears to have been able to maintain, even to increase the cropped area. Conditions for horticultural crops in Mongolia are generally not very favorable.

- Water supply

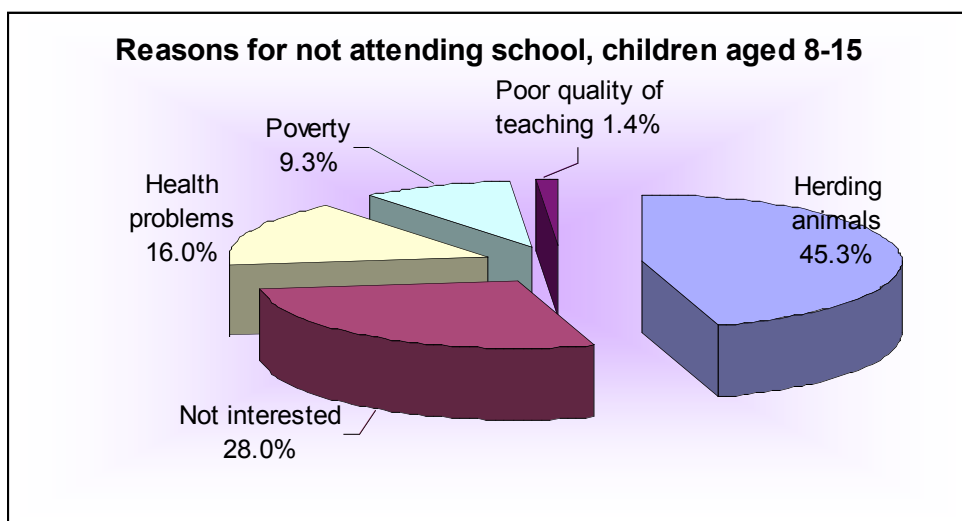
Water supply is one of the more painful issues in the herding economy. Bulgan aimag, for instance, has a large component of dry steppe areas lacking surface water. In 1990, the aimag had 489 wells, out of which 459 are mechanized and 30 are hand-made ones. But the number in 2000 is down to 356. Similar situation apply in other aimags. Given that limits on water supplies can cause serious damage to the ranges, the conclusion is that there is a serious need to rehabilitate destroyed wells.

- Administrative system

The administrative system comprises a multi-tier structure from the Central Government, through the aimag (provinces), soum (district) and bag (sub-district), the lowest level of formal authority. Herding communities are further organized in Khot ail groups, households basically herding together, often but not always based on lineage. Aimag, soums and bags all have Governors as representatives of central power. Each level also has an elected body (hural) that oversees the local administrative apparatuses.

- Social services

During the socialist era Mongolia has been high literacy rate-96 percent. However government expenditure on education has been fallen, and there are limited funds for textbooks and other teaching materials as well as for repair of school and dormitory buildings. The main reason for not attending the school is a lack of income-which in the rural areas also includes the need to work, particularly for boys from herding families.



Because of the lack of funds of health service and women's federation activities have been limited at soum and even at aimag level.

4. Major forces generating such changes

Rationale.

- lack of rangeland management community participation.
- after the economic transition all services (well rehabilitation, health and veterinary services, education, central-planning hay and fodder preparation,)used to were provided free cost by the State were almost stopped or faced difficult situation.
- a shortage of rangeland water supply.
- in consequence lack of veterinary medicine and almost stopped livestock veterinary services such as vaccination, injection and de-worming.
- lack of technical and productive capacity of new herders. A result of herd has increased because of the livestock privatizing, the number boys of herding families left the school.
- increasing illiteracy and poor health.
- lack of knowledge and resilience of herders to the natural disaster such as zud and drought.
- lack of community activities.
- lack of knowledge and experience to run other IGAs etc.

5. Current issues of community development of the study site

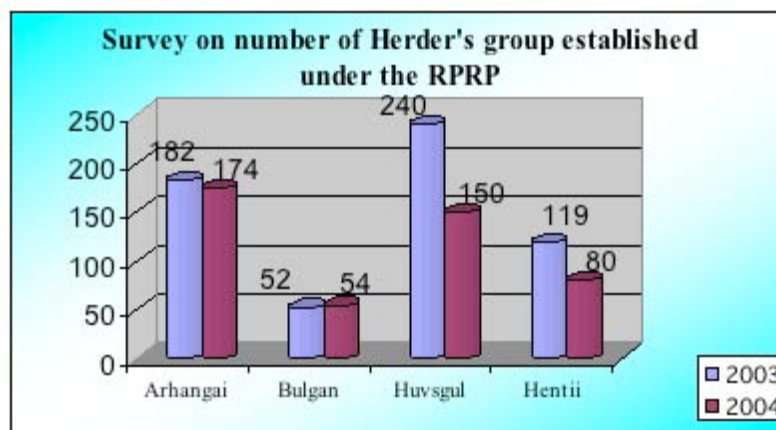
The RPRP has implementing below mentioned components:

1. Management
2. Livestock and natural resource management
3. Social development
4. Other economic activities
5. Rural financial services

In this report have been reflected with some activities are being implemented by RPRP relating to rural communities.

- **Is enhancing community activities**

- 1051 herders group have been established out of which 458 in 2004 in the four Programme aimags.

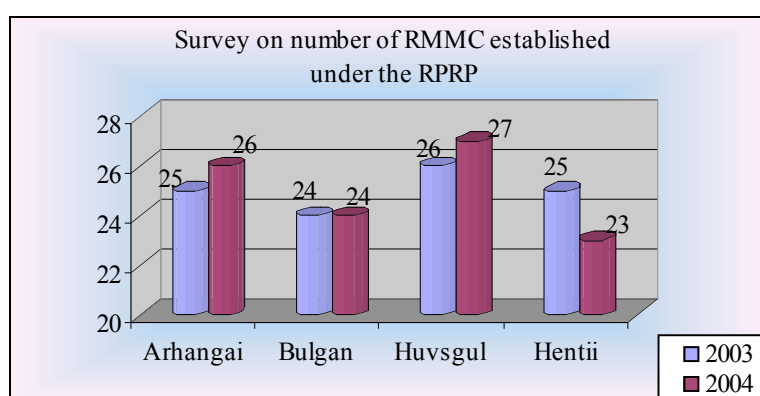


- herding

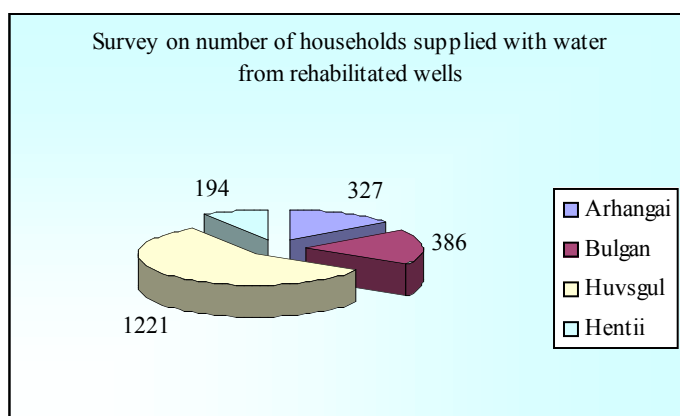
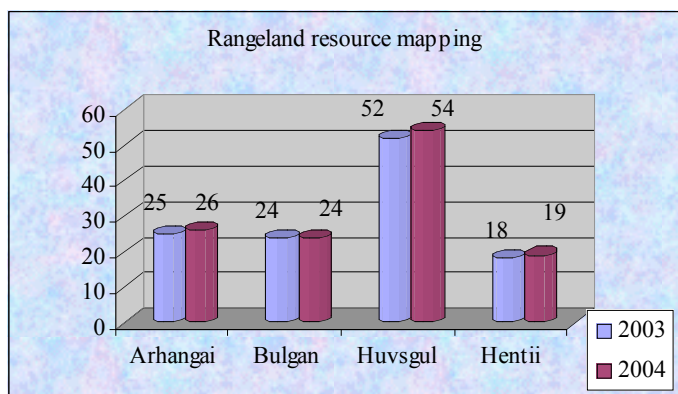
community or rural community, who run their business successfully were strengthened and demonstrations have been organized for rural communities.

- communicated activities have been supported. For instance Required facilities have been provided to the free of charge to the herders group who are running IGAs.
- As a result of IGA training for low income households, 137 IGA units such as felt making, bakery, dairy production, shoe repair, sewing etc have been established or strengthened and created 170 job opportunities in the Programme aimags.
- Herders and herders groups have got a room of bag center for meeting to discuss their problems and conducting training, as a result of the rehabilitation of bag center. Establishment of herder's school will influence positively on herders cooperative activities.
- Micro credit loan have been distributed to the herders group, cooperatives on the consessional terms.
- Following up the vegetable seeds supply to 2690 low income households, 2685 herder's household group have planted vegetables and average households income has increased by 60.0 thousand tugrugs.
- Demonstration on group hay making and fodder preparation trainings has been conducted annually in each bag for the herders' community.
- Weekly radio transmission on IGAs, vegetable planting, livestock breeding, intensive livestock production and strengthening of livestock husbandry have been prepared by the Extension officers
- Study to define biological and ecological peculiarities of rodents has been conducted and economically reasonable and environmentally friendly control measures have been demonstrated within the herders' community.
- Establishment of dipping bath and Veterinary testing and vaccination fences are important for improving prevention of livestock from animal infectious diseases.

- As a result of supplying veterinary laboratory equipments, animal infectious diseases will be diagnosed within a short time in local areas. And also these measure has positive impact on saving the herders and vets' time.
- **Is establishing Rangeland management monitoring committee (RMMC)**
 - 200 RMMCs have been established, out of which 100 in 2004, in the Programme areas.
 - RMMC have made resource mapping participation with rural community. Pasture resource map to ensure systematic use of pasture and to reduce pasture overgrazing and have been used for the pasture management, selection of winter, spring, summer and autumn camping and hay making plot.
 - Bag and Soum RMMC meeting held in 342 times and discussed the issues, related to well rehabilitation, pasture use and hay making.



- 443.7 Hectares of reserved and overgrazed pasture use and over 2276 herders' households and 236.327 livestock water supply has been improved, following up rehabilitation of 80 wells.



- **Social development**

- Following up 32 mobile kindergarden activities, general knowledge level of herders' 2361 children has been enhanced and increased an opportunity to run IGA activities for their parents.
- 742 kids aged between 8-18 years old have been participated in the school drop-out training and 3 participants of this training entered into the school in Bayan-Ovoo and Tsenhermandal soums of Hentii aimag. etc

6. Conclusion

The RPRP will be completed in 2010.

The beginning outputs of the RPRP has been shown, social and economic services, livestock support services, natural resource management and IGAs have been strengthened according to the enhancement of the rural community activities in the Programme aimags.

12. Nepal

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Local Development Training Academy

Lalitpur

Executive Summary

Overall development is, undoubtedly, a prime objective of those countries, which are lagged far behind the stipulated socio-economic development of the majority of the poorer section of their society. Many underdeveloped countries including Nepal have had adopted planned course of socio-economic development so as to justify the meager resources to fulfill the ever increasing needs of their people. As a result, many areas of development are well addressed but many are still gray areas. Imbalance between gender, between regions and between the communities is still prevailing in sizeable form. To ameliorate the poverty of the majority of people and to uplift the overall condition of the country, Nepal adopted many policy measures and implementing strategies. Among them, community development model of rural development is one based on the experience of USA and India in the beginning of 1950 when the country first experienced the modern form of democratic system, then the Panchayat development model, a modified form of community development, followed by integrated development model, small farmers development model (still being run), remote area development model or target group development approach. Some of these models have successfully accrued benefits where as others remained to the ground.

Recently, as in other countries in the region, Nepal is also experimenting the rural community mobilisation for the socio-economic upliftment of the rural community. This programme has been well supported by the international donor community. Some of the areas of community development are highly successful in the upliftment of the status of the backward people, backward region and women folk. Micro-credit as the financial programme is being attached to support the community mobilisation and its sustainability. However, many more things have yet to get success in the socio-economic development of the rural community.

This paper therefore, has tried to sketch the policy predicaments made by Nepal concerning to the development through community development. The stage it has followed has been given in the paper. During the discussion the paper has tried to incorporate the decentralisation efforts made by Nepal in different time periods for the successful implementation of community development programmes

The paper has specially focused on the recently passed Local Governance Act for maximisation of decentralisation process in Nepal so that the local community itself would be able to not only identify the issues of development around them but also would be able to address them within their own capacity. As a result, most of the functions, which are of local nature, have been already transferred to the local bodies (VDCs, DDCs and Municipalities). But the local bodies without the active mobilisation and support of the local community organisation, cannot carry on the local activities alone.

The paper at the end has presented a case study of a Village Development Committee's picture to assess the overall decentralisation and the participation of a rural community for the development of their own area.

I. General Background

Nepal a mountainous Himalayan country surrounded by two giant nations India in the East, West and South and China in the North, is a land locked country having 1,47,181 Sq. Km of land. The share of the total land area in agriculture land is 20.8, and other land 79.2 percent. The cropped land per capita (sq. km.) is 1296.

The country is divided into three geographical regions namely Mountain, Hills and Terai. For the purpose of development, Nepal, during the period of first half of 70s, created five development regions viz. Eastern Development Region, Central Development Region, Western Development Region, Mid Western Development Region and Far Western Development Region. All development regions have regional head quarters having all offices of the line ministries. Though fourteen zones have been existed but these zones have remained almost nonfunctional. Recently, the government has appointed five regional and 14 zonal administrators to run the regional and zonal administration by the political appointees. Previously, the government used to appoint regional administrators from the bureaucracy and the position of the zonal commissioners was scraped soon after the restoration of multi-party democracy in 1990. There are 75 districts, 3915 village development committees and 58 municipalities including one Metropolitan City, and four Sub-metropolitan City. The local authorities are mainly responsible for providing and delivery of the services to the local people effectively and efficiently.

The total number of population as of 2003 is approximately 240 hundred thousand having 161 sq. km. density. The level of poverty is 38 percent but the recent statistics of the government has claimed to have the poverty level reduced to 30 percent (SAARC: 2004). This sharp reduction in poverty rate is attributed to significant remittance inflows as well as higher economic growth experienced by Nepal during 1996-2002. If this information is correct, this will represent a remarkable achievement with regard to Nepal's progress towards achieving the MDG target of poverty reduction.

Even today the large number of population is depended on traditional fuel whereas only 12 percent of the population is using the electricity as modern source of domestic fuel. Out of the total of 83 thousand megawatt capacity of hydro electricity Nepal has been successful only to generate 3 percent of the total. 27.3 percent of the total population is still under extreme poverty or is under the income brass of less than 1\$ per person per day which is targeted to reduce by 18.9 percent in the end of the tenth plan.

Nepal is, undoubtedly, rich in its natural resources such as water, forest (products) and prospects for tourism is high. Agriculture is still a dominant sector in the economy employing almost seventy percent of the total active population. The country has rural characteristics having eighty five percent of the population still living in the rural areas and the rest fifteen percent in the urban areas (in Nepal the urban areas are those which have 20,000 population with infrastructure facilities and a definite income source).

II. National Scenario of Decentralised Community Development

Development Efforts in Nepal

After the advent of democracy in 1950-51 Tribhuvan Gram Vikas Model (After the name of the late King Tribhuvan) for rural development was promulgated in Nepal. It was the mix of American technology for community development model and Indian structure for community development or the Panchayati Raj.

The aim of this community development model was:

- development of self helped community,
- development of human resource and building its capability and spirit,
- development of self help activities for socio-economic development,
- development of participatory approach for leadership development,
- technology transfer to the rural community, and
- development of democratic culture so as to make self respected citizen.

For this the government:

- established rural service training centers, and
- established *blocks* and put *block development officers* in the blocks.
-

However, after the royal takeover in 1960 government introduced Panchyat Model in rural development with the following features:

- Institutional development for the development of rural areas,
- Social mobilization for the self help and self sustainability, and
- Psychological change of the people for the changes made in 1960.

Strategies:

- Technical part was given to government departments
- Village and district panchayats were made responsible for drinking water irrigation, wooden bridges, rural roads etc.
- Human resource development with the establishment of Panchyat vikas training centers
- Trained people in centers were made secretaries of village panchayats.

The government could not stick to the Panchayat model of community development and switched over the programme to integrated development model. As a result, in the beginning of 70s Integrated Rural development programme (IRDP) as a consecutive model of development was introduced in 1974-75 along with district administration plan. In this model of development:

- Districts were made the units of development.
- Districts and villages were to mobilize resources so as to support the IRDP
- All development agencies were made coordinated in development
- Priority to peoples participation in planning
- Establishment of 9 service centers
- Formation of a cabinet committee for development under Ministry of Home
- Creation of five development regions in the country for speedy development

Programmes

- Agriculture Training
- Management of irrigation
- Building of cold stores and godowns
- Arrangement for agriculture credit and investment facilities
- Development of infrastructures
- Animal husbandry, horticulture, and vegetable farming
- Development of cottage industries and establishment of veterinaries
- Management of trainings, providing health facilities, support for bio-gas plant, micro hydro, and nursery, were integrated in this model.

Then this model was followed by the following models:

1. Small farmers development program launched under Agricultural Development Bank (ADB) with the facilitation programme of micro-credit,
2. women development programme especially focussed on the development of rural women with the condition of forming a group of five for providing loan on group collateral.
3. development of cooperatives for the promotion of community development and community participation, and
4. the programmes based on community, NGOs participation for local development. These programmes are mainly run through the cooperation of international donor community like UNDP, JICA, GTZ or ADB. Recent trend in community development is in the formation of local community groups in the form of CBOs, POs, Cooperatives, Saving and Credit groups, Women Groups, Users (Forest) Groups and Consumer Societies

Poverty and Policy for its Reduction

Poverty Reduction Policy in the Tenth Five-Year Plan (2002-07)

The major policy strategy adopted in this plan period for the reduction of poverty in Nepal is as stated below (NPC: 2003: 97)

1. **To promote socio-economic activities to enlarge the employment opportunities.**
2. To promote labour oriented employment to make easy access to the poor in employment opportunities.
3. To increase the present level of employment opportunity providing skill oriented trainings and appropriate technology to increase production.
4. To promote balanced development between professional expertise and fundamental rights of the citizen.
5. To begin income generating and employment oriented programmes for the benefit of backward areas and the people.
6. To use maximum opportunity of foreign employment by producing skillful human resource development programmes such as technical education and vocational trainings.

To achieve the above policy objectives focusing on poverty, the plan has adopted the following policy strategies (NPC: 2003; 97-98):

- To increase the employment opportunities by promoting areas like skill development, self employment, labour oriented jobs, and by establishing employment bureau;
- To increase accessibility in the employment with the support of technical education to the backward areas and people, in cooperation with the cooperatives and NGOs, and mobilisation of peoples participation in different sectors;
- To run income generating and employment oriented activities focusing to the weaker section of the society and remote areas by mobilizing the poverty reduction fund and introducing the empowerment programmes in such sectors;
- To encourage the foreign employment by developing skillful human resource, by making foreign employment more managed and secured and by using Nepali Missions abroad in the development of foreign employment opportunities.

To support the above policy and strategies the government, in its five-year development plans has envisaged the various programmes as mentioned below (*Ibid*):

- To adopt reform measures like financial reforms, reforms in tax administration, in public expenditure, in labour act, in project selection process, in monitoring and in overall management of the government;
- To improve the conditions of the rural people, agricultural development along with its modernisation and commercialisation making agriculture sector as leading sector for development;
- To improve the condition of employment, export promotion with appropriate training and transfer of technology to the concerned people;
- To use the Nepali Mission abroad to broaden the foreign employment opportunity; and to provide necessary training and skill development to employment seekers;
- To promote the self-employment opportunities in the rural as well as remote areas with the support of I/NGOs, Cooperatives, and National Volunteer Service so that the entrepreneurial activities could be developed.

Many of these programmes have already been launched. To train foreign employment seekers many private organisations have been running training programmes relating to plumbing, building constructions, wiring, mechanical, driving and this is also supported by the Council for Technical Education and Vocational Training (CTEVT). Small entrepreneurial activities are being mobilised through donor funded, I/NGOs, and banking sectors. This is one of the areas, which is paying much dividend to reduce the level of poverty. Formation of the various commissions like National commission for Women, National Academy for Ethnic and Indigenous People, National Commission for Deprived class, and Remote Area Development Committee to address the issues of the indigenous, women and children and backward class has been completed and they are working in the field of research, empowerment, and gender streaming.

The government has already prepared Medium Term Expenditure Frame work, 20 Years Educational, Agricultural, and Health perspective plans for the long term visionary development of the aforesaid areas and agriculture has been put on top of the priority list.

At the end of the ninth plan the following targets have been achieved and most of the targets mentioned below have already been fulfilled which is shown in the following table.

Table 1: Achievements in Relation to Poverty and Human Development Indicators

S.No.	Indicators	Target	Progress
1.	Population below poverty line (%)	32.0	38.0
2.	Literacy above 15 years (%)	70%	49.2
3.	Primary School enrollment (%)	90%	80.4
4.	Infant Mortality (per 1000 birth)	61.5	64.2
5.	Maternal Mortality (per 1000 births)	400	415
6.	Fertility relate (%)	4.2	4.1
7.	Average life expectancy (years)	59.7	61.9
8.	Population with access to potable water	100.00	71.6

Source: Tenth plan (2002-2007)

Early Attempts to Democratised and Decentralise Institutions

After the overthrow of the 107 years old feudal Rana Regime, Nepal entered into the new era of governance in 1951 through a popular revolt and armed insurrection led by the Nepali Congress under Mr. B.P. Koirala (Aggrawal: 1975). This change brought forth numerous changes in socio-economic and political sphere in Nepal. Transition from the feudal political cultural with agrarian socio-economic conditions to a modern democratic system with not only structural but also functional changes was not simple a task.

The new polity allowed, for the first time in Nepalese history, the political parties to form and function along with the new and modern administrative set up.

Around mid fifties, an Administrative Reorganisation and Planning Commission was formed under the chairmanship of the then Prime Minister Mr. Tanka Prasad Acharya to introduce necessary changes in the administrative system (Poudyal: 1989: 77). Undoubtedly, these efforts led to the formation of the first ever Civil Service Act 1956 and Civil Service Rules 1956. Other innovation on institutionalisation were: the creation of an independent judiciary; Public Service Commission for the establishment and promotion of merit system in the administration; the provision of freedom of speech and press; and guarantee of fundamental rights.

But this system of state management could not last long. The King dismissed the government led by Mr. B.P. Koirala in 1960 and banned political parties. In 1962, the King promulgated the new constitution instituting introducing Party-less Panchayat system, which lasted for thirty years till 1990. During one party Panchayat system (Shrestha: July 2000:37) a nationwide network of Village, Town and District Panchayat were created and some how acted upon the interest of the people at the grass root level.

During this period the governance related reforms were regularly attempted. The former system of "Badahakim" (bigboss) in districts was replaced by the Chief District Officer for the maintenance of law and order (Shrestha: 1975: 13). The Administrative Reform commissions of 1967 and 1975 headed by the ministers have been major landmarks in the history of administrative reform in Nepal. Their recommendations included among others bureaucratic reform and establishment of Administrative Staff College and Local Development Training Academy to train central and local

level public servants and public authorities respectively.

Attempts were made to decentralisation of authority to the local bodies at local level.

Decentralisation Plan of 1965, The District Administration Plan of 1974, creation of the Ministry of Local Development in 1980 and creation of the Decentralisation Act of 1982 (this Act was one of the best legal documents for decentralisation in Nepal) were some of such efforts. Among these efforts the Decentralisation Act of 1982 was the most far reaching of all previous efforts for the fact that the user groups of direct beneficiaries were made the principal institutions for the planning, implementation and ongoing management of development projects at the grass root level.

Before the execution of this act, Nepal reentered into the democratic system having far reaching consequences in the functional and structural aspects of the governance especially in the local governance through the direct participation of the community.

Strengthening Democratisation in the Governance

The Administrative Reform Commission 1992

Soon after the restoration of Multi-party democracy in the country in 1990, the government realised the following weakness in the structural and functional aspects of the governance system in the country:

- Non motivated employees due to low salary, lack of justified system of promotion, and absence of the system of right based performance evaluation;
- The government through its agencies was trying to control all sorts of services to deliver the public services, which was in it quite lengthy, expensive and burdensome. As a result the government had to spend more than half of the total budget in the salary and allowances of the employees;
- Unnecessary expansion of the number of offices and employees lacking functional relationship between work and the organisational set up;
- Unnecessary delay in the decision making process and even in the delivery of the services to the needy people;
- Excessive amount of paper works than the real output;
- Lack of responsibility, transparency and accountability in the dispense of the government services, coupled with high cost and wastage (Report of the Administrative Reform Commission 1992: 3-5)

Therefore, the government, under the chairmanship of the then Prime Minister Mr. Girija Prasad Koirala appointed a High Level Administrative Reform Commission (ARC) to examine the aforementioned issues and to (recommend) identify appropriate measures to fit the administrative machinery to the tune of the modern public management. The Commission on the basis of its study identified and recommended the following measures to strengthening the public administration machinery to empowering and strengthening democratic institutions in Nepal:

- The government, instead of playing active role in all sectors needed to play a promotional and incentive role, and transfer the activities to those sectors, which could act better than the government machinery;
- The government instead of controlling each and every activity needed to enter into the market mechanism. However, some of the controlling mechanisms were suggested to prevent from possibility of monopoly so also the protection and support the remote, conflict prone and natural disaster affected areas were indicated paving the way for the presence of the government in such areas;
- Those areas, which had been specialised by the NGOs, CBOs and private organisations be given to them by opting the mechanism of contract out the services to the private sectors, and
- Maximum mobilisation of the NGOs and other private sector institutions to materialise the concept of democratisation in all sectors (ARC report: 1992).

The sectors, which the government can pay much attention to adhere the concept of welfare state (as stated in the preamble of the Constitution of the Kingdom of Nepal 1991), and which are more policy

oriented, were suggested to keep under the government. For example, determination of the national policies, development of the basic infrastructures, creation of the environment of maximum participation, fundamental training and research, regulatory works, monitoring and evaluation are some of them.

The major reforms suggested by the commission can be cited as below:

- Reorganisation of the government machinery through right sizing the ministries and the departments;
- Administrative reform through down sizing the number of employees, making bureaucracy appropriate, smart, professional and service oriented so also accountable, responsible, transparent and participatory. The promotion, transfer and faculty development programmes were suggested to tie up to this direction.
- The performance evaluation system was suggested to modernise and making more objective oriented by adopting the principle of merit and competition. Keeping bureaucracy corruption free by increasing their salary and introducing modern incentives plans so that the concept of good governance would be furthered were some of the timely suggestions made by the commission (Ibid).

To support all the above-mentioned components in governance, the commission recommended establishing the *National Council for Human Resource Development*, which would work in collaboration with the ministries and departments to support their actual demand of human resource requirements. The government, recently, has decided to establish a separate ministry for the human resource development in Nepal. May be this ministry will act as a coordinating body for the human resource development actors in the field. These are some the major suggestions made by the ARC to strengthen organisations to institutionalisation of democratic set up. Accordingly, the government envisaged plans and programmes in due course of time.

Implications

The government tried to implement some of the suggestions made by the administrative reform commission of 1992. The salary of the employees increased nearly to double (however it is still quite low to maintain the minimum standard of employees), the performance appraisal system was introduced in a new way, down sizing and the right sizing the bureaucracy and the public organisations followed. But the bureaucracy is still not felt responsible, accountability is low, transparency is still in stake, corruption is rampant, public service delivery is lopsided and even out of the reach of the common masses, disregard the law is common. The public management still lacks position or job classification. As a result, people in the bureaucracy are still confused about what their specific role in the public management.

Though the government has established an autonomous constitutional body- Commission for the Investigation of Abuse of Authority (CIAA), and the cases for the misuse of public authority and negligence have been registered and reported but their effectiveness is still questionable. Recently the government chaired by His Majesty's the King himself formed another Royal Commission for the Investigation of Abuse of Authority is said to speed up the investigation of misuse of public authority in the public service and in the political level. Even the corruption in the judiciary is rampant which is proved when a district court judge was caught red hand while taking bribe from a public lawyer. This means the governance system, despite many reformist measures, is crippled with corruption, malfunctioning and bureau-pathology.

The government has followed the market system with deregulation but in absence of effective evaluation and monitoring system, this has become a mockery. Public corporations are still a white elephant to the treasury. Private sector is still demanding the government protection in every aspect instead of competing in the market.

Despite all the odds in the governance reform, some achievements have been encouraging. The mobilisation of consumer societies, Community Based Organisations and civil societies has been an encouraging. Their participation in the resource mobilisation, resource generation, and resource

utilization for development is appreciable. Due to the community mobilisation in the development discourse, most of the local communities have been well empowered by resource and by capability.

Structural Arrangement at the Centre

Nepal has adopted the west ministerial model of democracy. The institutions for public management at the centre are Executive, Legislative and Judiciary. The provision of constitutional monarchy lets the Prime Minister to head the government in association with his ministerial colleagues. Constitution envisages three-tier system of judiciary - Supreme Court at the apex, Appellate Court in the middle and District Court in the bottom. There is a provision of State Council (*Raj Parishad*) similar to that of the Privy Council of the United Kingdom. There are Constitutional organs provisioned viz. Nepal Public Service Commission, Election Commission, Commission for the Investigation of Abuse of Authority, Auditor General and Attorney General (appointed by HM on the recommendation of the Prime Minister).

The central administrative system consists of 20 Ministries and a National Planning Commission. Below the ministries there are 54 departments and many field offices at the regional and districts are put under the departments. Besides, there are corporations and other autonomous organisations, though highly depended on the government funding. Many of them have been already privatised or leased out or contracted out.

Formation of the Decentralisation Committee

These were the policy guidelines for the strengthening of the democratic system in the country. Soon after recommendation of the ARC consequently the government, again under the chairmanship of the then Prime Minister formed a High Level Committee in order to:

- Strengthen local governance system in the context of the decentralisation and local governance policy;
- Provide policy guide lines in the decentralisation; and
- Regularise monitoring and evaluation of the implementation of local governance.

According to the recommendation of the Committee, the government in 1999 got through a Local Self-governance Act thereby decentralising the central level authority to the local bodies viz. Village Development Committees (VDCs), District Development Committees (DDCs) and Municipalities (Municipalities, Sub Metropolitan Cities and Metropolitan Cities). Through this Act, a number of activities appropriate to the local level and better chances of their performance from there itself, have been handed over to the local authorities. The DDCs have been made the apex body at the local level and VDCs and Municipalities have been put under them, though the municipalities have little control of the DDCs the VDC are completely under the control of the DDCs.

Implication of the Decentralisation Effort

Soon after the restoration of multi-party democracy in Nepal, the government introduced a *Local Government Act in 1992*. But this Act was realised as incomplete to catch the spirit of decentralisation. Soon after the recommendation of the High Level Decentralisation Committee, the parliament passed another Act – *The Local Self Governance Act 1999* which empowered local authorities to plan, implement, monitor, evaluate and control the local level activities (HMG/N: 1999). A number of financial allocations have been made. Among them land tax, and urban property tax have been transferred to the local bodies. Resource base has been widened so that the local bodies could meet their requirements. A set of working procedures has been laid down in the Local Self Governance Regulations, 2000. With the support of the UNDP and DANIDA National Association of Village Development Committees, (NAVIN), Municipal Association of Nepal (MuAN) and Association of District Development Committees Nepal (ADDCN) have been created to speed up the process of local development through decentralisation in their respective areas. These associations are acting as the pressure groups for the community participation as envisaged in the LSGA.

To cooperate the activities of the local bodies civil societies and consumer society has been made mandatory partners in the process of local infrastructure building and socio-economic development. These efforts have undoubtedly, tried to strengthened democratic participation in the community development in Nepal. which has been assessed in the following paragraphs.

Decentralisation and Community Development

Positive development relating to the democratisation of the governance institutions in Nepal has been realised for the past one and half decades. Increasing policy backdrop for the promotion of the civil societies in the governance has promoted to increase the number of civil societies. The registered number of civil societies, at present, is around 25,000. But the actual number in the fieldwork is said to be around 8000. There are Savings and Credit Groups, Mothers Groups, Rural Development Banks, which not only provide rural credits in most of the rural areas to support women entrepreneurs but also mobilise their savings with promotion of entrepreneurial skills. These are some of the humble achievements in the mobilisation of the communities through democratic organisations.

The community development organisations in the form of civil societies can be classified in the following form:

- Non-governmental organisations, which are, registered under the Social Service Act in Social Welfare Council (SWC) after the registration of District Administration Office of the Ministry of Home Affairs, and which needs at least, 7 partner members to form NGO ensuring to follow the principles of democratic organisations.
- CBOs, which may be registered in respective local bodies but are, formed for the specific development purposes.
- Cooperatives, which are registered under Cooperative Act where at least 25 members of equal rights are needed and function under the principles of cooperatives.
- Consumer societies are formed for support or development of specific functions or to deliver specific services such as forest user's group (community forestry).
- Some other informal organisations are also working in the field of development and are institutionalised in democratic practices but are not formally registered. These are traditional social and developmental organisations supporting to the specific social groups.

These are some of the forms and patterns of the civil societies existed as development partners in Nepal. Many of them are institutionalised in democratic governance but others still to go a long way. Thus, after the reinstate of the democratic system in Nepal, the emergence, growth and development of the participatory community development institutions has been phenomenal.

Now the government is preparing to hand over the government run schools to the community (School Management Committees) so as the case of health, agriculture and other developmental activities to the community level organisations. A definite block grant would be continued to provide such management committees but the user committees would handle the rest of the functions.

Thus, the more organisational capabilities are building leading towards institutionalisation process, the more the government is prone to decentralise the authority to the local bodies.

In recent days, the community development process is reintroduced and promoted by the international donor communities at the local level focusing on the creation of local level community development, empowering them through community mobilisation, supporting to institutionalise their organisation, mobilising them for the community works, creating local funds for further development financing and making them the development partners of the local bodies. Because LSGA has made a mandatory provision that unless the local bodies build a partnership with the local community organisations no development works would get launched. Now these local community organisations have their own savings, which they invest, on development works, entrepreneurial activities as well as on social development such as health and education. Programmes like Rural Urban Partnership, Decentralised Local Governance Support Programme are basically focusing on the community mobilisation for local development and self help.

The above scenario represents a brief sketch of how the national policy and programmes through decentralisation and democratisation of the Nepalese society are supporting the community development programmes.

III. Community Development At the Grass root Level

A Case of Godavari VDC of Lalitpur District

The paper has focused on the decentralised development of the country with a historical background. The following paragraphs have been focusing on the community development of a nearby village of the Kathmandu City –Godavari.

The village is selected because though it is located near capital city, it is still lagging behind the mainstreaming of development because the village has still some communities which are not streamlined and behind the address of the development.

Geographical Location

Godavari VDC is one of the 41 VDCs in Lalitpur district. It is situated south east from Kathmandu, the capital of Nepal. It is just 12 K.M. from Kathmandu. It is 4200 feet above the sea level.

Godavari is situated at 85° 22' - 85° 24' N latitude and 27° 40' - 27° 42' E longitude. It is bordered with Kavre district in the east, Godamchaur and Bisankhunarayan VDC in the North, Jharuwarasi and Badikhel in the West and Bhardev and Leley VDC in the South. The VDC covers an area of 18 sq. km.

Climate & Temperature

Situated 4,200 feet above the sea level some of the Snow Mountains can be viewed from Godavari. The temperature is very low in the winter while it is moderate in the summer. The average temperature lies between 0 - 20° Celsius in the winter and 17-32° Celsius in the summer. Heavy rainfall is recorded during monsoon.

Natural Resources

Godavari VDC is endowed with full of natural resources such as forest, flora and fountains, rivers, ravine, mountain chains etc. The only botanical garden of the country lies in Godavari. In fact, it is one of the major tourist centers in Nepal.

Out of total land in the VDC, approximately 66 percent comprises of forestry, which comes to around 12 sq. km. The VDC is full of bio diversity. In fact, a few deprived communities depend on these natural resources for their livelihood. 55 percent of the households get their daily fuel requirements from the existing natural resources. The coverage of forest area has been extended after the government handed the forest area to the local community. The forest area consists of wild animals such as Bear, Leopard, Deer, Rabbit, Jackal etc.

Godavari VDC is also known for its stone mines. The famous Godavari Marble Industry is located here. The industry supplies various types of marbles all over the country.

Land Use Description

The VDC is situated 4200 feet above the sea level. Out of the total land in the VDC 66 percent consist of forest area, 33 percent consist of cultivated land and sloping terraces and remaining area comprises settlements. Paddy, Maize, Wheat and Mustard are the main crops. Recently, floriculture is in offing.

Demographic Situation

Godavari VDC has altogether 1353 households with a total of 6257 population. Of the total population male comprises 50.76% while female comprise 49.24%. The ratio of male to female population is 1.03:1.

The following table represents the ward wise population distribution in the VDC (in Nepal each VDC has nine wards which has its own ward council with a ward chairman directly elected by the people and a lady representative nominated by the VDC):

Table 2: Population by wards

Ward	No. of Family	Population						Average Family Size
		Male	%	Female	%	Total	%	
1	317	767	12.25	733	11.71	1500	23.97	4.7
2	70	182	2.90	186	2.97	368	5.88	5.2
3	87	213	3.40	210	3.35	423	6.76	4.8
4	105	284	4.53	255	4.07	539	8.61	5.1
5	409	860	13.74	785	12.54	1645	26.29	4.0
6	139	324	5.17	355	5.76	679	10.85	4.8
7	74	187	2.98	187	2.98	374	5.97	5.0
8	80	168	2.68	195	3.11	363	5.80	4.5
9	72	191	3.05	175	2.79	366	5.84	5.0
Total	1353	3176	50.76	3081	49.24	6257	100.00	4.6

Source: Godavari VDC

The above table indicates that ward 1 and ward 5 are densely populated areas which are followed by 3 and 8. Ward 2, 4, 7, and 9 are less thickly populated areas as compared to other wards.

In the VDC the population is well covered by different castes and ethnic communities. The following table exhibits the presentation of 14 different caste and communities

Table 3: Population by Caste

S.N.	Caste/Ethnic Group	Male	Female	Total	Percentage
1.	Brahmin	408	404	812	12.98
2.	Chettri	763	734	1497	23.93
3.	Tamang	680	675	1355	21.66
4.	Newar	264	251	515	8.23
5.	Magar	180	158	338	5.40
6.	Sarki	136	138	274	4.38
7.	Damai	15	14	29	0.43
8.	Sanyasi	136	162	298	4.75
9.	Kami	47	51	98	1.57
10.	Nagarkoti	71	64	135	2.16
11.	Rai, Gurung, Limbu	117	98	215	3.44
12.	Others	359	332	691	11.04
Total		3176	3081	6257	100.00

Source: Godavari VDC

Thus the VDC is well dominated by Brahmins, Chhetry's and Tamangs (a hill ethnic community however, the other ethnic and backward communities have a good presence over there.

In the village almost all religious communities have their presence. However, majority of them belong to the Hindu and Buddhist religion, which is well shown in the following table.

Table 4: Population by Religion

S.N.	Religion	Male	Female	Total	Percentage
1.	Hindu	2597	2482	5079	81.17
2.	Buddhist	473	473	946	15.12
3.	Christian	86	103	189	3.02
4.	Others	20	23	43	0.69
	Total	3176	3081	6257	100.00

Source: Godavari VDC

Table 5: Dependent Population

Age Group	Male	Female	Total	Percentage
0 - 14	1036	1007	2043	32.65
65 +	120	161	281	4.49
Total	1156	1168	2324	37.14

Source: Godavari VDC

Occupational Distribution of Population

78% of the total population excluding primary school children is engaged in one or the other occupation. Agriculture is the main occupation of the people. Population by Occupation is depicted below:

Table 6: Occupational Distribution

Type of Occupation	Percentage
Agriculture	42.0
Education	17.0
Service	5.0
Wages	10.0
Trade	2.0
Industry	1.0
Others	1.0

Source: Godavari VDC

Land Holding

Most of the families cultivate their own land. However, tenants cultivate some of the lands and some others are rented out on lease. In ward No. 5, most of the families are landless who are daily wage earners.

Productivity of Land

Being situated down the mountain, the land of Godavari VDC is generally damp. In terms of fertility the quality of land is not considered good. Most of the cultivated land is rain-fed and irrigation facilities are limited to areas adjacent to small streams.

Agricultural Production

42% of the population depends on agriculture for their livelihood. In terms of grain production the land is categorized as average fertile land. Paddy, Wheat and Potatoes are grown in irrigated land while maize, millet, barley, mustard and soybean are grown on slopping terraces. In recent past, farmers are attracted towards cash crops and vegetable farming.

Livestock

Livestock is largely done to fulfill family needs not for commercial purpose. However, a few families do poultry farming for commercial purpose. The farmers use manures coming through livestock in the farm.

Trading

Two percent of the population is engaged in trading. Of the two percent most of them conduct grocery shops in their neighborhood. They sell local products as well as imports goods from the city. However, the market is still primitive and farmers go to the big markets in the city to sell their vegetables and cash crops.

Industry

Godavari is famous for tourist industry. The natural beauty and the climate here attract both internal and external tourists to visit this place. To cater the needs of the growing number of tourists a few renowned Resorts are established in Godavari. **Godavari Village Resort** is one of them. These hotels and Resorts have provided the local residents with employment opportunity. The famous Godavari Marble Industry is located in Godavari VDC. It supplies various types of marbles nationwide. A well-known Brewery is also located in Godavari.

In the recent past, floriculture industry is also booming. There are 10 floriculture Nurseries in Godavari.

Migration

As mentioned elsewhere Godavari is famous for its natural beauty and is located just 12 km from the capital city people especially the higher class from the city area who are sick of various pollutions are migrating to Godavari. Also, a few foreigners live in Godavari to avoid city pollutions and to view natural beauty. In effect, the population of godavari VDC has been increasing at faster rate than that of the national growth rate. Hence, Godavari is gradually developing into a small town. However, the rate of out-migration is rather slow.

Institutional arrangements

The Godavari VDC enjoys the various institutional services from public and Government Agencies which is presented in the following table.

Table 7: Institutional Services:

S.N.	Name of Agencies	Location
1.	Livestock Services	Ward No. 1
2.	Postal Services	Ward No. 1
3.	Agriculture Service Centre	Ward No. 1
4.	Electricity Service	Ward No. 1
5.	Horticulture Center	Ward No. 5
6.	Forest Office	Ward No. 5
7.	Regional Community Forestry Training Centre	Ward No. 5
8.	Pilot Plant	Ward No. 5
9.	Fishery Development Centre	Ward No. 5
10.	Royal Botanical Garden	Ward No. 5
11.	Bee Keeping Project	Ward No. 5
12.	Sub Health Post	Ward No. 3
13.	Police Post	Ward No. 5
14.	Water Borne Disaster Control Centre	Ward No. 5
15.	International Center for Integrated Mountain Development (ICIMOD)	Ward No. 5
16.	Botanical Enterprises	Ward No. 3

Source : Godavari VDC

Provision of Non -Government services

Apart from the Government services as mentioned above there are some National and International Non-Government Organization who carryout different development activities. Besides a few communities based organization also exists in Godavari. These organizations are involved in sports, health, education, sanitation, and public awareness. The activities of these organizations cover all the wards of the VDC. The name of the organizations is given below:

Table 8: Presence of NGOs Services

S.N.	Name of the Organization
1.	Godavari Drinking Water Project
2.	Creative Women Group
3.	Godavari Youth Group
4.	Godavari Friendly Society
5.	Godavari Creative Youth Club
6.	Caritas, NEPAL
7.	Social Service Committee
8.	ETC
9.	Seto Gurans
10.	Senior Citizen Home
11.	Shelter Home
12.	Disabled Women Service Centre
13.	Suryodaya Youth Club
14.	Cooperative Society
15.	Botanical Enterprises (Run by Private Sector)

Source: Godavari VDC

For the development of the village community this VDC has variety of civil organisations in the form of consumer society to the development and services as is presented in the above table. The phenomenal growth is marked the impact of decentralisation policy of the government and the policy of making participation of the community for its development.

Education

The rate of literacy in this VDC is 74.17, which is higher than that of National Average. However the literacy rate of female is lower than that of male. Economically Disadvantage Group lags far behind in education simply because they cannot afford the cost of education. Therefore, mostly, the children belonging to the disadvantaged groups are deprived of education. These groups belong to the Tamang community who are indigenous people. The detailed status of education is given below:

Table 9: Education Status (6 years and above)

S.N.	Description	Male	Female	Total
1.	Illiterate	438 (15.27%)	1003 (36.98%)	1441 (25.82%)
2.	Read Only (Literate)	254 (8.85%)	263 (9.69%)	517 (9.26%)
3.	Read and Write (Educated)	2176 (75.87%)	1446 (53.31%)	3622 (64.91%)
Total		2868	2712	5580
Children below 6 Years of age		308	369	677
Total		3176	3081	6257

Source: VDC

Both public and private educational institutions exist in Godavari. These institutions provide services from Nursery to Higher Secondary Level. The description of educational institutions is given below:

Table 10: Institutional Arrangement for Education

S.N	Name of the Institutions	Educational Level
1	Kitini Higher Secondary	Grade 1 to 12
2	Siddheswor Primary	Grade 1 to 7
3	Ishwari Primary	Grade 1 to 3
4	Puspanjali Secondary	Nursery to 10
5	Kingdom Star Secondary	Nursery to 10
6	Suryodaya Academy	Nursery to 9
7	Bidhyasagar Secondary	Nursery to 10
8	Bal Udhyan Secondary	Nursery to 10
9	Crescent School	Nursery to 5
10	St Xavier's School	Grade 1 to 7

Source: Godavari VDC

The above table exhibits that the VDC has quite a good number of educational institutions which are of various nature. However, the decentralisation and liberalisation policy of the government has a good impact on the growth of these institutions mostly run privately.

Road Transport

The Godavari VDC is linked with capital by blacktopped road. It takes around one hour to reach Godavari from Kathmandu. Besides, there is a road access up to the famous mountaintop called Phulchoki. There are several mule tracks that join the wards of the VDC. Thus, people have better facility of road transportation to travel the city.

There are altogether 7 km. of blacktopped roads, 6 km. of graveled road and 2 km. of earthen road.

Communication

After the establishment of Telephone Exchange in 2001 Godavari VDC has access of Telephone Services in all the wards. People have private telephone lines. Besides, the people enjoy watching national and International Television Channels.

Drinking Water

After the formation of drinking water users committee in 1993, majority of the people have access to safe drinking water. The users committee has provisioned drinking water facility to the people on minimal fee. 70% of the population depends on this users committee for drinking water. Remaining 30% depend on government and VDC run drinking water project. There are eight sources of drinking water in the VDC. The fee ranges from a minimum of Rs. 10 (Each 10,000 Liter) to a maximum of Rs. 4,000 for the industrial and business establishments.

Sanitation

Being rich in water resources the VDC is good at sanitation. People have constructed private toilets in all the wards except ward no. 6 and 7. Because of lack of health awareness the residents of ward no. 6 and 7 lag far behind in sanitation than that of other wards. Most of the residents of ward no 7 are Tamangs who are known as indigenous but little bit backward community. These are the people who are still less educated and industrial labourers in the Godavari marvel factory and in a beer factory.

Major Changes Witnessed in the Last Two Decades

Basically Godavari is a village situated at the last of the east corner of the Kathmandu city. The only renowned institution in the area was St. Xavier school up to three grade. This school though situated in the village got students from around the country. With the establishment of a botanical garden with the establishment of International Center for Integrated Mountain Development (ICIMOD) for the research and development of mountain areas plus favourable climatic conditions the area gradually began to modernise. Slowly, the agricultural dependent population began to shift in the non-farming activities. Being a prospective area of tourism, hotels, resorts and restaurants began to emerge which has supported to the generation of local employment. The trend of in migration is very high especially after the reinvent of democracy in 1990 with the policy of decentralisation and liberalisation.

The establishment of the garden and ICIMOD most of the farmlands have been converted into the nursery, which is accruing a good income in the area. Because the village is well connected with the roads the locals industrial and farm products have a good return. The per capita income is quite above the national average. Now the community is well served with drinking water, sanitation, electricity and other services. The role of the community development organisations is high in the development of the community. This is well justified by the number of community development organisation's presence in the village. Sanitation, micro finance and drinking water services are well taken by these community-based organisations.

Forces of Change

- **Botanical garden and ICIMOD**
- **Emergence and growth of tourism based industries.**
- **Active participation of the community organisations who are not only serving to awareness but also to income generating activities.**
- **The favourable climatic conditions attracting people to migrate in to the village.**
- **Even the fish farming (trout fish farming) which is possible only in the cold and running fresh water is located here which is not only developing the area but also helping generating employment.**

Current Issues

1. **Though the area is developing very fast, some of the places like ward no. 6 and 7 are quite backward. Average farm land ownership is less than half acre.**
2. **Being the back ward the school going children drop out from the school and join the labourer in the nearby beer and marvel factory. Being in poverty, these children are most of the time attracted in the labour job.**
3. **Most of the farm lands are either converting into the housing units to fulfill the immigrants demands because the locals get higher price of their land.**
4. **Due to the expansion of the housing units the traditional irrigation canal is virtually disappeared which is affecting the irrigation system.**
5. **As compared to other areas the village was environmentally clean and even the water was clean. But the presence of marvel industry quite close to the water source is endangering that source.**
6. **it is loosing native population because people sell their land in high prices. Some invest but most of the ignorant people spend the money and ultimately convert into a slum dweller. similar case has happened here few years back and now these people are sheltering in a place as landless labourers.**

Prospects

It has a high prospects in the tourism industry.

People will have more non farm activity than is the case of now.

The people of Tamang Community if addressed well the balanced development of the area is possible. Planned settlement is necessary otherwise the prospects of unplanned settlement is high vis-a-vis loosing of eco-system is possible.

Conclusion

Nepal's development began only in 1950 when the country entered into the democratic era. Soon after, various types community development programmes began with the assistance of US and India. Later on during panchayat era the country experienced different models of rural development focusing community upliftment. But after the restoration of democracy in 1990 the country adopted a decentralised form of governance, which has impacted not only in the national governance system but also to the local community development through community mobilisation and participation. Now the development of the local areas is depended on community participation. The case presented here is also no exception. The decentralisation and liberalisation has impacted greatly to this village too. Now the presence of group activities for the local development, and emergence of non-farm activities are the outcome of such practice. However, there are some challenges, which can be addressed duly to well streamline the community development process in the Godavari VDC.

13. PHILIPPINES

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Developing Agrarian Reform Communities in the Philippines⁶⁷

I. INTRODUCTION

The economy of the Philippines is largely dependent on the agricultural sector that provides 22 percent of the Gross Domestic Product (GDP). It is estimated that nearly half of the labor force of the country is employed in agriculture and as much as 67 percent of the population is directly or indirectly dependent on the industry (FAO, 1997).

With this, it is significant to note that in a country that is predominantly dependent on agriculture, poverty incidence is highest in families with the head engaged in agriculture. It has been seen that people in the agricultural sector bear the heaviest poverty burden and it is widely accepted that poverty in the Philippines is an agricultural phenomenon. According to Monsod (2002), the biggest contribution to poverty is in subsistence-level agriculture and she has argued that the most recent empirical investigation into the determinants of agricultural poverty shows the inaccessibility of land, lack of infrastructure, and unfavorable policy environments are the main correlates of rural poverty. This has been widely accepted in the country and the situation has prompted several administrations to address these so called correlates of poverty through several landmark programs. Through several administrations, agrarian reform has been a national policy instrument to reduce poverty.

In the 1990s, a new method of agrarian development was introduced in the Philippines that focused on **Agrarian Reform Communities** (ARCs) to support a major program of the country, the Comprehensive Agrarian Reform Program (CARP) that was implemented since 1987. The major components of the program to develop the ARCs consisted of a project to support Land Tenure Improvement (LTI) and the Agrarian Reform Beneficiaries (ARBs), with the latter being formulated as a project to establish economic, physical and social infrastructure.

The Agrarian Reform Infrastructure Support Project (ARISP) was implemented in 1996, on a staggered basis, in 79 ARCs nationwide. By June 2002, or about six years since it was started, the project officially closed, having successfully delivered more than 100% of the outputs it promised to deliver, and having an actual availment rate of more than 100% (¥5659 M of ¥5654.1 M).

The Agrarian Reform Infrastructure Support Project 1 (ARISP-1) is funded by the Government of Japan through the Overseas Economic Cooperation Fund (OECF) Yen Credit Package. It aimed to provide a range of support services to farmer beneficiaries of land distribution under the CARP that included the construction of economic infrastructure such as irrigation, post harvest facilities, farm-to-market roads and the provision of institutional development assistance addressing the requirements of the selected

⁶⁷ This paper is an extract from "Agrarian Reform Infrastructure Support Project 1 (ARISP 1) Ex-Post Project Evaluation Final Report" (DAP, 2002)

organizations in the community. The project was designed to improve the productivity and income levels of farmers' households in the participating ARCs.

The overall goal of the program was to *increase the household incomes and improve living standards of farmers in the ARCs*. The immediate objectives, on the other hand, are to increase farm production, productivity and cropping intensity (irrigation component); reduce post harvest losses, improve quality of farm produce, command better prices for the produce (post harvest component); reduce travel time and transport costs to market, and improve access to market (farm-to-market roads component); improve the capability of the farmers organizations (cooperatives and irrigators associations) in managing the facilities, in particular, and of the general affairs of the respective organizations, in general.

In 2002, the Local Development Office of the Development Academy of the Philippines was commissioned to conduct an Ex-post Project Evaluation of ARISP 1 as the project was winding down. The succeeding sections of this report feature the results of the study. The report is an initial assessment of the extent to which the objectives of the program have been achieved. Additionally, the evaluation looked at changes the project has brought about in the ARC in general, and to the ARC households in particular. The results of the assessment was to serve as a guide in the formulation of the future program of ARISP particularly ARISP II⁶⁸ (ARISP Implementation Manual, 1997).

II. RESEARCH DESIGN

Strategy for the Evaluation

The program was evaluated on the basis of the specific objectives of each of the components, and utilized the performance indicators matched against the baseline data from each of the ARCs covered in the study. The evaluation employed is basically a “before” and “after” comparison of the *conditions* in the ARCs using the program's performance indicators.

Focusing on the changes that have occurred at the objective level of the project, the evaluation sought to:

1. Quantify/qualify changes in relevant performance indicators; and
2. Assess whether these changes were attributable to the intervention.

Data Gathering Methods

a. Focus Group Discussion (FGD)

FGD was utilized to surface perceptions and sentiments of selected project stakeholders on the problems, positive/negative effects of the project, factors that could have contributed to the success/failure of the project.

b. Rapid Survey Using Guide Questions.

A survey of selected ARCs was undertaken to get first hand information from selected stakeholders on the changes that have occurred and to validate secondary data and other information gathered. In view of the need to complete the study in a very short period of time, a limited number of ARCs (16 or 20% of the total ARCs) were covered in the survey.

c. Validation Meetings with Key Project Implementors

Meetings with key project implementers were held after the survey of selected ARCs to validate data gathered from the field, to clarify some of the issues that cropped up during the field visits.

Other Data Collection Methods

In addition, the evaluation employed the following data collection methods:

1. Non-reactive observation involving the ocular observation of the conditions of the physical

⁶⁸ ARISP II is presently under implementation.

- infrastructure facilities provided by the project;
2. Review of some of the files of the cooperatives and irrigators associations;
3. Informal discussions with some community members and other project stakeholders.

Limitation of the Study

In view of the very limited time allotted to finish the study and the dearth of information in the field, the bulk of the data used in the evaluation were generated during the field visits. On the other hand, during the focus group discussions, respondents were only able to provide estimates, as they do not have the required information with them.

The team also had difficulty in acquiring necessary project documents from other cooperators as they have yet to be cleared with higher authorities.

III. GENERAL ASSESSMENT ON THE ACHIEVEMENT OF PROJECT OBJECTIVES

The project objectives are numerous and their achievements do not come about in the same time frame. Some benefits manifested immediately after the delivery of the output, but some are taking time to mature before they yield the expected benefits. Others are even difficult to quantify and require the use of some intermediate (or even proxy) indicators. Considering the physical accomplishments of the project as of end of December 2001, and the fact that most facilities have been turned over to the intended beneficiaries, a benefit evaluation is in order.

1. Irrigation component

The objectives of the irrigation component have been achieved substantially at the time of evaluation. In most cases, farm productivity has increased from a low figure of 20 cavans (a cavan is equivalent to 45 kilograms of unmilled rice) per hectare per cropping to a high of 80 cavans per hectare per cropping; production has more than doubled in most cases; and cropping intensity has increased by more than a factor of two (see table below for summary of impact of irrigation facility).

SUMMARY OF IMPACT IRRIGATION FACILITY								
Name of Irrigation Facility	Increase in Productivity of Palay (in cavans/hectare/cropping)		Increase in cropping intensity (number of croppings/year)		Service Area (in hectares)			
	Before	After	Before	After	Before	Target	Actual	
							Wet	Dry
Bado Dangwa CIP	80-90	120	2	2	20	57	35	35
Nagsurot-Tanap Avis CIS	35-40	80-120	1-2	2-3		265	265	265
Micavice (Mission CIS)	Test run only					187		
Sto. Rosario Caagusan Creek CIS	Unfinished facility					150	150	75
Tumbaga CIS	80	80-190	2	2-3		138	158	158
Pinit CIS	70-80	100	1-2	2-3		110	110	110
Dela Paz CIS	60	100	<2	2		75	49	44
San Agustin – Tinongan Communal Irrigation Project	75	90	2	2-3	0	82	12.5	6
NDC-9 Solonggon Communal Irrigation Project	40-60	80-120	2	2-3	0	200	60	60

SUMMARY OF IMPACT IRRIGATION FACILITY								
SDC-6 Nagbalaye Communal Irrigation System	40-60	80	2	2-3		130	100	100
Habay-Tinaan CIS	77	95 ⁶⁹	2	2		100	66	66
Lapayan Baja CIS	30	80	2	2	187	187	187	187
Golden Triangle CIS	60	80	1	2	130	200	180	180
Poblacion, Tantangan CIS	60	100-120	1	2-3	50	170	120	150
Nabunturan – Cabidanan CIP	60	80.3	1	2	35	100	135	135
Cagwait Bitaugan CIS	50	70-82	1	2	65	65	55	45

Source: Taken from individual project experiences

2. Farm-to-market roads (FMRs)

Similarly, the objectives of the FMRs have also been realized considerably. It has generally improved mobility of people and goods. Costs of transporting palay to the post harvest facilities, to their homes, or directly to the market has been reduced substantially from P25 per sack using *mano-mano (manual)* system, where they are carried on their shoulders for about a kilometer or more, to within P5.00-P10.00 per sack using *kuliglig or tricycles or some other light vehicles*. Travel time has also been substantially reduced as a result of the FMR with travel time being reduced from several days (using manual labor) to just a few hours (see table below). Other benefits attributed to the farm-to-market roads include:

- Access to schools by school children;
- Reduction in the transport cost of farm inputs;
- Improved convenience in traveling;
- Access to other modes of transportation;
- Access to other barangays or ARCs.

SUMMARY OF IMPACT FARM - T O - M A R K E T R O A D						
ARC	Reduction in Travel Time (in minutes)		Reduction in Hauling Cost (in Philippine Pesos/cavan)		Reduction in Travel Cost (in Philippine Pesos/per person)	
	Before	After	Before	After	Before	After
Bado Dangwa	15 cavans of rice takes 3 days	Few hours	15.00	5.00		
Nagsurot	15	5			7.00	7.00
Micavice	Shortened travel time					
Sto Rosario	Shortened by 1 day		5.00-10.00	0.00		
Tumbaga	Considerable reduction in travel time		25.00	5.00		
Pinit	30	10	25.00	5.00		

⁶⁹ Further increase in rice production yield to 115 cavans per hectare through introduction of Philrice technology.

De La Paz						
San Augstin	300	30	15.00-20.00	10.00		
NDC-9	60	10	10.00	10.00	10.00	10.00
SDC-6	60	10	10	10	10.00	10.00
Habay-Tinaan	-	-	-	-	-	-
Lapayan Baja				Significant reduction in hauling costs		
Golden Triangle			10.00-15.00	2.00		
Poblacion			15.00-18.00	0.00-5.00		Reduced transport cost
Nabunturan	Improved mobility of people and goods, and greater convenience to residents					
Cagwait	Travel through carabao	Travel through motorized vehicle	5.00-10.00	3.00-5.00		Lower transport costs

Source: Taken from individual project experiences

3. Post harvest facilitie

Utilization of post harvest facilities, particularly the warehouses is very low, with an average of 5 to 10 percent of rated capacities. Only very few warehouses visited have a utilization rate of more than 10%. One warehouse which is 50% utilized is storing mainly fertilizer more than palay. This could only mean any or all of the following:

- There is an over capacity of warehouses in the ARCs; presence of warehouses in the ARCs was not considered in estimating the capacity of the warehouses provided by the project;
- Warehouses have a longer gestation period than irrigation systems or farm-to-market roads;
- The location of the warehouse is, at times, not ideal;
- There exists competition with private traders who provide “integrated services” to cooperatives that are new in the business and providing services, thus making it difficult to shift patronage immediately.
- In very poor ARCs, where average annual household income is PhP50,000 or less, most farmers sell their produce for cash immediately after harvest even though they admit that they will benefit from the use of the warehouse. They are so short of cash that some would sell their palay even before they are dried.

Most cooperatives, and even IAs, managing warehouses believe that utilization of warehouses can be increased substantially if they can engage in palay trading. In most instances, however, they lack capital to engage in this business venture. They cannot borrow from existing banks (such as the Land Bank), however, as most of them have outstanding loans with the bank.

There might also be some errors in the assumptions in designing the capacity of the warehouses provided under the project. In the discussion with NIA, it was admitted that the capacity of the warehouses was based principally on the yield of the potential irrigable area, less the amount for household consumption and some other small considerations. The process seem to have missed to establish the need for the warehouse and the competitiveness factor in operating a warehousing facility.

There was however “unintended” benefits observed in some ARCs. Some cooperatives used the warehouse to store copra, fertilizers and some farm inputs. Some cooperatives even used the office space as cooperative stores.

On the other hand, the solar driers or multi-purpose pavements have high utilization and contributed substantially to reducing moisture contents. This has helped the farmers in getting fair prices for their produce.

With the low utilization of PHF facilities, particularly the warehouses, it can be said that the PHF component has achieved little success in achieving its stated objectives of reducing postharvest losses and generating better prices for their produce.

4. Institutional Development

Institutional development under ARISP was directed at two types of organizations and undertaken by two different institutions. The first is the provision of assistance to irrigators' associations (IAs), which was carried out by the National Irrigation Administration (NIA), to enhance the capability of IAs to operate and manage the irrigation system. The other is the building/strengthening of the capabilities of farmers' cooperatives to become self-reliant and viable organizations, and undertaken by local-based partner institutions (LBPIs) through a national partner, the Philippine Development Assistance Program (PDAP), Inc.

NIA institutional Development Assistance

The institutional development intervention of NIA follows the same pattern NIA employs in the other irrigation systems it develops. They consisted mainly of various training programs on the proper and effective operation and maintenance of the irrigation systems. Among the training programs conducted by NIA were:

- a. Basic Leadership Development Course (BLDC)
- b. System Management Training (SMT)
- c. Financial Management System on Cost Reconciliation Workshop (FMS/CRW)
- d. Value Formation Seminar (VFS)

Following are the major findings:

1. The technical capability of the irrigators associations has been enhanced considering their ability to undertake minor repairs and maintenance works on the irrigation systems. However, for major repairs and maintenance works, they still rely heavily on NIA.
2. Many IAs did not set aside funds for regular maintenance of the facility either because of low irrigation service fee (ISF) collection or simply lack of appreciation on the need for preventive maintenance.
3. Most cooperatives are still weak in financial management. The research showed that out of 16 IAs visited, only two were able to service their amortizations on time. Moreover, except for a few, most IAs are experiencing low ISF collection.
4. Also common to many IAs is the poor implementation of policies, systems and procedures (PSPs), especially in critical operational concerns such as water distribution and ISF collection. This could be a reflection of weak leadership in most IAs.

These factors are critical in ensuring the equitable and sustained delivery of benefits of the irrigation facility to its target beneficiaries.

NGO Partners' Assistance

DAR enlisted the services of PDAP, a national NGO to assist in the selection and management of LBPIs in the *building/strengthening of farmers' cooperatives capabilities to become self-reliant and viable organizations.*

Judging from the PDAP report on the Cumulative Accomplishment of Local based-NGOs on Cooperative Development and Strengthening, it can be interpreted that there is still much to be desired in terms of building/strengthening farmers' cooperatives to become self-reliant (see Table 1 below). Just to cite a few of PDAP's accomplishments: only 32 of 68 (47%) cooperatives were able to set-up policies, systems and procedures; only 25 of 68 (37%) cooperatives were able to prepare their plans and programs; and, only 38 of 68 (56%) were able to install internal performance review. These are in leadership and management KRAs which should have been manualized and where performance targets should have been 100% of

cooperatives covered. In terms of conducting BOD meetings (at least six times a year), from a baseline of 39 coops, this only increased to 52 at the end of the intervention, with 16 other coops not meeting the performance targets. In all the other LBP Class D Criteria, accomplishments were below 80% (of total). Even in the absence of targets, the figures can be considered low.

Many of the IAs and cooperatives visited by the Evaluation Team expressed disappointment and frustration on the LBPIs and NIA. Some DAR field personnel expressed that LBPIs' interventions were duplications of the regular services provided by DAR, and did not see such interventions as gaining value-added benefits for the cooperative.

CONSOLIDATED PERFORMANCE OF ARISP SUBJECT ORGANIZATIONS PER KRAINDICATORS OF THE LBP CLASS D CRITERIA TOTAL SOs ASSISTED : 68						
KRA/Indicator	Baseline	%	Cumulative Accomplishments	%	Variance	%
<i>Membership</i>						
Size	34	50	53	78	15	22
Patronage of Members	16	24	31	46	37	54
<i>CBU and Savings Mobilization</i>						
Ave. CBU/mem/year [a]	14	21	27	40	40	60
Ave. Savings/mem/year	5	7	10	15	58	85
<i>Leadership and Management</i>						
BOD Meetings	39	57	52	75	16	24
Patronage of Business	25	37	37	55	31	44
Core Management Team	29	43	54	79	14	21
Policies, Systems and Procedures	13	19	32	47	36	53
Plans and Programs	2	3	25	37	43	63
Internal Performance Review	14	21	38	56	30	44
<i>Books of Accounts</i>	29	43	59	67	9	13
<i>Business Operations</i>						
Livelihood/Enterprise	41	60	52	76	16	23
Providential Services	10	15	35	51	33	48
<i>Financial Performance</i>						
Repayment of Obligations [b]	0	0	5	18	23	82
Profitability (ROI) [b]	20	71	28	100	0	0
Debt-Equity Ratio [c]	9	39	12	50	12	50
Liquidity ratio [d]	12	41	15	52	14	48
<i>Affiliation</i>	22	32	36	53	32	47
[a] Only 67 SOs were considered in this tabulation due to questionable value reported by an Lb-NGO [b] Only 28 SOs reported data on repayment of obligations and return on investment. [c] Only 24 SOs reported data on debt-equity ratio. [d] Only 29 SOs reported data on liquidity ratio.						

Source: ARISP I- IDC Project Completion Report, PDAP, June 2001

Overall, it can be said that the IDC of ARISP has not adequately met the core objectives of the project. Nonetheless, as some cooperatives have acknowledged, the entire IDC interventions have helped them appreciate their capacity to learn and empower them to become productive members of the community.

IV. ISSUES AND CONCERNS

The following are important issues and concerns that surfaced in the course of field visitation, validation with implementing agencies and project cooperators, discussions with key stakeholders and review of available project documentation.

A. Project Design

1. **Lack of participation of beneficiaries in project design and implementation.** The need for warehouse facilities has not been clearly established. The project have limited the options of the participating cooperative to a warehouse that was not needed by the cooperatives at that time. Also,

community participation in field implementation is not apparent in project documentation. Moreover, some implementors see community participation as only causing delays in project implementation.

2. ***Absence of overall framework for institutional development.*** This resulted in the inadequacy of the training programs and technical assistance to capacitate the cooperatives as intended.
3. ***Delayed sustainability planning*** - Sustainability planning was conducted (April 2002) late right before project end (June 2002) to formulate action plans to sustain the gains achieved during project implementation. Funding for the activities in the sustainability plan may already be difficult to obtain.
4. ***Environmental impacts not considered.*** There is nothing in the project documentation that requires the conduct of an Environment Impact Assessment (EIA) for the infrastructure components of the project.

B. Implementation

1. ***Inappropriate technical design.*** In almost all the ARCs visited, there were complaints on the technical design of the PHFs. *The technical design review and approval process seem to have provided limited opportunity for recipient organizations (cooperatives and IAs) to propose necessary changes and modifications, or for concerned implementing agencies to take appropriate action.*
2. ***Substandard infrastructure facilities.*** In most of the ARCs visited, the recipients of both the irrigation system and the PHF have complaints about the construction of the facilities. This is attributed to inadequate inspection of the infrastructure prior to turn over to the beneficiaries.
3. ***Unsatisfactory performance of some service providers of IDC.*** In most instances, the NGOs contracted to provide the IDC at the field level did not perform as expected.
4. ***Insufficient monitoring of outputs and performance.*** Despite M&E measures installed by the national program manager, there seem to have been insufficient monitoring of implementation of the project performance.

C. Operation

1. ***Underutilization of post-harvest facilities.*** This was the case in all 16 ARCs. Most cooperative recipients concerned have expressed desire to engage in rice trading to maximize utilization of the warehouses. While this appears to be an attractive solution, the problem is that the cooperatives need the infusion of new capital to be able to engage in this business venture. Relatedly, many cooperatives cannot secure new capital particularly from LBP because of their outstanding loans.
2. ***Late/non-payment of amortization*** attributed to attitudes of the members of the cooperative. Further, there are no penal provisions for late and non-payment of the amortization. The low amortization rate for the irrigation systems and the post harvest facilities threatens their continuous repair and maintenance, and sustained delivery of services.
3. ***Barangay funds not enough to take over maintenance of FMR.*** While LGUs, particularly the barangays, were made responsible for the repair and maintenance of farm-to-market roads, in most instances, they do not have the means to undertake to maintain them.
4. ***Limited application of institutional development learnings.*** For cooperatives which received various instidev interventions and PHF, the non-availability of capital or access to credit, the lack of access to market information, and incomplete facilities have prevented them from applying the knowledge and skills gained. They expressed apprehension that these learning may soon be forgotten if they cannot have immediate access to these other essential inputs.
5. ***Water source problems.*** Majority of the irrigation facilities visited are encountering water source problems mainly due to deteriorating forest conditions in the watershed areas.

V. FACILITATING/HINDERING FACTORS

Facilitating Factors

1. Willingness of primary organizations in the different barangays to merge or federate (e.g. formation of Nabunturan Agrarian Reform Community Integrated Cooperative Organization or NARCICO in Nabunturan, alliance with Provincial Federation of Irrigator's Association).
2. Progressive, proactive, capable, willing, and committed local people's organizations and communities (PDAP 2001); and ARCs with a strong sense of cooperation or '*bayanihan* spirit' (e.g. Tumbaga).
3. Strong collaboration among the different government line agencies in the area. Also, presence of other complementary projects by other agencies in the area (e.g. PhilRice's seed production, technical training from Department of Agriculture and other academic institutions, DAR's Small Water Impounding System project in other ARCs).
4. Strong support from local government. Additionally, innovative LGUs who are supportive of the ARCs (such as the Municipality of Sta. Catalina and Nabunturan). One ARC (Nabunturan) is even represented in the Municipal Development Council.
5. Good working relationship between the IAs and cooperatives (Lapayan Baja, Nabunturan and Cagwait) within the ARC has actually created synergy.
6. Cooperation, receptiveness and openness of ARBs to learning and discovering/exploring new things.

Hindering Factors

1. There appears to be some degree of tokenism in terms of community participation and that if participation happened at all, it is to simply inform the members of the community. To some extent, there still exists the "experts-know-best" attitude which has hindered getting valuable contributions from the community, specifically the farmer's organizations. The lack of framework for community participation has actually reinforced the "experts-know-best" attitude and did not allow genuine participation to happen.
2. Many cooperatives are presently inundated with problems of past debts. This has made it hard for the existing officers to maintain the confidence and loyalty of members. Many IA members are deterred from joining the cooperative because of this burden.
3. The continuous change in the set of officers of the cooperatives (annual elections), and the lack of conscious effort on their part to train second liners had adversely affected the management of the said organizations.
4. The lack of access of farmer-beneficiaries to reasonable credit facilities has forced them to avail of credit from unscrupulous businessmen at exorbitant interest rates.
5. There still exists among many ARBs the "dole-out and free-ride mentality," which affects the timely payment of dues.

VI. Conclusions

Using data from 16 Agrarian Reform Communities, the study results show that ARISP 1 has a positive impact on farmer beneficiaries. It has improved the productivity and income levels of farmers' households in the participating ARCs. It has been shown that the immediate objectives to increase farm production, productivity and cropping intensity (irrigation component) have been achieved. Also, the farm to market roads generally resulted in reduced travel time and transport costs and improved access to markets. The FMR resulted in other benefits that included access to schools by school children, improved convenience in traveling, among others.

The objectives of the irrigation component have been achieved substantially with increased farm productivity and cropping intensity.

Likewise, solar driers or multi-purpose pavements had high utilization and contributed substantially to reducing moisture contents and has helped the farmers in getting fair prices for their produce. However, the post harvest facilities particularly the warehouses were underutilized in all 16 ARCs. This did not achieve its objective of reducing post harvest losses and the improvement of quality of farm produce mainly because of the deficiencies in technical design and construction of the facility.

The IDC proved insufficient in improving the capability of the farmers organizations (cooperatives and irrigators associations) in managing the facilities, in particular, and of the general affairs of the respective organizations.

For future projects, the main challenge is how to build on the gains of the project and to ensure its sustainability. Future project of ARISP should have an overarching framework that considers social, economic and environmental factors as well as the complementation of the different components. The importance of community participation should not be underestimated since it is the communities who know their actual problems and needs. Communities should be part of the design as well as in the implementation of the project.

Provision of infrastructure needs to be supported by sufficient institutional development interventions such as provision of credit as well as capacity building. Efforts should be made to facilitate establishment of networks (including federations when appropriate) between ARCs to enable them to share their experiences and resources and in advancing the common concerns and interests of their member organizations. Rice trading can be done through the federations.

Environmental considerations need to be integrated to define the range of impacts and the corresponding mitigating measures and appropriate environmental safeguards.

Monitoring of project implementation should be undertaken to determine status of project implementation as well identify issues and concerns at the field level.

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14. SRI LANKA

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Revitalizing Productivity and Income Effects of Social Capital: Mainstreaming Social Capital for Rural Poverty Reduction in Sri Lanka

ABSTRACT

Poverty in Sri Lanka is still largely a rural phenomenon that remains as a critical, unending dilemma, and it raises a question if current poverty reduction programs are effective in rural areas. With this regards, this study focuses on social capital since it is considered to be a missing link in economic development, and investigates the income effects of social capital from economic perspectives with a view to redesigning rural poverty reduction policy in Sri Lanka. The empirical analyses are based on primary data collected from a sample of 540 households of 32 villages selected in 4 districts in Sri Lanka.

Three significant findings are obtained: First, among relatively poor households social capital is crucial to enhance household income complementing physical and human capitals, but such an effect of social capital diminishes as household income increases. Second, each dimensions of social capital has a different impact on household income. While traditional type of social capital such as participation in groups and collective works and solidarity has no positive effect on household income, new type of social capital that facilitate sharing and caring village common productive assets significantly increases household income. Third, social capital that strengthens external networks does not have a positive effect on household income, indicating the networks provided by NGOs and government officers do not help income generation. In conclusion, the findings clearly suggest the need for redesigning the integrated community development programs. But, what is required is new social capital that will meet the needs of market-driven development in Sri Lanka.

1. INTRODUCTION

Sri Lanka's population is 19.7 million in 2004 and its GDP per capita is US\$ 870, almost the second highest in South Asia. With the public investment in social development since the independence, the indicators of education and basic health facilities are quite satisfactory. However, poverty levels in Sri Lanka remain high in spite of considerable public support provided through anti-poverty programs (Ahmed and Ranjan, 1995). According to the most recent statistics, while annual growth rate of GDP per capita was 3.2% on average from 1990 to 2002, the reduction of poverty rate did not match that growth: from 26.1% only to 22.7% (World Bank, 2005). In fact, although the poverty rate in urban sector became half, i.e. from 16.3% to 7.9%, that in rural sector remains almost unchanged during the same period. It is even argued that during the last 40 year period, ratio of poverty, inequality, and standard of living in rural sector remained almost the same.

The rural sector in Sri Lanka consists of about 15 million people or 75 to 80 percent of the total population. Out of the total rural population, 90% or 13.5 million (about 3.2 million to 3.5 million households) are considered to be poor⁷⁰. Disparity between urban and rural economies is quite visible, indicating that

⁷⁰ Poverty statistics/indicators of Sri Lanka are provided by
the Department of Census and Statistics (2004).

economic growth in the cities does not equally affect the rural sector.⁷¹ The rural poverty is emerging as one of the most serious challenges facing the policy makers in Sri Lanka (World Bank, 2000). Most urgently the primary responsibility for fighting poverty lies with the government and people of the rural sector. Therefore, it is high time for Sri Lanka to redesign its poverty reduction strategy so as to ensure the benefits of the markets reforms renewed in the early 1990s.⁷²

This study is devoted to evaluate the key elements of community factors using household survey undertaken in rural areas and to derive policy lessons for redesigning integrated community development in Sri Lanka. According to the studies of Ahmed and Ranjan (1995), Anand and Kanbur (1995), and Silva, et al. (2002), fundamental weakness of the poverty reduction strategy in Sri Lanka is the insufficient attention paid to production/trade orientation and creating the level playing field for rural producers relevant to the markets. Gunatilake and Williams (1999) have confirmed the same relevant to poverty reduction projects funded by the donors.⁷³ With this regard, economists as well as sociologists consider that social capital is a missing link that needs to be given due concern when redesigning the future

⁷¹ Disparity between urban and rural sectors has been discussed extensively and the government has programmed to adopt a comprehensive poverty reduction action plan since 2002. The plan was well structured in "Connecting to Growth: Sri Lanka's Poverty Reduction Strategy," Development Forum Colombo, June 2002.

⁷² Since independence Sri Lanka changed its economic policy several times: from the independence to 1977 it focused on inward-looking, self-sufficient economy; since 1977 it has adopted liberalized, market-based approach; and in the early 1990s the market reforms were renewed.

⁷³ The study of Reimer (2002) and van de Walle (2002) showed that search for market related solution and linking trade with poverty reduction program help rural households to enhance the income.

development strategies.⁷⁴ For example, Collier (1998) examined social capital and its related benefits to traders enhancing their income while Fafchamps and Minten (1999) envisaged the network effects and entrepreneurial benefits of social capital. Social capital is considered as one of the key resources that contribute to the production of goods and services (Grootaert and Narayan, 2001). A study by Grootaert and Bastelaer (2002) further confirmed the role of social capital in terms of generating positive contributions to economic and social well-being. However, the concept of social capital from an economic perspective has not yet been demonstrated as a part of the poverty reduction programs in Sri Lanka (Uphoff and Wijayarathna, 2000). Therefore, this study focuses on social capital so that it will serve to enrich the poverty reduction programs incorporating its societal dimensions, which would be relevant not only to Sri Lanka but also to many other developing countries.

The empirical part of this study is based on the data collected in the project site of Rural Village Resuscitation: One Product/One Village Program (RVROOP) that is in operation at present as a completely different approach to rural poverty reduction implemented by the Rural Economy Resuscitation Trust Fund (RERTF) in Sri Lanka. RVROOP is based on the principle of community-driven and demand-driven approach. The RVROOP is involved in redesigning a new approach to poverty reduction in Sri Lanka and it will be a fruitful ground to test the importance of social capital for poverty reduction.

The rationality of this study is as follows. First, there is a need for redesigning integrated efforts as a solution to on-going poverty dilemma. Second, it is necessary to ascertain what form of social capital needed to rebuild the integrated effort to community development, as clearly mentioned by Woolcock (2001) and Songco (2002). Third, specifically a debate on trade liberalization is going on in Sri Lanka: some argues that the poverty is a result of an erosion of social capital which had been crucial in traditional subsistence villages; but others, for example, Abeyratna (2001), shows that the market integration has generated more benefits than the cost to the rural villages in terms of new employments, foreign remittances, resource mobilization, enhancing income levels together with a better living standard than traditional agricultural villages⁷⁵. All the points above justify that an investigation of the income effect of

⁷⁴ Definition of social capital is not discussed in this paper.

Grootaert (2001) describes social capital as some set of norms, networks, and organizations through which people gain access to power and resources and through which the decision making and policy formulation occur. Woolcock (2001) views social capital as "one's family, friends, and associates that constitute an important asset," and "one that can be called upon the crisis and enjoyed for its own sake."

⁷⁵ The comparative household income/expenditure data show that the unprecedented growth of household income and assets has taken place since the 1980s and overall living standard has gone up with diverse set of income generation

social capital for village based economy is critically important and pressing need for the market integration and modernization (Dissanayake, 2001a and 2001b; Abeyratna, 2001).

The organization of this paper: section 2 briefly presents the objectives of the study; section 3 describes the outline of the data and methodology; section 4 presents the characteristics of sample households; section 5 discusses the regression results; and section 5 provides concluding remarks and policy implications.

2. OBJECTIVES

The overall objective of this study is to investigate the income effect of household level social capital with a view to redesigning rural poverty reduction policy in Sri Lanka. The hypothesis is that social capital enhances income at household level.

In achieving this objective, the study considers the dimensions of social capital and analyzes the income effect of each dimension so that relevant policy implications for successful integrated community development can be drawn.

There is some delimitation in this study. First, this study focuses attention only on rural producer households and their economic activities in selected villages. Second, this study is limited to evaluate the role of the social capital, and other forms of capital, i.e., natural capital, physical capital, human capital, and financial capital are not analyzed. Third, this study is limited to analyze the impact of social capital in terms of poverty reduction and does not evaluate the related development outcome particularly the equity aspects.

3. DATA AND METHODOLOGY

3.1 The Data

The primary data for this study were collected in 32 villages purposefully selected from 198 villages where RVOOP is implemented (see the map in Appendix 1 for their location). To have diversity among sample villages in terms of subsistence strategy, all the villages were stratified into three clusters and sample villages were randomly drawn from each cluster. Three clusters are (1) paddy-based agricultural villages, (2) export-crop villages, and (3) off-farm activity villages. The sample sizes are 10 villages from the first cluster, 12 villages from the second cluster, and 10 villages from the third cluster. Then, 10 to 20 households were randomly selected in each sample village for household survey.

The household surveys were undertaken by independent surveyors who interviewed each household head separately from May to September 2004⁷⁶. The survey schedule consists of five main sections. They are: (i) village level collective data section, (ii) household level basic data section, (iii) household's collective action, cooperation, social cohesion and collective social activities, (iv) economic activities of the household, and (v) rural markets and prices for the rural produce. A similar data set has been used by Narayan and Pritchett (1997), Grootaert (1999), and Wiig (2003) to investigate the role of social capital in providing service delivery and in affecting rural communities' welfare and poverty reduction. Uphoff and Wijayaratna (2000) too investigated the demonstrational benefits from social capital in Gal Oya area in Sri Lanka using a similar set of data collected from that particular community. Krishna and Uphoff (1999) and Krishna (2004) did a similar study in Rajasthan State in India.

as a result of trade liberalization and globalization

(Department of Census and Statistics, 2003).

⁷⁶ The surveyors are government community officers specially trained for the purpose, who are not strangers to the villagers.

In addition, qualitative data were collected by selected surveyors who are working at community level organizations. The survey schedule was designed to collect data at village level as well as household level, and data were collected through interviews, focus group discussions, and observations covering households, village leaders, community associations, village level government officers, social workers, and different social representatives in the village. Sometimes, the surveyors participated in the meetings of the village community associations and observed the associational responses. At the same time, the views of the community associations have been compiled with village leaders, members as well as non-members in order to get a balanced view. Moreover the surveyors collected qualitative data and information on each household through observations, private interviews, and discussions with family members. Secondary data for this study were obtained from the publications of the Central Bank and the Department of Census and Statistics. Secondary data play a dual role in this study. Firstly, they will be filling gaps and deriving meaning for a given household situation. Secondly, they will help to cross check the validity of the primary information.

3.2 Sample Village Profile

The profile of the 32 sample villages is presented in Table 1. Total population of the sample villages is 19,819, and the number of households amounts to 5,440. Thus, an average of 3.5 to 4.0 people resides in one household. Forty-four percent of the total households are Samurdhi recipients, who are considered to be living below the poverty line. In each sample village, about 10% of total households are randomly selected for the household survey, and hence the sample size becomes 540 out of 5,440 households.

The first cluster consists of 10 paddy-based agricultural villages located in the Kuliyaipitiya East and West Divisional Secretary Divisions in Kurunegala District. Paddy and coconut production is the dominant economic activity in the two Divisions. The number of sample households is 137, which is nearly 10% of the total of 1341 households in the 10 villages. The average income of the 1,341 families is estimated to be Rupees 12,440 (US\$ 124) per month or US\$ 31 per person per month, which includes 524 Samurdhi recipients.

In the second cluster, 12 villages in Kolonna Divisional Secretary Division of Ratnapura District are selected. Households in this division rely on the income from several export crops such as tea, cardamom, pepper, coffee, cinnamon, clove, and nutmeg that are cultivated in 1 to 2 acres of home garden. Some of them have small paddy fields, cultivated as a supplemental income source. These villages are situated about 150 kilometers from Colombo and 50 kilometers from Ratnapura. The distance is a major factor affecting the prices of crops. Very often, farmers receive low prices offered by the intermediary traders who come to the villages because these villages are on highlands without proper roads and other facilities. There are 941 Samurdhi recipient families out of 1,668 total households in the 12 villages, from which 190 households are selected for the survey. The average income is estimated to be Rupees 6,027 (US\$ 60) per month, which is significantly lower than the other two clusters.

The third cluster consists of ten villages spread over three districts. These villages are classified as non-agricultural villages producing handicrafts, pottery, ornamental items, and traditional crafts with home based agricultural activities. Three of the ten villages, namely Palagama, Weniwelkola, and Ihalakosgama, are located in Colombo District, closer to the capital city. Thanks to the better market opportunities, the poverty in terms of Samurdhi recipients is not comparative to the other villages. That is, 13 households are receiving Samurdhi out of 264 households in Ihalakosgama, 55 out of 487 households in Palagama, and 82 out of 320 households in Weniwelkola. Other five villages are situated in Kurunegala District 100 to 150 kilometers away from Colombo, and the remaining two villages are in Kegalle District about 50 kilometers away from Colombo. The average income of the households in the ten villages is Rupees 10,358 or US\$ 103 per month.

3.3 Construction of Capital Variables

The survey has been designed to examine the impact of household's social capital endowments on the level of household income by controlling for human capital and physical capital endowments that are

already known to have a positive effect on income. For this purpose, an index of social capital is constructed following the literature, as a weighted sum of indices of six dimensions shown in Table 2.

The first dimension concerns with household's involvement in existing village-level associations. In the study site, funeral societies are the most popular one, followed by farmer associations, cooperative societies, savings societies, Samurdhi societies, craftsmen societies, teacher/parent societies, and Buddhist temple societies. In traditional craftsmen communities, associational relationship is an essential part of the village life (Wiig, 2003). Rural associational connections are considered to be vital aspect of social capital that reduces the transaction cost among the members (Uphoff, 1993; Grootaert, 1998).

The second dimension measures the internal connectedness in traditional, informal groups since groups based on caste, culture, occupations, age, and/or kin are still very powerful in Sri Lankan villages. These characters are still quite influencing in cast-based villages while other villages have somewhat modern types of internal relationships. In addition to them, household's mutual contributions to neighbors' welfare and household's societal friendship are included in this dimension. Three types of village-level exchange systems in Sri Lanka, Attam, Kayya, and Sramadhana, are particularly considered in this context.

Sri Lankan village communities are well known for group-based collective activities. This factor has been taken in the third dimension as follows. First, household's participation in RVROOP sponsored construction of roads, markets, community centers, etc. is rated. Second, household participation in other collective work during the last 12 months is rated. Third factor is household's voluntary contribution to Samurdhi Program, and fourth one is household's solidarity in terms of voluntary contribution to the community common projects. Then, finally household's leadership in those group-based community works is taken into account.

Household's personal relationship with government officers such as Divisional Secretary, Grama Seva officers, and others constitutes the fourth dimension, because they are important part of the village life in Sri Lanka affecting community development through organizing and carrying out governmental works.

The fifth dimension is for household's utilization of village public goods such as school, health center, community center, cooperative society, roads, etc. The utilization means sharing and caring of these public goods, which are considered to reflect household's social capital.

The last dimension is to capture the network with external organizations. In Sri Lankan villages, there are many private contributors and non-governmental organizations such as NGOs, credit and saving associations, banks, traders, manufacturing companies, women's organizations, etc., which are involved in village activities.

If we classify the six dimensions of social capital, the first three dimensions are considered to have existed traditionally in Sri Lankan villages facilitating cooperation and solidarity among the villagers, while the last three dimensions are relatively individualistic and new forms of social capital that promote relationship with outside-village agents like NGO's and government officers and utilization of non-traditional common facilities.

On the other hand, a human capital index is constructed on the basis of six dimensions shown in Table 3. The human capital index focuses the economic behavior or income earning characteristics of individuals as well as households as shown by Schuller (2001). Similarly, a physical capital index is a composite variable of four dimensions as shown in Table 4. The four dimensions cover all types of productive physical capital, either movable or immovable, that a household possess and the level of their utilization. In addition, not only privately owned assets but also public goods such as infrastructure are included.

The three capital indices are used as explanatory variables in the analyses to be explained in the following section.

3.4 The Data Analysis Framework.

The methodology of this study follows previous quantitative studies on the effect of social capital such as Narayan and Pritchett (1997), Collier (1998), Grootaert (1999), Grootaert and Bastelaer (2002), Pretty and Ward (2001), Wiig (2003), and Krishna (2004). The data analysis framework has four stages. At the first stage, the social capital will be measured as an index in the way explained in the previous section. Then, at the second stage, the direct relationship between the social capital index and the level of household income will be investigated. Third, the human capital and physical capital indices will be included in the model so as to test if the social capital index has any impact on household income by controlling for other capital endowments. Finally, the social capital index is disaggregated into six dimensions in order to see differential impact of each social capital dimension in the same model as the previous stage.

The first model is simply to examine whether a higher social capital endowment leads to a higher income, as follows.

$$E_i = \alpha_0 + \alpha_1 SC_i + \alpha_i \quad (1)$$

where subscript i stands for household i , the dependent variable E_i is household's current expenditure per capita per month used as a proxy for household income, and the explanatory variable SC_i is the social capital index. Both E_i and SC_i are expressed in terms of natural logarithm. The coefficients to be estimated are α_0 for the constant term and α_1 for social capital, and α_i is the error term.

Then, the inclusion of the variables for human and physical capital indices in equation (1) gives the second model as below.

$$E_i = \alpha_0 + \alpha_1 SC_i + \alpha_2 HC_i + \alpha_3 PC_i + \alpha_i \quad (2)$$

where HC_i and PC_i are human capital index and physical capital index respectively in terms of natural logarithm. α_0 , α_1 , α_2 , and α_3 will be estimated.

However, there is possibility that the each dimension of social capital may have different effect on household income. In order to see such differential impact, the social capital index is disaggregated in the third model as below.

$$E_i = \alpha_0 + \alpha_1 SCA_i + \alpha_2 SCC_i + \alpha_3 SCG_i + \alpha_4 SCB_i + \alpha_5 SCV_i + \alpha_6 SCN_i + \alpha_7 HC_i + \alpha_8 PC_i + \alpha_i \quad (3)$$

where the social capital index in equation (2) is disaggregated into six variables (refer to Table 2): SCA_i is for "involvement in associations/societies in the village," SCC_i is for "connectedness within groups/communities," SCG_i is for "participation/contribution to village collective group works and projects," SCB_i is for "relationship with government officers," SCV_i is for "utilization of village common facilities," and SCN_i is for "involvement in NGOs and other external organizations." All the variables are expressed in terms of natural logarithm. α_0 , α_1 , α_2 , α_3 , α_4 , α_5 , α_6 , α_7 , and α_8 are parameters to be estimated.

4. SURVEY RESULTS

The survey results, as shown in Table 5, reveal that the mean household income per month is around Rupees 9,401⁷⁷, which implies that the mean per capita income is about Rupees 2,350 per month⁷⁸.

⁷⁷ National household income per month is Rupees 12,803 or US \$128 for a family with 3.8 members, according to the Department of Census and Statistics (2004). The district level figures are as follows: Kurunegala, Rupees 10,771;

As shown in Figure 1, income distribution among the sample households is highly skewed, where the highest is Rupees 46,263 per month and the lowest is Rupees 2,500. The highest is found in Wathukana village in Kurunegala District although there are 100 Samurdhi recipients in the same village. This is a paddy-based agricultural village with income from coconut sales. Except for 10 landless households, all have their own land with coconut trees. There are six households whose income is more than four times of the average income of the village: they rely on either government pension or foreign remittances. With respect to the foreign remittance, 70 households out of 540 sample households receive foreign remittances from their family members, which ranges from US\$ 50 to 150. On the other hand, the lowest household income is reported in Kellagama village in Kolonna Divisional Secretary Division in Ratnapura District. This village belongs to the second cluster, export-crop villages. Udawaththa Village, also in the second cluster, has a low income of less than Rupees 4,000 per month. These villages in the second cluster are located in very remote area and their per capita income is Rupees 1,359 on average, which is below the official poverty line of Rupees 1,423. On the other hand, the average household income of the third cluster, off-farm activity villages, is about Rupees 10,358, which is much higher than in the second cluster.

As for physical capital, the mean of physical capital index is 35 while median is 34 (Table 5). It implies that physical capital is quite evenly distributed, but as shown in Figure 2 its distribution shows two-peaks ranging from 8 to 90. This is consistent with the known reality in Sri Lanka (World Bank, 2000; Department of Census and Statistics, 2004). The household with the highest physical capital index of 90 is in Weniwelkola village in Colombo District and its monthly income is Rupees 40,000. This household has five acres of paddy land, agricultural equipments, and a hand tractor and employs three people. The lowest physical capital index of 8 is found with a household in Akkarayaya village in Ratnapura District and its household income is less than Rupees 3,600 per month. Akkarayaya village is far away from Ratnapura located in mountains 4,000 feet above the sea. The villagers occasionally visit the closest town, Embilipitiya, while agents of traders come to the village to collect village produce at a lower price. There are no marketing facilities or a connected rural road.

The human capital index, on the other hand, shows a distribution close to normal with the mean of 42 and the median of 44 ranging from 16 to 87 (Table 5 and Figure 3). The highest human capital endowment is found in paddy-based agricultural villages with considerable level of education, special skills, training, and

Ratnapura, Rupees 8,518; Kegalle, Rupees 8,342. The highest household income, Rupees 22,420, is found in Western Province, while household income in other districts is reported to be less than the national average, indicating income distribution disparity in Sri Lanka.

⁷⁸ The Department of Census and Statistics (2004) announced in June 2004 that Sri Lanka's official poverty line is Rupees 1,423 per person per month in 2002 prices. The Department also figures that per capita income of the poorest 40% is less than Rupees 1,672 per month, while the richest 10% earn more than Rupees 5,717 per month.

competence on some income earning avenues. In Wathukana and Palagama, many are educated and their income is also high when compared with that of other villages. In Wathukana the head of the household with the highest index of 84 is a university graduate maintaining diversified income sources. Similarly, in Palagama, the household with the highest index of 80 has a high income with special training and fairly satisfactory physical capital. The lowest human capital index of 16 is found in a household in Akkarayaya village, whose income is less than Rupees 100 a day. However, in some cases, households with good human capital index have low income. Such households are found in Samagipura, Akkarayaya, and Galkandagoda villages in Kolonna Divisional Secretary Division in Ratnapura District, where a household whose human capital index is 84 earns Rupees 6,000 per month, another household with 80 of human capital index earns Rupees 4,000 and another household with 67 of human capital index earns Rupees 4,200. Such a situation happens because educated people cannot have a meaningful income opportunity due to the high unemployment rate in Sri Lanka.

Finally, the social capital index is found to be quite evenly distributed closed to normal (Table 5 and Figure 4). The highest social capital endowments exist in paddy-based agricultural villages such as in Samagipura, Dunupotha, Wathukana, and Katuwaththewela while the lowest social capital endowments are in Akkarayaya of the second cluster and in Wellarawa and Yahalegedara of the third cluster. Since Akkarayaya village shows lowest physical as well as human capital indices, the result may indicate that low social capital endowments are also associated with low income. However, as shown in Table 6, average level of social capital index does not much differ among the three clusters. Even though the index is disaggregated into six dimensions, there seems to be little difference among the three clusters. Therefore, unlike physical capital and human capital endowments, the impact of social capital endowments on household income is not so obvious. Accordingly, regression analyses are required to investigate the effect of social capital by controlling for other factors.

5. REGRESSION RESULTS

The result of the estimation of equation (1) is given in the first column of Table 7, which confirms the significant income-enhancing effect of social capital endowments. However, R^2 is very low in this regression implying that household income is largely determined by other factors such as physical capital and human capital. Hence, equation (2) which includes both physical and human capital indices is estimated. The result is in the second column of Table 7. Now, R^2 is satisfactorily high, and both human and physical capitals are found to increase household income significantly as expected. However, unlike the result of equation (1), social capital endowments have now a significantly negative effect on household income.

In order to explore the reason why equation (1) and equation (2) provide inconsistent results, the relationship between household income and capital endowments are graphically presented in Figure 6, using the data of 24 households in four villages: Yahalegedara, Kongolla, Palagama, and Weniwelkola. As shown in the figure, while both human and physical capital endowments have a positive relationship with household income all over the index range, social capital does not show such a monotonous relationship with household income. For relatively poor households, the relationship between social capital and household income is positive, but for relatively rich households, the relationship is negative. This implies that among relatively poor households social capital is important to enhance household income complementing physical and human capitals, but such an effect is diminishing as household income level increases. Probably this feature of social capital is causing the inconsistent results of equation (1) and (2), and it suggests that each dimension of the aggregated social capital index may have a different impact on household income. Hence, instead of the aggregated social capital index used in equations (1) and (2), disaggregated social capital indices are used in equation (3).

The estimated result is given in Table 8. As expected, R^2 is as high as equation (2), and coefficients for human and physical capital indices are very close to those of equation (2). However, it is found that while

one of the six social capital dimensions has a positive, significant effect, the others have no or a negative effect⁷⁹.

First of all, among the three new dimensions of social capital, “utilization of village common facilities” has a significantly positive effect on household income, which is related to the rate of sharing and caring of public goods. It has well demonstrated that the rate of utilization and sharing of village based public goods is considered to be strong part of village level collective social capital (Uphoff and Wijayaratna, 2000). For example, households in off-farm villages need to share community centers and commonly owned machines such as clay processing facilities. The observation in Yahalegethera and Palugama reveals that the productivity has increased after replacing common clay processing facilities. Those are related with income-generating activities particularly in the market-oriented economy.

However, the other two non-traditional dimensions, “involvement in NGOs and other external organizations” and “relationship with government officers” do not have any positive impact on household income, or even the former is found to have a significantly negative effect on household income. In the study site, five villages have NGO activities while informal groups have many activities such as women empowerment, credit societies, non-alcoholic societies, religious and environmental group activities in other villages. Their non-positive impact on household income is not expected since both of them are assumed to strengthen household’s network with outside. The reason of the unexpected effect is not well explained, but at least it is obvious that such activities except for the credit do not give any direct economic benefit to households and that the more involved, the more time to loose⁸⁰. Moreover, because villagers in general do not trust the government officers and politicians, according to the discussions with villagers, relationship with them will not work to explore income generation opportunities.

⁷⁹ Since the level of correlation between the independent variables is not so high, multicollinearity does not seem to be a serious problem in the estimation of equation (3).

⁸⁰ A seemingly-easier interpretation is that relatively poor households tend to participate in those activities. However, such an interpretation inverses the causality: it is not an effect of social capital on income, but an effect of economic status on social capital. This study assumes that social capital has been accumulated for a long period of time, while household income measured by current expenditure reflects only one-time economic status, and hence the reverse causality is not acceptable. In addition, it is not consistent with Figure 6 where the negative relationship is observed among relatively rich households.

On the other hand, none of the three traditional dimensions of social capital shows any significant effect on household income. "Involvement in associations/societies in the village" should have a positive impact because they could provide villagers with financial benefits to some extent. The most popular association is funeral societies in the villages which will pool resources for sharing in an emergency situation. Other typical associations include farmers' societies, Samurdhi societies, craftsmen societies, and youth clubs. However, focus group discussions reveal that these associational relations are now almost destroyed by the political interferences. For example, Samurdhi societies are highly politicized and financial and non-financial benefits of Sumurdhi recipients are directly linked to the associational relationship with different political cliental. This tendency is considered to be the reason of the non-significant effect. In fact, many households believe community associations are unproductive and waste of time because there are too many number of associations in one village.

"Connectedness within groups/communities" does not have a significant impact on household's welfare, either. Such internal ties are still strong in traditional rural villages, but the analysis result implies that the traditional characteristics are no longer important in the modern market economy. The effect of "participation/contribution to village collective group works and projects" is also insignificant, which may be unexpected since collective works such as tank management are still important part of village economy even in the modern market economy. The reason is explained as follows. The economic impact should depend on the performance of collective action itself, which may be determined by the number of participants and the contribution (work effort or money contribution) of the participants. Therefore, participation of one household has little to do with the performance of collective action, and hence no effect on his/her own income is observed.

The summary of the findings from the regression analyses is as follows. First, the analyses indicate that although aggregated social capital index seems to be positively associated with household income, each dimensions of social capital has a different influence on household income once physical and human capital endowments are controlled for. This is considered to cause the backward-bending shape of the aggregated social capital index shown in Figure 6. Second, the analyses show that village common facilities have a positive effect while other dimensions of social capital have no or negative effect on household income. Among them, participation in collective work, the number of associations, and connectedness within groups are considered to be plenty in traditional communities in Sri Lanka, but have no significantly positive impact on household income. Hence, it can be concluded that the market-oriented reforms have changed in household relationships with others, and brought different ideas and new opportunities to the villagers and consequently are requiring individualistic, new forms of social capital that facilitates households' income generation in the villages. On the other hand, "involvement in NGOs and other external organizations" and "relationship with government officers" would have a positive influence on household income in market-oriented economy since they provide villagers with external networks. However, the fact that they have no positive effect implies that NGOs and government officers are not promoting income-generation in the liberalized economic environment.

6. CONCLUSIONS

The investigation of income effects of social capital is the major concern of this study. The empirical analyses are based on primary data of 540 sample households spread over 32 villages in 4 districts in Sri Lanka. First of all, as expected, the data show significantly positive relationship between physical capital and household income as well as between human capital and household income. An interesting observation from the data, however, is that there is a positive relationship between the aggregated social capital and household income to a certain level of income and thereafter it resulted in negative relationship when the income increases further up. This implies that among relatively poor households social capital is crucial to enhance household income complementing physical and human capitals, but that among relatively rich households social capital does not necessarily enhance household income.

The analysis using disaggregated social capital indices shows that each dimension of social capital has a different effect on household income, which is considered to be the reason why the aggregated index does not show a monotonous relationship with household income. The results of this analysis indicates that some types of social capital that conserve traditional values like solidarity and cooperation among communities have little impact on household income. On the other hand, individualistic, new forms of social capital for sharing and caring village common facilities for production is found to facilitate income-

generation and to enhance household income in the market-oriented environment. But social capital related with external networks does not show a positive influence on household income even though it is also non-traditional. The insignificant effect implies that the external agents such as NGOs and government officers are not yet market-oriented and consequently do not help households to generate income through market activities.

In summary, the survey findings clearly suggest the need for redesigning the integrated community development programs because the existing poverty reduction efforts are no longer economically effective and feasible in the present context. In this endeavor, social capital has been identified as a missing link of the capital endowments, and hence it needs to be incorporated into all poverty reduction programs. However, what is required is not traditional social capital but new social capital that will meet the needs of market-driven development in Sri Lanka.

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Table 1. Sample Village Profile

VILLAGE NAME	NUMBER OF POPULATION	NUMBER OF HOUSEHOLDS	NUMBER OF SAMURDHI RECIPIENTS	HOUSEHOLD INCOME (Rupees/Month)	NUMBER OF SAMPLE HOUSEHOLDS
Cluster One : Paddy-based agricultural villages					
Korossa	205	72	58	13450	10
Wathukana	909	246	100	16263	20
Dunupotha	603	157	92	11075	20
Katuwaththewela	338	102	53	15210	10
Pitadeniya	519	200	30	13817	18
Kurakkanhangedara	158	39	24	10625	11
Rukmale	121	49	40	11120	10
Dalupothagama	864	165	70	9519	10
Karangamuwa	887	265	21	10169	18
Kekulakada	140	46	36	13155	10
Total (average)	4744	1341	524	(12440)	137
Cluster Two : Export-crop villages					
Buthkanda	218	49	34	8157	15
Udawaththa	1824	562	316	3933	15
Pitakandagama	554	155	84	6907	15
Samagipura	235	44	34	4417	15
Galkandagoda	400	56	48	5483	15
Thalagahawaththa	815	142	75	4987	14
Kellagama	154	30	19	3546	14
Buluthota	417	92	28	4903	15
Akkarayaya	168	35	10	4590	15
Kelikanda	237	60	45	4879	15
Wallarawa	975	191	146	6269	21
Wellikanna	1264	252	102	14255	21
Total (average)	7261	1668	941	(6027)	190
Cluster Three : Off-farm activity villages					
Palagama	1777	487	55	11680	20
Weniwelkola	1150	320	82	12423	20
Maldeniya	228	119	24	7665	20
Kongolla	861	250	164	9035	20
Yahalegedara	685	176	50	9195	20
Palugama	465	134	100	8186	25
Hawluwa	376	94	69	12133	25
Manawa	597	137	98	12613	24
Maniyangama	473	360	200	11100	20
Ihalakosgama	1016	264	13	9548	19
Total (average)	7628	2341	855	(10358)	213
Overall	19819	5440	2390	(9608)	540

Table 2. Dimensions of Social Capital Index

Dimensions	Weight in 100	Remarks
Involvement in associations/societies in the village	20	Household involvement in existing village-level associations/societies on the basis of active memberships, holding of posts in the associations, payment of membership fees, and involvement in the decision making process
Connectedness within groups/communities	25	Household's relationship with neighbors, kin group, and age groups. In addition, household's mutual contributions to neighbors' welfare and household's societal friendship are considered
Participation/contribution to village collective group works and projects	25	Household's voluntary participation in and contribution to village-level collective group works and projects such as construction of roads, community centers, Samurdhi program, as well as its leadership
Relationship with government officers	10	Household's personal relationship with government officers like Divisional Secretary, Grama Seva officers, and others
Utilization of village common facilities	10	Household's utilization (i.e. sharing and caring) of village common facilities such as public school, health center, community center, cooperative societies, tank, roads, etc.
Involvement in NGOs and other external organizations	10	Household's involvement in the activities of external private/non-governmental organizations such as NGOs, credit and saving associations, banks, traders, manufacturing companies, women's organizations, etc.

Table 3. Dimensions of Human Capital Index

Dimensions	Weight in 100	Remarks
Age and workable period	10	Household members' age and workable period, which is assumed from the age of 18 to 60
Education and professional level	20	Academic qualifications attained by the household members
Occupational experience	10	Number of years/periods of employment and job experience of household members
Training/Special skills	10	Special training, certificate, and usage of the training on the job by household members
Income earning avenues	20	Household's main income earning job and other additional jobs
Capacity and income earning ability	30	Resources and capacity owned by household members for income generation

Table 4. Dimensions of Physical Capital Index

Dimensions	Weight in 100	Remarks
Productive immovable assets	25	Households ownership of productive lands, buildings and cultivated leased lands
Movable assets used for production	25	Households ownership of vehicles, machinery, equipment, tools, and any other production accessories
Public and private business infrastructure	25	Usage of all infrastructure facilities owned by household or by the public
Other income generating assets	25	Households ownership of assets for extra income earning

Table 5. Descriptive statistics of the results.

	Household income	Social capital	Human capital	Physical capital
Mean	9401	52	45	35
Median	8000	52	44	34
Mode	5500	49	42	45
Standard deviation.	5934	9.87	13.1	15.5
Skewness.	1.98	-0.39	0.27	0.43
Minimum	2500	20	16	8
Maximum	46000	77	87	90
Number of Sample	540	540	540	540

Table 6. Disaggregation of Social Capital

Social Capital Dimensions	Cluster One	Cluster Two	Cluster Three
Involvement in associations/societies in the village	10	9	11
Connectedness within groups/communities	14	13	13
Participation/contribution to village collective group works	14	14	13
Relationship with government officers	4	5	4
Utilization of village common facilities	5	6	6
Involvement in NGOs and other external organizations	5	6	5
Aggregated Index	52	52	51

Table 7. Impact of Social Capital on Household Income

Explanatory Variables	Equation (1)	Equation (2)
Constant	30.2 (4.29) ^{***}	-8.90 (1.16)
Social Capital Index	0.499 (6.65) ^{***}	-0.150 (2.12) ^{**}
Human Capital Index	NA	0.125 (2.26) ^{**}
Physical Capital Index	NA	1.41 (30.6) ^{***}
R ²	0.08	0.680
Number of Observations	540	540

Dependent variable is household expenditure per capita per month.

T-statistics are in the parenthesis. *** and ** indicate 1% level and 5% level of significance respectively.

Table 8. Dimensions of Social Capital

Explanatory Variables	Equation (3)
Constant	-13.25 (1.61)
Social Capital Indices	
Involvement in associations/societies in the village	0.07 (0.66)
Connectedness within groups/communities	-0.04 (0.66)
Participation/contribution to village collective group works	-0.04 (0.87)
Relationship with government officers	-0.04 (0.63)
Utilization of village common facilities	0.07 (2.19)**
Involvement in NGOs and other external organizations	-0.18 (2.38)***
Human Capital Index	0.13 (2.22)**
Physical Capital Index	1.40 (30.19)***
R ²	0.68
Number of Observations	540

Dependent variable is household expenditure per capita per month.

T-statistics are in the parenthesis. *** and ** indicate 1% level and 5% level of significance respectively.

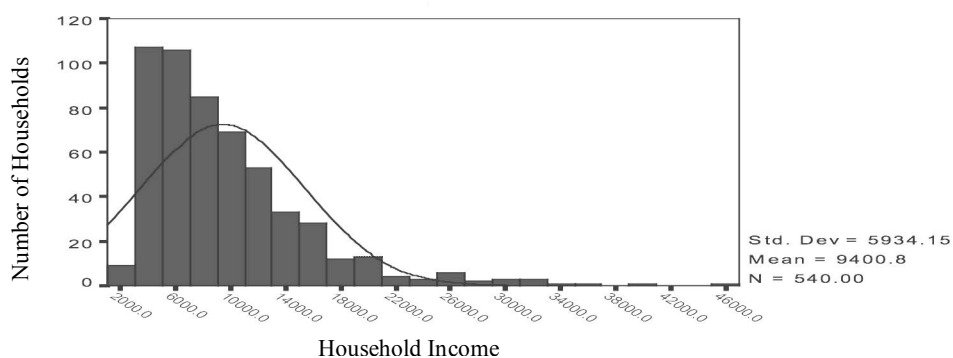
Figure 1. Distribution of Income

Figure 2. Distribution of Physical Capital

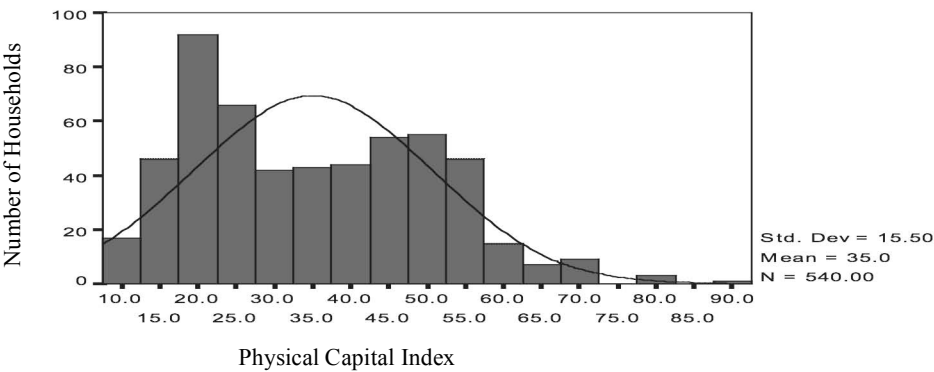


Figure 3. Distribution of Human Capital

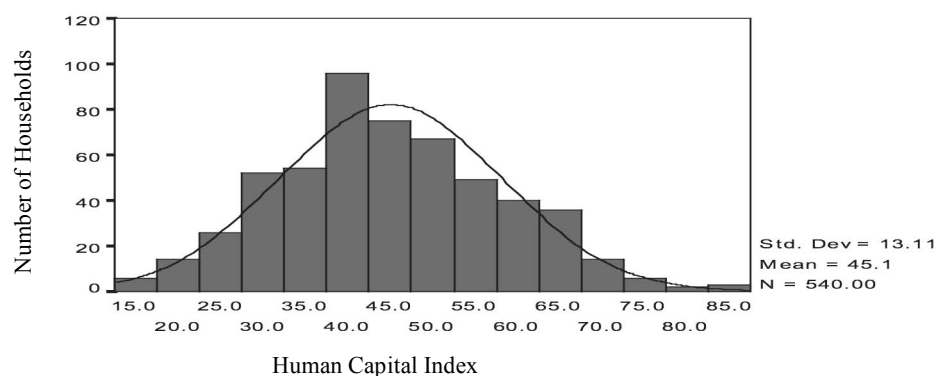


Figure 4. Distribution of Social Capital

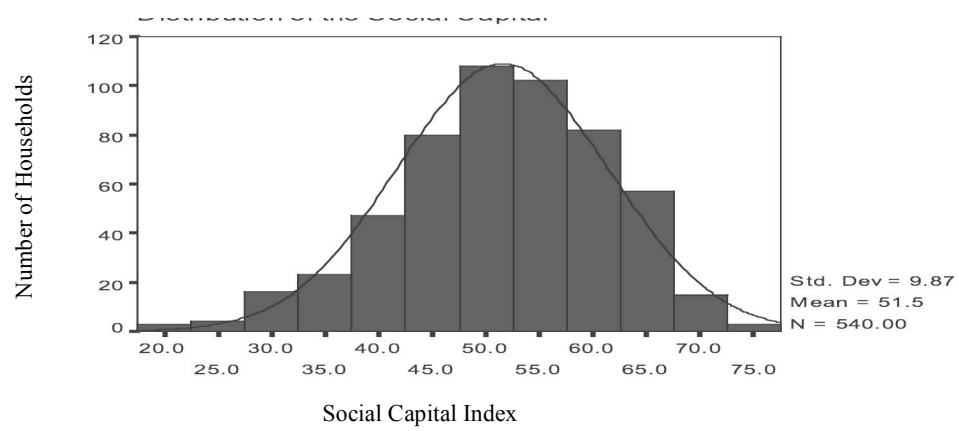
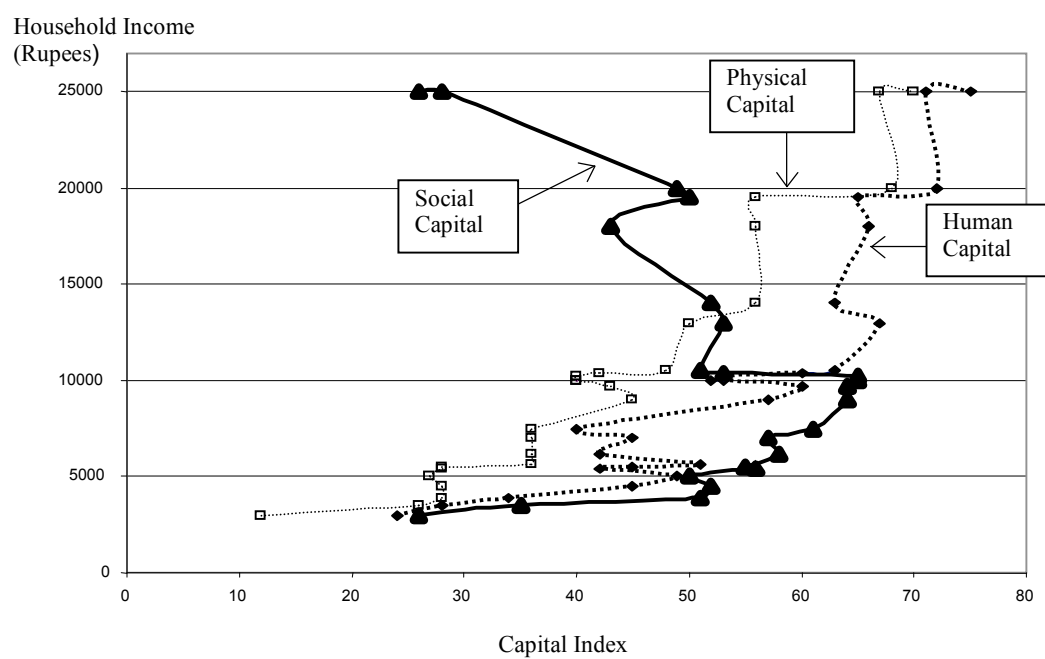
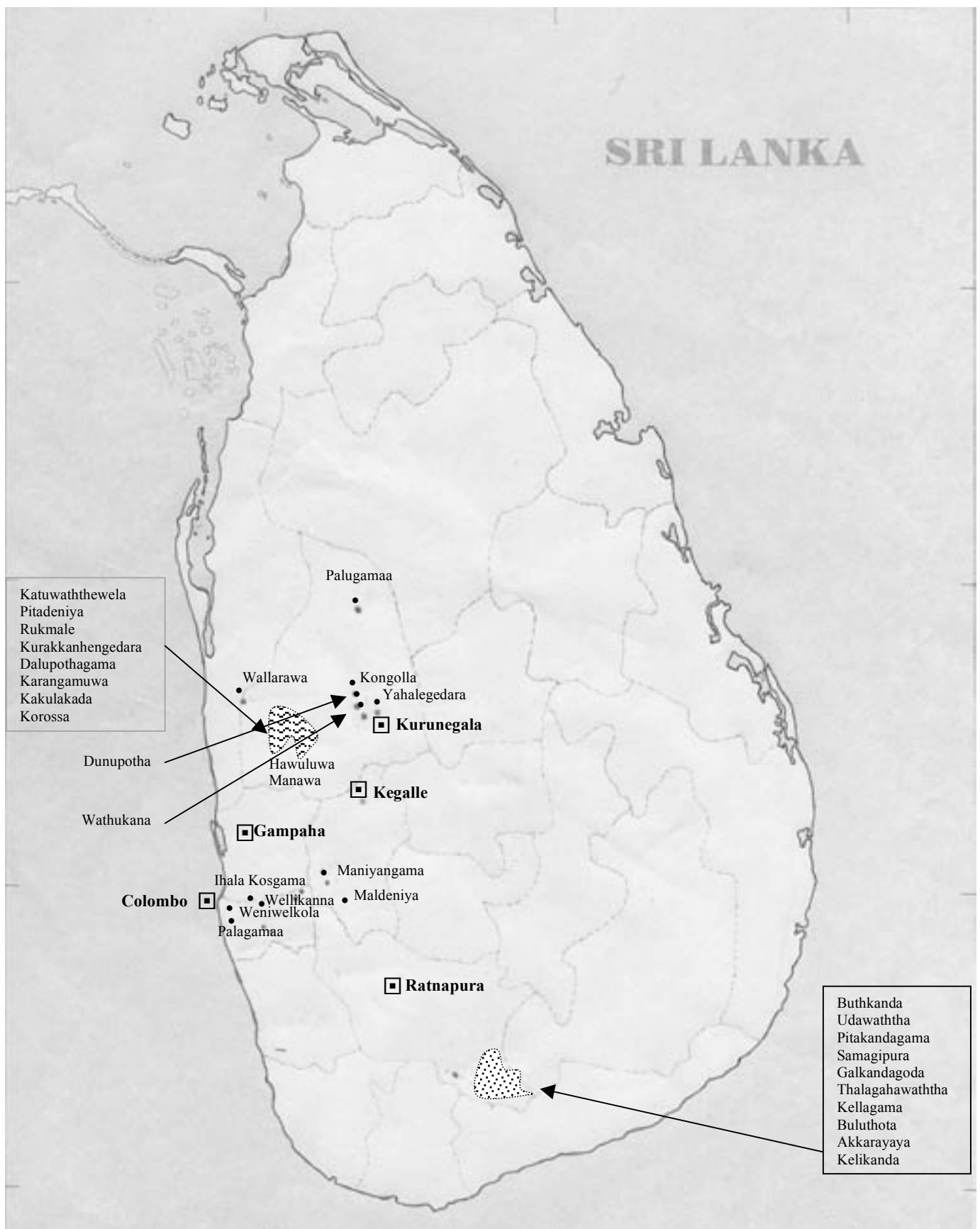


Figure 5. Relationship between Household Income and Capital Endowments



Appendix 1. Sample Village Location



15. THAILAND

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Factor Analysis of Rural Poverty and Development Problems in Thailand

Abstract

This study has three main objectives: 1) to analyze correlation of most influencing variables that affect the development status of villages, 2) to investigate factors affecting rural poverty, and 3) to get recommendations for improving the quality of socio-economic baseline survey for the next development period.

In order to achieve those objectives, data collection was done in 2,532 villages throughout Thailand. The questions in the questionnaire consisted of questions in the previous NRD 2C and newly designed questions focusing on social capital issues. After data verification process, 120 variables and 1,504 cases left for the factor analysis.

As a result of the study, it is found that there are 15 factors that have effects on development level of the villages. Those factors include: basic characteristics of the villages, education of the villagers, health condition of the villagers, migration to work in Bangkok, working in industrial factory, rice consumption, rice production, environment, change in unemployment and poverty, fertilizer used, distance between village and TAO, public services, drought, poverty and unemployment, and community forest. Factors in higher order affect the village development more than lower ones. It can be said that basic characteristics of the village are the most influencing factor to development of the rural village.

As for village classification, the 1,504 villages can be divided into two groups by the order of factor scores. First is a group of villages which have factor score bigger than 0 (above average) and the other have factor score less than 0 (below average).

However, it is found from the study that some figures in the NRD 2C questionnaire are very difficult to verify, and some are less utilized for the users. Those should be considered to be eliminated from the questionnaire.

Therefore, the objectives of the NRD 2C and target users should be determined clearly for improving of questions, indicators and questionnaire. Finally, the agencies concerned should more emphasize questionnaire design, data entry, data processing program, and also final output. To meet those objectives, the manual for NRD 2C utilization has to be revised.

1. Introduction

Social and economic development policy of Thailand in the past four decades has created significant variations in the pattern of income and employment and the level of development across the different regions: while industrial sector has rapidly grown and taken more proportion of GDP, agricultural activities that account for 9 percent of GDP in 2004 have declined significantly from 54 percent in 1960.

To run away from rural poverty, people mobilized themselves from agricultural sector to industrial and service sectors, only 41 million people stay in the village including 11 million people who temporarily live in village. This phenomenon shows the pattern of urbanization in Thailand like many countries.

In order to tackle rural poverty in rural area, the government has attempted to deal with areas of poverty concentration and low level of development. The socio-economic dataset, NRD 2C, was set up to measure

development level of villages. The government could know which villages required government support urgently through indicators. However, criteria for the indicators have to be adjusted in every five years of National Development Plan. Hence, the comparison of some indicators in time series is not possible. In addition to this practical weak point, there are several scientific problems in the methodology of classification of development status. First, the selection of development indicators and the criteria to classify into three levels of development are just arbitrary. Second, the method to classify village into 3 development level assumes that the weight rate is uniform. But such an assumption is not consistent with the fact. Finally, there is no explanation of the number of indicators to be used to measure village development level.

Therefore, this study is expected to give clearly solution to these problems. We try to find out the methodology to analyze development status of villages in order to prioritize target area for poverty alleviation.

2. The Measurement for Rural Poverty and Development Problems

In 1975, World Bank and Thammasat University set up the first poverty line to facilitate government to count the number of the poor in the country. Poverty line was based on income concept, as consumption pattern (food and non-food) depends on income. Since then, Office of the National Economic and Social Development Board (NESDB) has been responsible for the adjustment of poverty line in each period. Table 1 shows the decline of the poor from 1975 to 2002.

Table 1 Percentage of the Poor under Poverty Line (1975-2002)

	1975	1982	1988	1992	1998	1999	2000	2002
Whole country (%)	31	23	32.6	11.4	13.0	15.9	14.2	9.8
Rural (%)	35	27.3	40.3	14.9	17.3	21.5	16.5	12.6
Sanitary districts (%)	-	13.5	21.8	5.8	7.5	8.8	-	-
Municipal areas (%)	14	7.5	8.0	1.6	1.4	1.3	5.4	4.0
Number of the poor (million)	-	-	17.9	6.8	7.9	9.9	8.2	6.2

Source : (1) Dr.Oey Meesook, Income, Consumption and Poverty in Thailand

(2) Kakwani and Krongkaew

(3) Socio-Economic Survey process by NESDB

In 1980 NESDB's study found out 3 main factors related to the poverty problems in districts. They were production efficiency, land use efficiency and land size for majority of households in those districts, and wages which people gain from farm and off-farm activities. These 3 factors were primarily measuring the level of poverty in each district, facilitating government to declare target districts for poverty alleviation program.

Subsequently, the Thai government set up socio-economic data set, NRD 2C, in 1982. The objectives of setting this data set were to identify development level of the villages and also the severity of problems occurred in those villages. The NRD 2C was collected at village level every two years. Its questionnaire and indicators have been updated continuously every National Plan period (every five years). For NRD 2C 2003, there are six groups of 30 indicators to measure the severity of problems in each village which are:-

- (1) Infrastructure composed of indices on electricity service, transportation, water supply, etc.
- (2) Occupation and employment composed of indices on employment, household industry, etc.
- (3) Health composed of indices on contagious prevention, child mortality rate, etc.
- (4) Knowledge and education composed of indices on education level, further study, etc.
- (5) Community strength composed of indices on people participation, group and network, access to capital, etc.
- (6) Natural resources and environment composed of indices on environment management, community forest, etc.

Table 2 shows the criteria to classify village development level. According to the Table, three methods were applied during the past two decades because the criteria were adjusted in every National Development Plan. Such difference methods made the comparison of development status and some indicators in time series are not possible. The example can be seen in Table 3. Number of regressive villages in the first year of the Seventh Plan was higher than those in the last year of the Sixth Plan. However, as a result of the development process, number of regressive villages declined during the Fifth to the Ninth Plan whereas number of progressive villages increased.

Table 2 The Criteria for Classification of Village Development Level (1986-2011)

village's development levels	1986 ^{1/}	1988-1990 ^{2/}	1992-2006 ^{3/}	2007-2011
progressive	- good status on 3 indicators(electricity, having and using toilet, shelter)	- poor status on 0-1 problem groups	- poor status on 0-5 indicators	based on output from this ICD research project
moderate	- without worst status all indicators	- poor status on 1-3 problem groups out of 5 problem groups	- poor status on 2-3 problem groups	
regressive	- poor status on 4-5 problem groups out of 5 problem groups	- poor status on 4-5 problem groups	- poor status on 6-10 indicators	

Note : 1/ and 2/ The National Rural Development Coordination Center, NESDB 1991

3/ Rural Development Information Center, Community Development Department (CDD), MOI 2002

Table 3 Classification of Village Status using NRD 2C Database (1986-2003)

Development Status	5 th plan	6 th plan		7 th plan			8 th plan		9 th plan
	1986	1988	1990	1992	1994	1996	1999	2001	2003
Regressive	13,532	16,537	11,608	26,801	14,200	7,178	979	696	214
Moderate	30,330	29,887	31,155	27,895	32,012	29,977	20,171	15,861	10,086
Progressive	10,825	9,899	15,294	4,944	13,921	23,979	42,089	49,636	58,201

Source: NESDB and CDD

3. Conceptual Framework

In order to utilize the outcome of this study as basis of the improvement for socio-economic baseline data in the next period of data collection, it is necessary to identify objectives as follows:

General objective: To improve the quality of socio-economic village baseline data for the next development period.

Immediate objective:

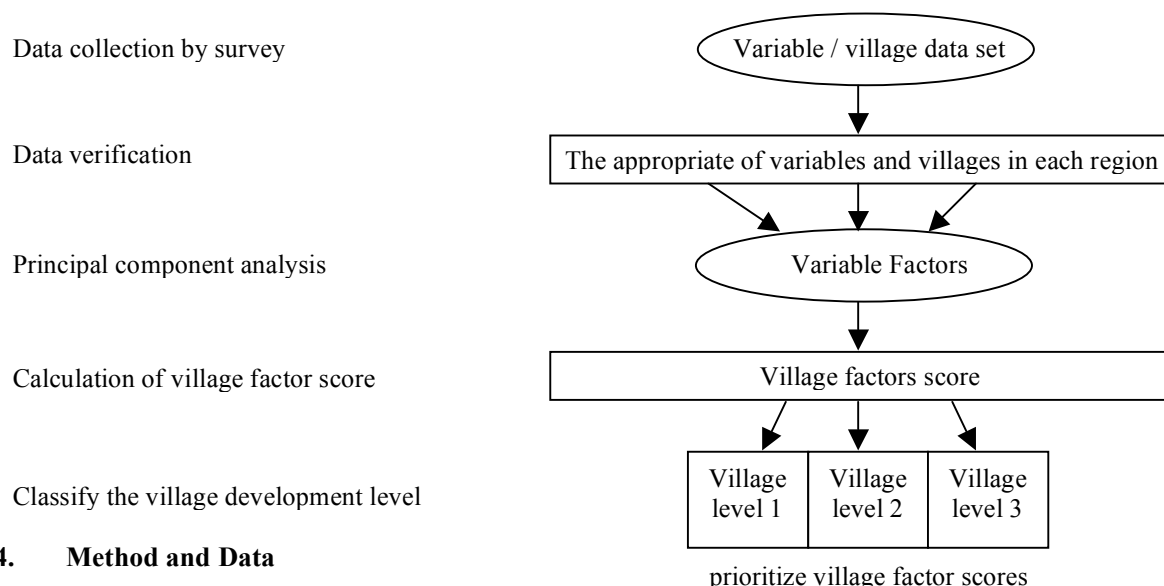
1. To analyze the correlation of most influencing variables that affects the development status of villages.
2. To investigate community factors related to rural poverty by different type of villages.
3. To strengthen new knowledge base for prioritizing the poverty target area.

Principle concepts:

- 1) Rural development index depends on a set of variables which represent development factors. It means that, each variable itself such as income, expenditure, or land tenure cannot correctly identify or explain variation of village status.
- 2) Due to the difference of village and region in term of socio-economic condition, the study of development factors should emphasize on this difference that reflects the specific development factors for each region.

- 3) The socio-economic baseline data (NRD 2C) should cover all development dimensions at village level: general characteristics, income and occupation, health status, education status, community strength/social capital and environmental condition.

Figure 1 Conceptual Framework for Factor Analysis



4. Method and Data

4.1 Technique of Study

Exploratory Data Analysis Method is used to formulate the factors of development of the village. It also examines the relationship among sets of variables through the Factor Analysis method. Factor Analysis reduces a large number of variables to a number of meaningful factors. There is not determination of the theoretical hypothesis according to the variables that influence the community development; therefore there is no distinction between dependent and independent variables in the framework of factor analysis.

4.2 Data and Variables

Three villages were selected from every district throughout the country. Those included regressive villages, moderate villages and progressive villages. Therefore, the sample size should be adequate to be representatives of villages in the country. There are about 2,532 villages in this survey which comprise of 612 villages in Central region, 945 villages in Northeastern region, 544 villages in Northern region, and 431 villages in the South.

There are 390 variables in this survey. Those variables can be divided into seven parts which are:- village profiles 152 variables, infrastructure 88 variables, education and knowledge 17 variables, people participation and community strength 43 variables, health 34 variables, labor force 9 variables, and natural resources and environment 47 variables. After the verification and cleaning all sample questionnaires, only 120 variables left. The verification method will be clarified in section 6.

5. Activities Undertaken

5.1 Working team setting (January 2004)

Mrs. Amornrat Khanti; policy and plan analyst
 Mr. Chaoyong Mongkolkitgnam; economist and statistician
 Mrs. Anchalee Jarassamrit; economist
 Ms. Nampetch Meesat; planner

5.2 Questionnaire Design (February 2004)

- 1) First round-table meeting among NESDB and agencies concerned: such as Community Development Department of Ministry of Interior, Social Capital Policy Office of NESDB, NRD 2C and BMN Improvement Committee, etc. The meeting is to assess actual NRD 2C

- questionnaire and find out all suggestions.
- 2) Design new questionnaire based on APO community-level survey, World Bank's questionnaire for social capital, and actual NRD 2C
 - 3) Second round-table meeting to consider survey's questionnaire, which composes of 7 main parts:
 - ⊙ Social background of respondents
 - ⊙ Village profile: e.g., location, number of population, infrastructure, public service in village and sub-district, villagers' life style, etc.
 - ⊙ Occupation and employment: e.g., land ownership, production technology, farm and off-farm product and income, etc.
 - ⊙ Community strength: e.g., community learning center, organization and group, dependency rate, cohesion, etc.
 - ⊙ Health: e.g., health services, types of disable, characteristics of family pattern in rural area, etc.
 - ⊙ Community resource management and social capital in the village
 - ⊙ Recommendation for data collection and questionnaires

5.3 Questionnaire Pretest and Revision (March 2004)

- 1) Pre-testing of the questionnaire was conducted in 6 villages in 2 provinces
- 2) Final modification for some questions in questionnaire

5.4 Data collection (April-June 2004)

- 1) NESDB was responsible for producing 2,700 questionnaires.
- 2) CDD was responsible for coordination with data collection unit at provincial level.
- 3) Provincial Community Development Office was responsible to make understanding and brainstorming about questionnaire details with their staff.
- 4) CDD's workers at sub-district level were responsible for data collection in villages using group interview.

5.5 Data Verification (July 2004)

First step of data verification were undertaken by manual for 2,532 filled-in questionnaires. Our working team has been spent much time for this activity and found out some interested issues before data executing. Finding issues from data verification are as follow:

- ⊙ Counting and calculating have been confused: e.g., the number of households, average expense, household expense, distance, and transportation fee
- ⊙ Better circumstances and better life after 10 years: e.g., malnutrition, contagious diseases, employment, and poverty vice versa: natural resources, air, water and soil erosion are worse than 10 years ago.
- ⊙ To recall the past 10 years situation in village was difficult for some respondents
- ⊙ Most of villagers are satisfactory on their village size in term of population and area
- ⊙ Village's fund for micro credit is very popular for most villagers, especially *One million per village Project*
- ⊙ Rarely to find the group in community in which their activities concern about water or garbage treatment

5.6 Data key in (August-September 2004)

Working team keyed in all 2,532 verified questionnaires by region and undertook data accuracy verification by manual.

6. Step and Method of Factor Analysis (November 2004)

6.1 The verification for the accuracy of all the cases and suitable variables, including the assessment of statistical description that is required by factor analysis

- ⊙ Missing data and outliers
- ⊙ Converse non-calculating data to be calculated by binary dummy variable. This is useful for descriptive analysis whenever dummy variable will be rejected by factor analysis.
- ⊙ Distribution transformation by using log, square root, square and inverse to make normality

- distribution
 - ⊙ Correlation between variable by correlation matrix
 - ⊙ Measure of sampling adequacy by Kaiser-Meyer-Olkin(KMO)
- 6.2 Principal Component Analysis by using orthogonal (Varimax Rotation) for factor independent
- ⊙ Communalities: proper value should be between 0.5 – 1 to explain the variation of principal component.
 - ⊙ Total Variance Explained: The more percentage the more ability of all factors to explain all variances.
 - ⊙ Rotated Components will show the number of groups of correlating variables (principal factors).
 - ⊙ Measure of Fit will show the appropriateness of factors from the analysis
- 6.3 Village Factor Scores are calculated for each village by using the Component Score Coefficients under multiple regression method. Factor score is standard score to compare development status for each village from lowest score to highest score.

7. Basic Descriptive Analysis

Descriptive statistic analysis method can be used to describe the characteristics of samples. They are frequency, mean, mode, and cross-tabulation. The results of the statistical analysis can be a supplementary analysis together with factor analysis as well. The result from the survey can be described as follow:

7.1 General Characteristics of the Samples

According to the study, there are 2,452 villages located in the Tambon Administration Organization (TAO) area. There are only 80 villages, accounted for 3.2 percent of the surveyed villages, located in the area between TAO and municipality. It means that the majority of samples live in rural area but during the last ten years the way of life of rural population has changed to be semi urban-rural society. It is evident that 28.7 percent of the samples have been already such a society. In addition, the village size has expanded from ten years ago. Although the village size has expanded, 80 percent of the villagers in the village surveyed thought that it has been appropriate for the existing population.

Table 7.1 General Characteristics of the Samples

Key indicators	Villages	Percent
<u>Village location</u>		
TAO	2,452	96.8
between TAO and Municipality	80	3.2
<u>Pattern of villager's life</u>		
rural life style	1,805	71.3
semi rural-urban (suburban) life style	726	28.7
<u>Village size</u>		
satisfied	2,015	79.6
too small	258	20.2
too large	205	8.1

7.2 People Cohesion and Basic Facilities

Table 7.2 shows the villages having more population will have more opportunities to form the organizations or groups in the villages than those with less population. It is noted that almost every village has formed the organizations or groups. There have been approximately four groups in each village. Joining the organizations or groups can lead to strengthen and development of the villages and communities, and consequently villagers belonging to groups can improve their livelihood. The groups also help the member access to services in the villages, particularly access to credit in time of emergency. The community civic forum is an indicator to show group activities. It can be seen from the study that 94.6 percent of the villages organized up to six forums during the previous year.

When there is a decision to be made in the group, it is mostly found that the group members hold a discussion and decide together. There are some groups that the leaders have asked group members what they think and then decide. It is also found that each group works with the other groups in the same village. Most of the groups have funding consecutively from government agencies, local administration organization and villagers in the village. Moreover, when the villagers faced some village problems or conflicts, 71 percent of them turned to head of the village or “*poo yai ban*” for assistance.

As for public utilities in the village, 91 percent of the observations have enough clean water for drinking all the year round. The main sources of drinking water in the villages are tap water, private shallow well, and bottle drinking water, respectively. The other figure indicating village development is the number of vehicles. The study shows that every 5 households have one pick-up truck while every household has one motorcycle and one bicycle. At the same time, every 18 households have a small truck for agricultural produce transport.

It is of interest to note that communication devices have an important role in rural people living. According to the study, 15.8 percent of the sample households have telephones while 34.3 percent of those have mobile phone. Anyway, there is only 1.13 percent of the sample use Internet.

Apart from the variables discussed above, it is also found that households in the sample village whose income is mainly from agriculture accounts for 74 percent and 75 percent of those are landowners.

7.3 Quality of Life, Health and Environment

In recent years, rural population has better quality of life that has been the result of various development programs. Much more rural people can access to compulsory education and higher level. As seen in Table 7.3, those who finished secondary school and still living in the village account for 18.3 percent of village population. However, it is found that 2 percent of the villagers are illiterate. Improvement in education of rural people has resulted in their better understandings particularly about health care. When they are a bit sick, they go to health center or clinic while some goes to see health volunteer in the village. If they are severely ill, they always go to the nearest hospitals. According to the study, 96 percent of the villages can access to the government health services within an hour. As a result, health condition of the villagers has improved. This can be seen in a decrease of the number of patients in diphtheria, whooping cough, tetanus, German measles, parotitis, for instance.

For village environment, problems of garbage and wastewater in the village have not been serious. Garbage management and wastewater management have been done by collaboration of community and related government agencies. In addition, most agricultural households use chemical fertilizer in order to raise the yields. It is evident that average cost of the fertilizer is 855 *baht* per *rai* (1 *rai* = 0.16 hectare). Using such fertilizer has led to high production cost and also water pollution.

Table 7.2 People Cohesion and Basic Facilities

Key Indicators		Percent village/percent household
1. people's participation (% village)		
• village civil society assembly		
1-6 meetings per year		94.6
0 meeting per year		5.4
• activity groups		
0 group per village		1.1
1-14 groups per village		98.9
• group's decision making		
group member decide		58.4
leader ask group member and decide		34.8
leader decide		3.9
• conflict resolution		
head of village		71.0

head of sub-district	10.2
senior citizen	8.0
2. public utilities (% household)	
enough clean drinking water	91.0
home telephone	15.8
mobile phone	34.3
internet	1.1
agricultural main income	74.0

Table 7.3 Quality of life, Health and Environment

Key Indicators	percent person / percent village
quality of life (%person)	
• finished education from compulsory and secondary school	18.3
• illiterate	2.0
• accessible to government health service within an hour (% village)	96.0
Garbage management	(% villages which have problem)
yes	68
no	32
Wastewater treatment	(% villages which have problem)
yes	34
no	65
Management method by	
village committees	45.5
community	46.8
private sector	7.6

7.4 Change of the Villages during the Past Ten Years

The sample villages have suffered from drought almost every year. In those drought years, the agricultural production fell to 30 percent of that in normal year. Flood had seldom occurred in the observation villages. When the villages suffered from flood, the agricultural production was about 30 percent of that in normal year. It can be seen that there still have been problems of pollution in drinking water, air pollution, soil degradation, and forest destruction in the villages. As for unemployment, it has led to migration out of the villages. Most the villagers moved to work in Bangkok. These villagers have worked as labor in industrial factory, labor in construction and service sector, and agricultural laborers. This may one of result in a decrease of poverty and unemployment problems during the past ten years for rural people.

Table 7.4 Change of the Villages during the Past Ten Years

Key indicators	percent villages
people suffer from drought every year	18.2
almost every year	44.7
seldom	37
flood every year	13
almost every year	28.4
seldom	58.6
Change in other condition	Worst no change Better
air pollution	19 56.3 24.8
pollution in drinking water	19 55.8 25.2
soil erosion	20.1 63.2 16.7

forest destruction	19.2	56.8	24
malnutrition	2.2	39.3	58.5
poverty	20.3	23.6	56.1
unemployment	19.0	33.3	47.7

7.5 People's Way of Life

As usually known, large number of rural people has been in agriculture. After they have sold their crops, most of their income has been used for consumption, for paying loans, and for their children education, respectively. The average consumption expenditure of rural households has been 3,740 *baht* per month whereas the average household expenditure in electricity has been 323 *baht* per month. It should be concerned about household disbursement in liquors and cigarettes because it has been quite high, 803 *baht* per month. Such goods have not been necessary for their living.

Generally, rural villagers have several kinds of credit. Most of them borrow from the village fund because there is no complicated rule. In addition, the rural people take on loan from government banks and cooperatives. Some borrow from the village saving groups and the moneylender in the village. It is obviously seen that the villagers use their loans for investment in farm and off-farm production, for living expense, and for education of their children, respectively.

Presently, it can be said that rural people living has changed. Households with backyard garden have been about 42 percent of total households in the village. Most of them have bought food or vegetables from shops and markets different from the former time. Moreover, villagers have changed their life style by buying vehicle because of the better communication.

Table 7.5 People's Way of Life

Key Indicators	
consumption pattern (%income)	
consumption goods	50.8
paying debt	32.0
children education	17.2
average expenditure (baht/month)	
consumption	3,740
liquors and cigarettes	803
electricity	323
personal vehicles (number of hh./vehicle)	
pick-up	5.14
motorcycle	1.17
bicycle	1.91
small truck	18.0
credit source (%hh.)	
village fund	38.0
government bank	36.2
cooperatives	25.8

8. Result and Discussion

Factor Analysis is statistical techniques applied to reduce the number of uncorrelated variables and form only coherent variables into factors. Variable which correlate with one another can be positive or negative value, the direction of coherent depend upon the value + or - . Moreover it is not necessary that variable will affect village's development level in the same direction such as; total population affect development status of the village but factor analysis do not clarify that the more total population, the more development

status. In addition to this, factor analysis tells that each factor is relatively independent to one another whenever variables in subset are correlated.

8.1 The Effect of Principal Factor for Village Development

After the verification of 2,532 questionnaires, 1,054 cases and 120 variables were used in the analysis. Factor analysis identified 15 factors that affect development status of the villages. Those factors are basic characteristics of the villages, education, health condition, migration, working in industrial factory, rice consumption, using high yields varieties, environment, economic status, fertilizer used, distance between village and Tambon Administration Organization (TAO), public services, drought, poverty and unemployment, and community forest.

From the study, it is clear that the most important factor of the village development is **villages' basic characteristics**. There are 13 variables in this factor. Number of population and households, adequacy of water supply and drinking water, land ownership, main income from agriculture, households' participation in community development are the examples. When we considered the factor loading of each variable, we can find that the highest factor loading variable have the most influence to the development of the village. As seen from Table 8.1, number of total population is the most influence variable in this factor.

The second factor describing the village development is **education of the villagers**. There are six variables in this factor that are related to education level of the villagers and those are correlated. Factor loadings of every variable are positive. This means the correlation of the six variables is positive. The most important variable in this factor is number of people finished lower secondary school live in the village because it has highest factor loading. **The third factor** identified from the study is **health condition in the village**, especially in terms of nutrition and infectious disease. There are four variables in this factor. They are better in malnutrition of children, no change in malnutrition of children, better in infectious diseases condition, and no change in infectious diseases condition. The most influence variable in this factor is better in malnutrition of children.

Migration is the following factor that affected village development. There are three correlated variables in this factor. It is found from the analysis that majority of villagers migrate to work in Bangkok is the most influence variable in this factor. **The fifth factor** indicates development level of the village is **finding job in industrial factory**. Three indicators are in this factor. Among them, majority of people work outside Tambon engaged in industrial factory is the most influence variable because of its highest factor loading.

According to the analysis, development status of the rural villages is also related to **rice consumption**. There are three variables in this factor and majority of households consume self grown rice is the most influenced variable. It is noticeably that the factor loading of majority household consume rice bought from shops is negative. This means this variable has negative relationship with the others. When consumption of rice bought from shops is high, consumption of self-grown rice tends to be low. In addition, it can be said that when number of household produce rice sufficient for their consumption is high, number of household consume self-grow rice is also high.

The seventh factor, rice production in the village affects village development level as well. Introduction of high yield varieties is the most influence variable in this factor. **Next factor** identified from the study is about **environment in the village**. No change in air pollution, no change in drinking water pollution, and no change in soil erosion are the variables in this factor. It can be seen from Table 8.1 that the most influence variable is no change in air pollution, while the least influence is no change in soil degradation.

In addition, **employment and poverty** is also an important factor to indicate development status of the village. According to factor loading, "better employment condition" is the most important variable in employment and poverty factor. This variable has a negative relationship with "no change in employment condition". At the same time, it goes in the same direction with "better poverty incidence". When employment condition is better, there are more employed in the village. This leads to better poverty incidence in that village.

The following factor is using fertilizer. This factor comprise of two variables. They are using chemicals and manure as well as use only chemicals. As seen in Table 8.1, “use both chemicals and manure” has a negative factor loading, while “use only chemicals” has a positive one. It means that when using chemicals and manure rises, using only chemicals tends to decrease. The study also identified that the most important variable in this factor is “using chemicals and manure”.

The Eleventh factor describing development level of the village is **Distance from village to the Tambon Administration Organization (TAO) office.** There are three variables in this factor, which are “distance from village to the TAO”, “traveling time from village to the TAO”, and “traveling cost from village to the TAO”. Among these variables, the most influence variable is “distance from village to the TAO” because of its highest factor loading. **The twelfth factor** for village development is **public services in the village.** Three variables in this factor are “rural kindergarten”, “child playground”, and “public library”. The most important variable in this factor is “rural kindergarten”.

The next factor found from the study is related to **drought.** The variables in this factor are “drought in the village” and “migration to work outside Tambon”. The two variables have positive correlation. When drought occurs in the village, the villagers are likely to move to work outside Tambon. It is found from the study that “drought in the village” is the most influence variable in this factor.

Simultaneously, **poverty and unemployment problem** are the other factor for village development. Poverty problem and unemployment problem have positive factor loadings. But “poverty problem” is more important than “unemployment problem” because it has higher factor loading.

Community forest in the village is the last factor affecting development status of the village. In this factor, there are two variables that have positive correlation. Table 8.1 indicates that “tree plantation activity in the village” is the most influence variable in the factor. If there is more activity of tree plantation in the village, community forest in the village tends to increase.

Table 8.1 Development Factors by Rotated Component Method

Development Factors	Variables	Factor Loading	Explanation
Factor 1 : Basic Characteristics of the Village	Total Population	.957	Most influence variable in this factor is Total Population
	Total Female population	.953	
	Total Male Population	.951	
	No. of households are members of groups in the village	.906	
	No. of households share ideas for sake of community	.889	
	Total Households in the village	.848	
	No. of households with adequate water utilization	.837	
	No. of people in compulsory school	.786	
	No. of households have motorcycles	.776	
	No. of households have main income from agriculture	.769	
	No. of households have drinking clean water	.712	
	No. of people studying in pre-primary school	.627	
	No. of households have their own land		
Factor 2 : Education of the Villagers	No. of people finished lower secondary school live in the village	.878	Most influence variables in this factor are Number of people finished lower secondary school and upper secondary school live in the village
	No. of people finished upper secondary school live in the village	.856	
	No. of female finished lower secondary school live in the village	.855	
	No. of male finished lower secondary school live in the village	.852	
	No. of male finished upper secondary school live in the village	.832	
	No. of female finished upper secondary school live in the village	.814	
Factor 3 : Health Condition	Better in malnutrition of children	.896	Most influence variable in this factor is Better in malnutrition of children
	No change in malnutrition of children	.895	
	Better in infectious diseases condition	.838	
	No change in infectious diseases	.832	
Factor 4 : Migration to work in Bangkok	Majority of villagers migrate to work in Bangkok	.934	Most influence variable in this factor is majority of villagers migrate to work in
	Majority of male villagers migrate to work in Bangkok	.925	

Development Factors	Variables	Factor Loading	Explanation
Factor 5 : Finding job in industrial factory Factor 6 : Rice consumption Factor 7 : Rice Production Factor 8 : Village environment Factor 9 : Change of poverty and unemployment from 10 years ago Factor 10 : Using fertilizer	Majority of female villagers migrate to work in Bangkok	.916	Bangkok
	Majority of people work outside Tambon engaged in industrial factory	.928	Most influence variable in this factor is majority of people work outside Tambon engaged in industrial factory
	Majority of male work outside Tambon engaged in industrial factory	.906	
	Majority of female work outside Tambon engaged in industrial factory	.824	
	Majority of household consume self-grown rice	.828	Most influence variable in this factor is majority of household consume self-grown rice
	Majority of household consume rice bought from shops	-.808	
	No. of households produce rice sufficient for their consumption	.693	Most influence variable in this factor is introduction of high yield varieties
	Introduction of high yield varieties	.944	
	Rice yield has increased during the past 10 years	.940	
	No change in air pollution	.818	Most influence variable in this factor is no change in air pollution
Factor 11 : Travelling to the TAO Factor 12 : Public Services in the village	No change in pollution in drinking water	.793	
	No change in soil degradation	.681	
	Better employment condition	.892	Most influence variable in this factor is better employment condition
	No change in employment condition	-.765	
	Better poverty incidence	.705	
	Use both chemicals and manure	-.973	Most influence variable in this factor is using both chemicals and manure
	Use only chemicals	.970	
	Distance from village to the TAO	.772	Most influence variable in this factor distance from village to the TAO
	Travelling time from village to the TAO	.741	
	Travelling cost from village to the TAO	.737	
Factor 12 : Public Services in the village	Rural kindergarten	.753	Most influence variable in this factor is rural kindergarten
	Child playground	.752	
	Public Library	.725	

Development Factors	Variables	Factor Loading	Explanation
Factor 13 : Drought in the village	Drought in the village Migration to work outside Tambon	.909 .878	Most influence variable in this factor is drought in the village
Factor 14 : Poverty and unemployment problem	Poverty problem Unemployment problem	.861 .820	Most influence variable in this factor is poverty problem
Factor 15 : Community Forest	Tree plantation activity in the village Community forest in the village	.856 .836	Most influence variable in this factor is tree plantation activity in the village

8.2 Village Factor Scores is the standard score for 15 factors to discriminate the development level for each village. Table 8.2 and Table 8.3 show the examples of the first 50 high and low development villages compare with development level in which classified by the NRD2C's criteria in the year 2003.

Table 8.2 The First 50 High Development Villages by Factor Scores

Village id	Province	Factor Score	2003's development level from NRD2C
52110203	<i>Lampang</i>	1.02188	3
32100207	Surin	0.98454	3
41200107	Udonthani	0.88578	3
40050208	Khonkaen	0.87651	3
80200201	Nakhonsrithammarat	0.84226	3
56040302	Phayao	0.82757	2
45080610	Roi-et	0.8216	2
30040606	Nakhonratchasima	0.79654	3
52050801	Lampang	0.79259	2
56040107	Phayao	0.7769	3
40070509	Khonkaen	0.76367	3
41110302	Udonthani	0.75071	3
40060202	Khonkaen	0.74581	3
25030605	Prachinburi	0.73241	2
40050107	Khonkaen	0.72561	3
53090204	Uttaradit	0.72331	3
34070115	Ubonratchathani	0.71805	3
32160102	Surin	0.71398	3
32160503	Surin	0.70695	2
41030405	Udonthani	0.70648	3
64051104	Sukhothai	0.68941	3
53020402	Lampang	0.67959	3
46020405	Kalasin	0.67789	3
90150508	Songkhla	0.67659	3
96040201	Narathiwat	0.66359	3
65030603	Phitsanulok	0.66041	3
80040905	Nakhonsrithammarat	0.65702	3
56050804	Phayao	0.65352	3

Village id	Province	Factor Score	2003's development level from NRD2C
47121106	Sakonnakorn	0.64558	3
48110204	Nakornpanom	0.64307	3
77060107	Prachuabkirikan	0.64161	3
52011106	Lampang	0.63562	3
46130404	Kalasin	0.6337	3
37050407	Amnatcharoen	0.63088	3
34070408	Ubonratchathani	0.6301	3
80080302	Nakhonsrithammarat	0.62521	2
41170702	Udonthani	0.61878	2
42100111	Loei	0.61265	3
27070213	Srakaew	0.60009	3
52060301	Lampang	0.58662	3
40080410	Khonkaen	0.58651	2
60011010	Nakhonsawan	0.57913	3
36010715	Chaiyaphum	0.57826	2
45090502	Roi-et	0.57452	3
41220302	Udonthani	0.57256	3
34100704	Ubonratchathani	0.57156	2
48060405	Nakornpanom	0.56705	3
34210308	Ubonratchathani	0.56396	3
47110703	Sakonnakorn	0.56326	2
45012012	Roi-et	0.5612	3

Table 8.3 The First 50 Low Development Villages by Factor Scores

village id	province	factor score	2003's development level from NRD2C
51050201	Lamphun	-0.94199	2
94040804	Pattani	-0.80378	3
24020902	Chachoengsao	-0.79909	3
85020101	Ranong	-0.78574	3
25090206	Prachinburi	-0.78098	2
24041203	Chachoengsao	-0.7755	3
34250313	Ubonratchathani	-0.77143	3
22100201	Chantaburi	-0.76286	2
46140315	Kalasin	-0.76285	3
86070803	Chumporn	-0.75364	2
14080903	Ayutthaya	-0.73987	3
52030607	Lampang	-0.72509	2
70060304	Ratchaburi	-0.72375	3
60120401	Nakhonsawan	-0.72125	3
24040303	Chachoengsao	-0.70201	3
84010601	Suratthani	-0.6952	3
41012109	Udonthani	-0.69376	3
20110204	Rayong	-0.68601	3
45100604	Roi-et	-0.67448	3
48100313	Nakhonpanom	-0.66808	3
23010307	Trad	-0.66618	2
16100104	Lopburi	-0.66272	3
30310301	Nakhonratchasima	-0.65523	2
16012406	Lopburi	-0.64272	3
19021203	Saraburi	-0.63877	2
33120104	Srisaket	-0.63781	2
32110504	Surin	-0.63451	2
42130407	Loei	-0.63403	3
13010704	Pathumthani	-0.63242	3
46110210	Kalasin	-0.63107	3
85030302	Ranong	-0.63101	3

Table 8.3 The First 50 Low Development Villages by Factor Scores (continued)

village id	province	factor score	2003's development level from NRD2C
93060101	Pattalung	-0.62785	3
42060302	Loei	-0.62637	3
25010204	Prachinburi	-0.6248	3
90160101	Songkhla	-0.62423	3
84190109	Suratthani	-0.61619	3
61030104	Uthaithani	-0.61017	3
44050513	Mahasarakam	-0.58692	3
75020503	Samutsongkram	-0.57723	3
42030607	Loei	-0.57535	3
43070408	Nongkhai	-0.57447	2
44070113	Mahasarakam	-0.57435	2
60020204	Nakhonsawan	-0.57321	3
50220303	Chiangmai	-0.56928	3
45190313	Roi-et	-0.56748	2
43100412	Nongkhai	-0.56541	3
95040406	Yala	-0.56347	3
14140509	Ayutthaya	-0.55548	3
14121403	Ayutthaya	-0.55481	2
82020305	Pang-nga	-0.55399	3

It is clear that the policy maker can classify village development level by prioritizing village factor scores and divided into any groups. From the normal distribution of factor scores in Figure 2, we consider to group development level into 2 groups as shown below:

- 1) Above average development village : factor scores more than 0
- 2) Below average development village : factor scores less than 0

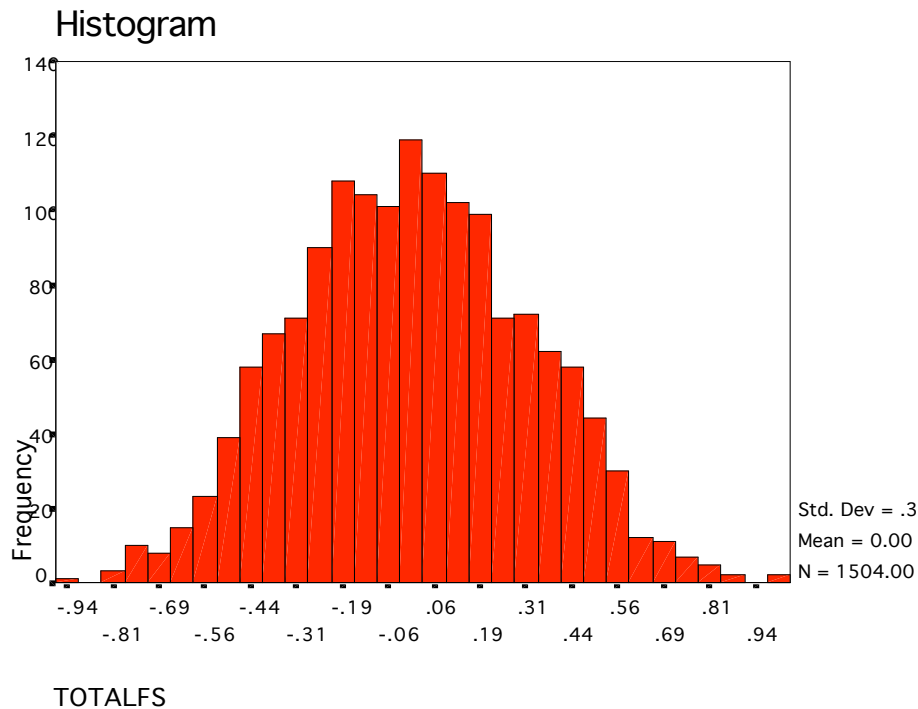


Figure 2 Distribution of Village Factor Scores

9. Conclusion

In 1982, the Thai government set up socio-economic data set called NRD 2C. The NRD 2C has been used to identify development status of the villages in terms of infrastructure, income and production, health, water resource utilization, and knowledge. It has been collected every two years at village level. The latest NRD 2C during the Ninth National Development Plan consists of six groups of indicators and these six groups are further divided into 30 indicators.

The NRD 2C has been kept update in both questionnaire and indicators in every five years of development plan. The criteria for each indicator have been adjusted at the same time. However, there are many scientific problems in the selection of indicators and the criteria to classify development status of the village. Therefore, the study team tried to find out the solution to these problems in order to improve the NRD 2C questionnaire and indicators for the next development period (2007-2011).

Questionnaire for this study was designed based on the 2003 NRD 2C, the APO community-level survey, and World Bank's questionnaire for social capital. The new questionnaires were used to collect data in 2,532 villages throughout the country. After data verification, Factor Analysis technique was used in this study. The factor analysis technique is a suitable tool for a large set of variables. It reduces number of variables by creating relationship among those variables and form into factors. The factor scores are used to classify the development level of the villages. In addition, descriptive statistics were used to describe the variables in the study.

Factor analysis identified 15 factors that affect development status of the villages. They are villages' basic characteristics, education of the villagers, health condition, migration to work in Bangkok, finding job in industrial factory, rice consumption, rice production, environment in the village, employment and poverty, using fertilizer, distance from village to the TAO office, public services in the village, drought, poverty and unemployment problem, and community forest. By prioritize factor scores, the villages are divided into two groups. First is the above average development villages that their factor scores are higher than 0. Second is the below average development villages that their factor scores are lower than 0.

Nevertheless, there are many problems found in the study. The incomplete of questionnaire design and the answers filled in have resulted in cutting off the cases and the variables in the analysis, from 2,532 cases to 1,504 cases and 390 variables to 120 ones. As a result of the decrease in cases and variables, the factor analysis by region can not be done because there were too small cases left for the analysis. In addition, some questions made the interviewer confused. They could not understand the question correctly, which led to incomplete answers. Finally, the data entry program has not been consistent with the questionnaire otherwise the data entry process would be complicated.

10. Policy Implication

From this study result, the policy makers can take the following into account for improving the methodology of village development classification and also adjusting the NRD2C administration process by the next period of development.

- 1) Objectives of the NRD 2C data and target users should be determined clearly in order to adjust the questions, indicators, and the questionnaire correctly.
- 2) The questions about capital endowments such as resources capital, human capital, knowledge capital and social capital (e.g., group joining) should be added in the NRD 2C questionnaire and also adjust question pattern to be more cognitive and easy to answer.
- 3) Should use the Factor Analysis technique for classification of development level of the villages because of its academic reference.
- 4) Data verification at the village level is still very important. It should be done by community civic forum. The data has to be checked during the collection process and by taking a random after data collection finished. Taking a random should emphasize on the questions about figures such as population, areas, and expenditure.
- 5) The agencies concerned should place importance on every stage of NRD 2C data administration i.e., questionnaire developing, data entry program, data processing program and final output for the users. Moreover, the manual for NRD 2C utilization should have to be done for the operation units in the areas and the general users to use or analyze the data accurately.
- 6) The Factor Analysis for the next data collection is recommended. It is to compare the difference in terms of influence factor and village development level in between period of time.

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ABBREVIATIONS

TAO is for Tambon Administration Organization.

NRD2C is for the code of rural's socio-economic baseline data.

NESDB is for Office of the National Economic and Social Development Board.

CDD is for Community Development Department.

APPENDIX

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.835
Bartlett's Test of Sphericity	Approx. Chi-Square	21716.714
	Df	1431
	Sig.	.000

Communalities

	Initial	Extraction
Total Population	1.000	.938
Total Male	1.000	.926
Total Female	1.000	.932
No. of hh. are members of groups in the village	1.000	.848
No. of hh. share ideas for sake of community	1.000	.835
Total households in the village	1.000	.840
No. of households with adequate water utilization	1.000	.745
No. people in compulsory school	1.000	.724
No. of households have motorcycle	1.000	.682
No. of hh. have main income from agriculture	1.000	.725
No. of hh. have drinking clean water	1.000	.625
No. of people studying in pre-primary school	1.000	.527
No. of households have their own land	1.000	.603
No. pp. finished lower secondary school in village	1.000	.823
No. male finished lower secondary school in village	1.000	.776
Female finished lower secondary school in village	1.000	.723
No. pp. finished upper secondary school in village	1.000	.806
Male finished upper secondary school in village	1.000	.750
Female finished upper secondary school in village	1.000	.724
better nutrition	1.000	.844

	Initial	Extraction
no change in nutrition	1.000	.843
better disease	1.000	.795
no change in disease	1.000	.801
place most migrant work	1.000	.937
place male work	1.000	.926
place female work	1.000	.911
most migrant work	1.000	.876
male migrant	1.000	.834
female migrant	1.000	.742
self-grow rice consumption	1.000	.782
bought rice consumption	1.000	.743
rice sufficient	1.000	.670
rice quantity	1.000	.965
high yields	1.000	.964
no change for air pollution	1.000	.711
no change for drink problem	1.000	.731
no change soil erosion	1.000	.567
better employment	1.000	.848
no change employment	1.000	.756
better poverty	1.000	.610
chemical fertilizer	1.000	.949
natural and chemical fertilizer	1.000	.950
Distance from village to the TAO	1.000	.627
Traveling time from village to TAO	1.000	.585
Traveling cost from village TAO	1.000	.572
rural kindergarten	1.000	.635
child playground	1.000	.611
public library	1.000	.560
drought problem	1.000	.851
migrate to other area	1.000	.835
poverty problem	1.000	.715
unemployment problem	1.000	.771
forest activity in village	1.000	.761
community forest	1.000	.750

Extraction Method: Principal Component Analysis

Total Variance Explained

		<i>Initial Eigenvalues</i>			<i>Extraction Sums of Squared Loadings</i>			<i>Rotation Sums of Squared Loadings</i>		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
<i>Component</i>	1	10.831	20.058	20.058	10.831	20.058	20.058	9.653	17.877	17.877
	2	5.343	9.894	29.952	5.343	9.894	29.952	4.555	8.435	26.311
	3	4.040	7.481	37.432	4.040	7.481	37.432	3.348	6.200	32.512
	4	3.600	6.666	44.098	3.600	6.666	44.098	2.836	5.252	37.763
	5	2.499	4.627	48.725	2.499	4.627	48.725	2.481	4.594	42.357
	6	2.121	3.928	52.654	2.121	3.928	52.654	2.245	4.158	46.515
	7	1.914	3.544	56.198	1.914	3.544	56.198	2.037	3.772	50.287
	8	1.734	3.211	59.409	1.734	3.211	59.409	2.034	3.767	54.054
	9	1.568	2.903	62.312	1.568	2.903	62.312	2.020	3.741	57.794
	10	1.551	2.871	65.184	1.551	2.871	65.184	1.940	3.592	61.386
	11	1.532	2.837	68.020	1.532	2.837	68.020	1.756	3.252	64.638
	12	1.334	2.470	70.490	1.334	2.470	70.490	1.752	3.245	67.883
	13	1.304	2.414	72.904	1.304	2.414	72.904	1.696	3.141	71.024
	14	1.229	2.275	75.179	1.229	2.275	75.179	1.660	3.074	74.098
	15	1.043	1.931	77.110	1.043	1.931	77.110	1.627	3.012	77.110
	16	.983	1.820	78.930						
	17	.804	1.489	80.419						
	18	.707	1.310	81.728						
	19	.680	1.260	82.988						
	20	.668	1.237	84.226						
	21	.612	1.133	85.358						
	22	.601	1.113	86.472						
	23	.575	1.064	87.536						
	24	.571	1.057	88.592						
	25	.533	.987	89.579						
	26	.476	.882	90.461						
	27	.449	.832	91.293						
	28	.416	.770	92.063						
	29	.398	.737	92.800						

		<i>Initial Eigenvalues</i>			<i>Extraction Sums of Squared Loadings</i>			<i>Rotation Sums of Squared Loadings</i>		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	30	.371	.687	93.486						
<i>Component</i>	31	.352	.652	94.139						
	32	.335	.620	94.759						
	33	.316	.585	95.344						
	34	.286	.530	95.874						
	35	.274	.507	96.381						
	36	.230	.427	96.808						
	37	.207	.384	97.192						
	38	.195	.361	97.553						
	39	.182	.337	97.889						
	40	.166	.307	98.197						
	41	.160	.296	98.493						
	42	.125	.232	98.725						
	43	.121	.224	98.949						
	44	.103	.191	99.140						
	45	.085	.157	99.298						
	46	.078	.145	99.443						
	47	.070	.130	99.572						
	48	.061	.113	99.685						
	49	.057	.105	99.790						
	50	.033	.061	99.850						
	51	.032	.060	99.910						
	52	.030	.056	99.966						
	53	.019	.034	100.000						
	54	2.913E-06	5.394E-06	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total Population	.957														
Total female	.953														
Total male	.951														
No. of hh. share ideas	.906														
No. of hh. are groups members	.899														
Total households	.889														
No. of hh. with adequate water	.848														
No. pp. in compulsory school	.837														
No. of households have motorcycle	.786														
No. of hh. have income from agriculture	.776														
No. of hh. have drinking clean water	.769														
No. of pp. studying in pre-primary school	.712														
No. of households have their own land	.627														
No.pp. finished lower secondary school		.878													
No. pp. finished upper secondary school		.856													
Female finished lower secondary school		.855													
Male finished lower secondary school		.852													
Male finished upper secondary school		.832													

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Female finished upper secondary school		.814													
better nutrition			-.896												
no change in nutrition			.895												
better disease			-.838												
no change in disease			.832												
place most migrant work				.934											
place male work				.925											
place female work				.916											
most migrant work					.928										
male migrant					.906										
female migrant					.824										
self-grow rice consumption						.828									
bought rice consumption						-.808									
rice sufficient						.693									
high yields							.944								
rice quantity							.940								
no change for air pollution								.818							
no change for drink problem								.793							
no change soil erosion								.681							
better employment									.892						
no change employment									-.765						
better poverty									.705						
natural and chemical fertilizer										-.973					

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
chemical fertilizer										.970					
Distance from village to the TAO											.772				
Traveling time from village to the TAO											.741				
Traveling cost from village to the TAO											.737				
rural kindergarten												.753			
child playground												.752			
public library												.725			
drought problem													.909		
migrate to other area													.878		
Poverty problem														.861	
Unemployment problem														.820	
forest activity in village															.856
community forest															.836

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
1.00 Rotation converged in 6 iterations

Mean and Standard Deviation of Variables

Variables	Mean	Std.Deviation
Total population	19.874	4.666
Total male	13.914	3.293
Total female	14.183	3.342
No. of households share ideas for sake of community	9.417	2.402
No. of households are members of groups in the village	9.448	2.360
Total households in the village	10.378	2.463
No. of households with adequate water utilization	9.387	2.635
No. people in compulsory school	8.011	2.301
No. of households have motorcycle	8.435	2.389
No. of households have main income from agriculture	9.150	2.581
No. of households have drinking clean water	9.727	2.849
No. of people studying in pre-primary school	1.164	0.298
No. of households have their own land	7.598	3.008
No. of people finished lower secondary school live in the village	1.422	0.479
No. of people finished upper secondary school live in the village	1.211	0.443
No. of female finished lower secondary school live in the village	1.125	0.484
No. of male finished lower secondary school live in the village	1.128	0.467
No. of male finished upper secondary school live in the village	0.923	0.429
No. of female finished upper secondary school live in the village	0.921	0.442
Better in malnutrition of children	0.620	0.487
No change in malnutrition of children	0.360	0.481
No change in infectious diseases	0.450	0.497
Better in infectious diseases condition	0.520	0.500
Majority of villagers migrate to work in Bangkok	0.440	0.496
Majority of male villagers migrate to work in Bangkok	0.440	0.496
Majority of female villagers migrate to work in Bangkok	0.440	0.496
Majority of pp. work outside Tambon engaged in industrial factory	0.400	0.490
Majority of male work outside Tambon engaged in industrial factory	0.330	0.472
Majority female work outside Tambon engaged in industrial factory	0.480	0.500
Majority of household consume self-grown rice	0.520	0.500
Majority of household consume rice bought from shop	0.280	0.447
Number of households produce rice sufficient for their consumption	0.590	0.491
Introduction of high yields varieties	0.420	0.493
Rice yield has increased during the past ten years	0.440	0.497
No change in air pollution	0.560	0.497

Variables	Mean	Std.Deviation
No change in pollution of drinking water	0.540	0.499
No change in soil degradation	0.620	0.485
Better employment condition	0.510	0.500
No change in employment condition	0.310	0.463
Better poverty incidence	0.580	0.493
Use both chemicals and manure	0.580	0.494
Use only chemicals	0.380	0.484
Distance from village to the TAO	1.783	0.856
Traveling time from village to the TAO	1.424	0.373
Traveling cost from village to the TAO	1.109	0.318
Rural kindergarten	0.510	0.500
Child playground	0.490	0.500
Public library	0.380	0.486
Drought in the village	0.730	0.444
Migration to work outside Tambon	0.440	0.497
Poverty problem	0.640	0.480
Employment problem	0.520	0.500
Tree plantation activity in the village	0.430	0.495
Community forest in the village	0.330	0.471

16. VIETNAM

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Key Factors for Community Development Programs in Vietnam

ABSTRACT

A survey on key factors for community programs was carried out to identify the major factors which contribute to the success of community development programs. The survey was conducted in 6 villages of Bac Giang province in Vietnam. The level of analysis was based on both community – level and household – level factors. The community-level factor survey gives an overall picture of the factors which impact on community development from local authority perspective, while the household-level survey provides more detailed information from the villagers.

Results of the survey show that the key factors which affect the success of community development programs from the local community point of view include support policies, technology, capacity building, technology transfer methods, community participation, promotion and financial contribution. Technology and capacity building are more important compared with other factors. From the household point of view, technology and financial support are more important aspects. The point of view is different between rich, medium and poor households. For rich and medium households, technology is an important aspect while this aspect is not so important to poor households.

The most significant difficulties for successful implementation of community based programs are awareness, investment, participation and technical assistance. Investment and technical assistance are two issues that need to be considered from the point of view of both the local community and the household level.

This report presents the outcomes of the survey and proposes actions that should be carried out for successful implementation of community programs.

Introduction

Background:

Geography

Vietnam is located in South East Asia, bordering the Gulf of Thailand, Gulf of Tonkin, and South China Sea, alongside China, Laos, and Cambodia. Land borders with Cambodia, China and Laos extend for 1,228 km, 1,281 km, and 2,130 km respectively. The nation has a total area of 329,560 square km, of which 325,360 sq km is land, while water bodies cover 4,200 sq km. The landscape varies throughout Vietnam, with low, flat deltas in the south and north; highlands in the central region; and mountainous areas in the far north and northwest. The climate is different between the north and south of Vietnam. The north has four seasons: spring, summer, autumn and winter. The south has 2 seasons: wet and dry. The annual rainfall averages about 1,830 mm and humidity averages 85 -88% throughout the year.

Population

Vietnam has a population of 83 million (as at July 2004), which is increasing at approximately 1.3% per year. Almost 73 percent of the people are based in rural areas. The average population density is 251 persons per sq. km, with heavier concentrations in the south. The median age is 25 years. There are many ethnic groups represented in Vietnam, although the Kinh (Vietnamese) is the most populous. Other groups include Chinese, Hmong,

Thai, Khmer, Cham and other ethnic minorities, which are primarily based in mountainous areas. Vietnamese is the official language, with English increasingly favored as a second language. Buddhism forms the main religion, however there are also several million Roman Catholics, as well as smaller numbers of Protestants and Muslims.

Government and Administrative Systems

Following reunification, the Government attempted to organize the country's political and economic systems along orthodox Soviet lines. The shift towards a market-oriented economic system in recent years has coincided with some less dramatic changes in the political structure. The Government of Vietnam is currently divided in four levels of administration: (i) national; (ii) provincial and urban authorities (Ha Noi, Ho Chi Minh City, Hai Phong, Can Tho, and Da Nang); (iii) urban precincts and rural districts; and (iv) urban wards and rural communes. In total there are 64 provinces and five urban authorities, 600 districts and 10,225 communes (8,859 of which are rural). Each level of local administration has an executive organization and the People's Committees, a legislative organization and the People's Councils. The figure below presents the government structure and administration system.

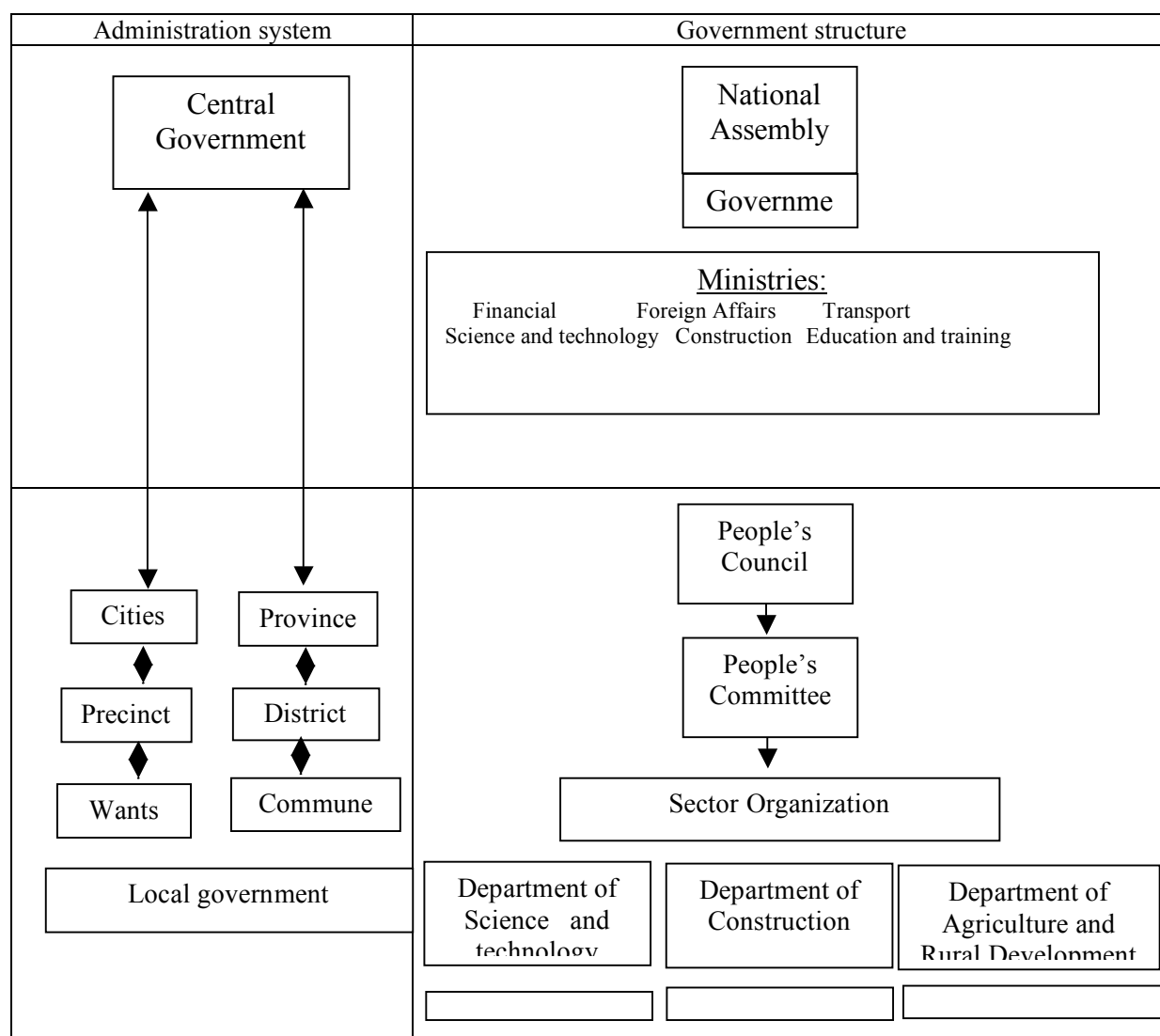


Figure 1. Government structure and administration system

National Economy

Viet Nam had a very successful decade during the 1990's, growing very rapidly from 1990 - 1997 and avoiding the worst of the economic crisis afterwards. The degree of strength in more recent times is less dramatic but still striking.

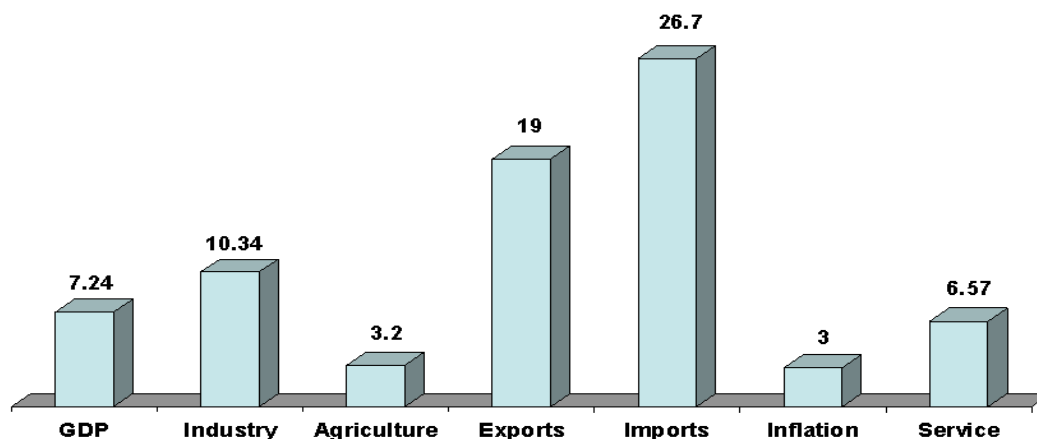
1. GDP Growth: If we consider the period from 1998 to 2002, the Asian Development Bank estimates growth at 5.5 % a year, about the same as India and much slower than China and Bangladesh. (Official data show over 6% growth; the IMF estimates less than 5 %.) Projections for 2003 were 6-7%, with some uncertainty due to the world economy and SARS.
2. Exports: A bright spot has been exports, which have risen from \$9.1 billion in 1997 to \$16.5 billion in 2002, a growth rate of over 12% a year. This is much faster than most other countries, and about the same as China.
3. Manufacturing: Manufacturing growth has also been healthy, averaging about 10% per year in real GDP terms from 1998 to 2002. The growth of gross industrial output has been faster, at over 14% a year from 1998 to 2002.
4. Macroeconomic Stability: Inflation is low and fiscal deficits have been contained to acceptable levels. Reported bad bank loans are falling to levels that can be managed – less than 10% of total credit outstanding. External debt is acceptable.
5. Private Investment: The most dynamic sector since 2000 when the Enterprise Law was passed has been the private formal domestic sector. Industry for this form of ownership, which excludes household level activity, has grown nearly 20% a year since 1999, albeit from a low initial base. The entire formal private sector created 1.75 million new jobs from 2000 to 2002, compared to near zero growth in jobs for the entire public sector.
6. Poverty Reduction: Poverty rates measured at international levels have declined from 58% in 1992/3 to 37% in 1997/98 to about 32% now. This near halving of poverty rates in ten years is a remarkable accomplishment, and has been accompanied by rapid increases in enrollment ratios at all levels and improvements in health and nutrition.

The structure of the Vietnamese economy has changed dramatically in recent years as a result of the Government's market liberalization policies. Such changes have occurred in the composition of GDP and employment, the composition of foreign trade, and the direction of foreign trade and investment flows. There are increasingly distressing signs that Vietnam is gradually losing its price competitiveness, both regionally and globally. Exports are still strong, but are showing signs of fatigue; foreign direct investment is declining, with an increase in delays of implementation. The response from the Government has been pragmatic so far. The priority is to maintain a stable macro-economic environment, the financial sector and SOEs (State Owned Enterprises) to any exchange rate shock.

The GDP in 2003, growing at 7.24% per year (Figure 1 presents the GDP growth by sector in 2003). The Vietnamese economy is based on agricultural, industrial and service sectors; however the industrial sector has been a specific focus of the government's economic reform. While the industrial and service sectors provide larger contributions to the GDP, agriculture remains the main occupation, employing 63% of the labor force. Agricultural products include rice, corn, potatoes and rubber. Major industries include food processing, garments, shoes and machine-building. Unemployment is approximately 6%. The main exports include rice and fuel, and total approximately US\$15,100 million. Export partners have been established with USA, Japan, Australia, China and Germany. Imports total approximately US\$16,000, and include food, fuel and energy, and other capital goods. Vietnam continues to receive loans and other contributions from various international agencies to support development activities. Vietnam's external debt is in the order of US\$14.5 million.

ECONOMIC ACHIEVEMENTS OF 2003

(unit: % increase compared with the previous year)



Population growth: 1.18%

FDI capital (2003): USD 1,653.68 million

(Source: General Dept. of Statistics)

Figure 2. GDP growth by sector 2003

Rural development situation

With nearly 70% of the population living in rural areas, rural economy development is enshrined as the most important factor ensuring the sustainable development of the nation. After approximately 15 years of economic reform implementation, agriculture and the rural development sector has made significant progress.

The livelihood of the majority of farmers has been considerably improved in recent years. Farmers' household income has increased by over 10% since 1995, specifically from 7.7 million VND in 1993 to 9.8 million VND in 1998. National food security has basically been maintained. The proportion of poor and hungry reduced from 30% in 1992 to 13% in 1999, equivalent to the average level of 2% a year.

Rural infrastructure has been considerably improved with 84% of paddy cultivated land is irrigated, 93% of communes have roads to their centre, nearly 70% of communes have access to electricity, 98% have primary schools, 92% possess health care stations and 40% have access to standardized water.

Hunger elimination, poverty alleviation and rural development programs have made a great contribution to improving rural areas. These have primarily focused on difficult communes and remote areas, and have included projects of settlement, agricultural and forestry extension, infrastructure construction, culture, education and society development.

New policies including regulations to implement democracy in communes and administration reform have provided people with opportunities to participate in the monitoring of state activities, management of society and development of community, mobilizing people's activeness and creativeness, and restoring responsibility and pride of individuals and communities in managing their own land. Public unions, not least Women's Association, Farmer's Association, and Veteran's Association have gradually confirmed their roles in communal activities. In parallel with economic improvement, political life in rural areas has been further democratized and liberalized.

In short, the successful reform process of economy and rural areas has mainly been attributed to the clear identification of farmers' ownership, the mobilization of farmers in making decisions on production, and the liberalization of markets to match market prices with domestic supply-demand relations and fluctuation

in international markets. Those policies have really helped agriculture and rural economics become a focus in the economic reform process, contributing to controlling and drawing back inflation, increasing foreign currency for the nation through exporting agricultural, forestry and fishery products and especially improving farmers' life and rural environments.

Community development in Vietnam in general

Introduction and the objectives of goals -setting in Viet Nam

Vietnam has articulated its development vision for the coming decade in the Socio-Economic Development Strategy (SDS), which expresses a strong commitment to growth, poverty reduction and social equity (ADB, UNDP and the World Bank, 2000). The specific actions, needed to translate this vision into reality, are described in the draft five-year plan for 2001-2005 and in a number of sectoral ten year strategies and five year plans. These sectoral plans and strategies are approved by the Prime Minister and contain a wide range of goals and targets for the coming period. The targets included in these strategies are generally not prioritized and are not costed.

The Comprehensive Poverty Reduction and Growth Strategy (CPRGS, as the PRSP is known in Vietnam), which is being drafted by an inter-ministerial committee under the leadership of the Ministry of Planning and Investment (MPI), will look across these strategies and identify the priority areas for action in promoting growth, social equity and poverty reduction over the medium term. Central to this task is the identification of clear *outcome targets* which explain the changes the Government of Vietnam seeks to generate over five and ten-year timeframes and *intermediate indicators* which can be tracked and monitored regularly (annually or biannually) to assess progress towards the targets.

Processes

In early 2001, the Government of Vietnam began setting out the steps necessary to develop their interim PRSP into a more comprehensive document. Key to this was the need to prioritize across the wide range of goals and targets in the overall strategic planning framework to identify those which would most effectively capture progress in reducing poverty and promoting social equity. In this context, the Government of Vietnam asked the Poverty Task Force (PTF) to support some background analysis in eight thematic areas. These eight themes were chosen by the Government of Vietnam as representing the heart of their strategy to fight poverty. Several of the themes had a direct link with the Millennium Development Goals (MDG). Others lay outside the territory defined by the MDGs but were chosen on the basis of their strategic importance in terms of economic growth, poverty reduction and social equity. Through this work, the Government hoped to establish a clear monitoring framework for their CPRGS and other Government strategies. The goals and targets were presented and discussed in a series of eight papers that were commissioned to various agencies, each covering one thematic area:

1. Eradicating poverty and hunger;
2. Reducing vulnerability and providing social protection;
3. Providing quality basic education for all;
4. Improving health status and reducing inequalities;
5. Ensuring environmental sustainability;
6. Promoting ethnic minority development;
7. Enhancing access to basic infrastructure ; and,
8. Ensuring good governance for poverty reduction.

Objectives of the survey

The overall objective of the study is to find out the key factors which contribute to the success of community development programs. Immediate objectives can be described as the following:

Immediate objectives:

- i) To investigate basic information of the selected communities
- ii) To gather information on existing community development programs in the communities in terms of technology

- iii) To gather information on existing community development programs in the community in terms of environmental protection
- iv) To investigate the participation of the community in these community development programs (participation of local authorities, community groups and the villagers themselves)
- v) To find out the key factors which contribute to the success of community development programs
- vi) To find out the difficulties and challenges while implementing community development and techniques to overcome these challenges.

Study Methodology

The survey will be conducted in 6 villages of Bac Giang province where some community programs on technology and environment were already conducted to find out what is key factors which contribute to the success of community programs. The level of analysis will be based on both community – level and household – level factors. The community-level factor survey will give an overall picture of the factors which impact on community development from local authority point of view while household-level factor survey will be provide more detail information from the villagers perspective.

Around 10 households randomly selected in each village will be selected for conducting the interview. The households will include representatives from families with high income; families with medium income and families with low income since there is a different reasons for participation in community programs among these 3 levels.

The survey will be conducted based on a designed questionnaire. The members of survey team will directly interview each commune leader and households, and fill up the questionnaires in order to avoid any bias in the survey.

Data from the survey will be analysed to come up with the final conclusion on key factors contributing the success of community development programs. Table 1 provides a description of interviewed households.

Table 1 : General information of the six villages

Order	Villages	Total population	Number of household
1	Kha Ly Ha	1563	364
2	Tinh Loc	1324	324
3	Dong Huong	1800	380
4	An Thuan	1150	240
5	Cho Moi	310	65
6	Trung Dong	346	101

Profile of Study subjects

Bac Giang province is located adjacent to the economic hub of the north. The main town is Bac Giang and there are 9 districts: Son Dong, Luc Ngan, Luc Nam, Yen The, Lang Giang, Yen Dung Viet Yen, Tan Yen, Hiep Hoa. Bac Giang province is 50 kilometers from Hanoi to the south and 100 kilometers from the Huu Nghi Quan border-gate with China to the north. Bac Giang province has more than 1.5 million people, 870,000 of which are of working age. Ethnic groups include Viet (Kinh), Nung, San Chay, San Diu, Hoa, and Tay.

The province's transportation system comprises roads, railroads and river-ways, all allocated conveniently. Important routes like National Highways 37, 31, 279 have been upgraded and the new National Highway

1A was completed, creating even better conditions for economic exchange. The three railroad routes and three big rivers (Thuong, Cau and Luc Nam) passing through the province jointly form a smooth transportation network

Bac Giang has 382,200 hectares of natural land including 123,000 hectares of agricultural land, 110,000 hectares of forestry land and 66,500 hectares of urban land, specialized land and housing land. This resource is a favorable condition for the development of industry, agriculture, forestry and aqua-culture.

Bac Giang's agricultural land, besides the task of ensuring food security, is also suitable for the development and supply of different kinds of vegetables and fruits to Hanoi city and neighboring provinces.

Bac Giang's terrain is divided into two clear biological regions: midland and mountainous, suitable for the development of diversified agricultural and forestry production.

The study will be conducted in 06 villages of Bac Giang province which are listed as follows:

1. Kha Ly Ha village, Quang Minh commune, Viet Yen District.
2. Tinh Loc, Nghia Trung commune, Viet Yen District.
3. An Thuan village, Bao Dai commune, Luc Nam district.
4. Trung Dong village, Bao Dai commune, Luc Nam district.
5. Dong Huong, Nham Hung commune, Yen Dung district
6. Cho Moi, Dai Hoa commune, Tan Yen district.

The selected villages are located along the National Highway 1 and have different geography, including midland, lowland, dry land and wetland. The farming systems of most villages are Rice – Rice – Vegetable or Rice – Vegetable – Vegetable. The farming system depends on the weather conditions and market requirements of each village. Most family livestock models include chicken, duck, pig, cow and buffalo.



Figure 3. Survey villages in Bac Giang Province

Survey results

Basic information of the selected communities

All of six villages are located in Bac Giang province. The major ethnic group in this region is the Kinh people, accounting for 98 – 100%. The area of the villages is from 35 to 170 ha, in which agricultural area accounts for 60%. The number of households in each village varies, ranging from 65 to 364 households with 310 to 1563 people respectively.

All of the villages are not far from Bac Giang town and can be accessed by vehicle. 100% of villagers can receive electricity and have access public phone. The living standard of the population is high (an average income from 3 million VND to 5 million VND/person/year (250 VND - 420 VND/person/month)) compared with national standard for poor family in rural area (less than 100,000 VND/person/month). 71 to 95% of people have a TV set. All of the villagers have a bicycle and 30% to 62% of people have their own motorbike. Detailed information of the villages is described in Table 2.

Table 2 : Basic information of the villages

VILLAGES							
No	Community	Kha Ly Ha	Tinh Loc	Dong Huong	An Thuan	Cho Moi	Trung Dong
1	Village information						
1.1	Major ethic (Kinh)	99,7%	97,81%	97%	100%	100%	98%
1.2	Village area (ha)						
	Total	93,6	169,96	154	85	35	41,5
	Agriculture	63,4	102	154	72	25	34,5
	Grassland	30,2	57,96	0	13	10	7
1.3	Population (now)	1563	1324	1800	1150	310	436
	10 years ago	1164	1200	1300	880	250	315
1.4	Households (now)	364	324	380	240	65	101
	10 years ago	325	287	295	180	58	75
1.5	Average income (million VND /person/year)	4	4.5	2,7	2,7	3,5	3
2	Location						
2.1	Province	Bac Giang	Bac Giang	Bac Giang	Bac Giang	Bac Giang	Bac Giang
2.2	Distance (km)	11	7	18	25	30	26
2.3	Traveling time (minutes)	60	30	90	30	120	40
3	Infrastructure						
3.1	Accessibility vehicles (all season)	Yes	Yes	Yes	Yes	Yes	Yes
3.2	Using electricity (%)	100	100	100	100	100	100
3.3	Public phone (line)	Yes	Yes	Yes	Yes	Yes	Yes
4	Life and environment						
4.1	TV set (household (%))	88	65	95	80	77	70
4.2	Bicycle (%)	100	100	100	100	100	100
4.3	Motor cycle (%)	50	30	47	30	62	45

From the data, the percentages of agriculture land/total land difference in each village, ranging from 60% to 100%. The population compared to 10 years ago has increased from 10

to 38 percent and the average head per household has not changed significantly except Dong Huong and Cho Moi villages. Detailed data is shown in table 3.

Table 3 : Data analysis at commune level

Community	Kha Ly Ha	Tinh Loc	Dong Huong	Anh Thuan	Cho Moi	Trung Dong
Agriculture land/total land (%)	68	60	100	85	71	83
Agriculture land /head (ha)	0,041	0,077	0,086	0,063	0,081	0,079
Population increase (%)	34	10	38	31	24	38
Average head/household						
Now	4	4	5	5	5	4
10 years ago	4	4	4	5	4	4

Agricultural activities

Agriculture is the main source of income in the village, which accounts for 90% of income earned. All villages have already applied technologies to serve agricultural activities.

Livestock is also one source of income in these villages. Income from non-agricultural activities is low, accounting for 3% only. Table 4 provides detail information on agricultural activities of the villages.

Table 4 : Agricultural activities

No	Community	Kha Ly Ha	Tinh Loc	Dong Huong	An Thuan	Cho Moi	Trung Dong
I	Agriculture activities						
1	Land ownership						
1.1	Household's income from non agriculture (%)	3,75	1	5	5	2	0
1.2	Household's income from agriculture (%)	96,25	99	95	95	98	100
2	Technology						
2.1	Using animal to plough (%)	95	80	70	80	70	90
2.2	Average use of manure (kg/ha)	12,000	8,100	12,150	5,000	15,000	5,600
2.3	Chemical fertilizer (kg/ha)						
	N/ (kg/ha)	135	160	189	280	200	230
	P/ (kg/ha)	400	320	540	420	300	380
	K/ (kg/ha)	135	80	135	230	200	230
	NPK/(kg/ha)	800	100	0	0	0	0
3	Livestock						
3.1	oxen (feeding)	580	350	20	30	10	6
3.2	cows (feeding)	0	0	80	40	25	15
3.3	buffaloes (feeding)	3	10	100	50	30	29
3.4	Horse (feeding)	0	0		0	4	0
3.5	goats (feeding)	0	0	30	0	0	0
3.6	pigs (feeding)	6,000	972	3,420	490	1,000	200
3.7	chicken (feeding)	3,000	10,000	11,400	3,000	5,000	1,800
II	Non-agricultural activities and non-local						

	activities						
2	Household local non-agricultural (%)	3,57	0,93	0	3	0	3

Community resource management in the villages

All of the surveyed villages already conduct some plantation activities. Most villages do not have problems with drinking water quality. The common fuel for cooking in the villages includes agricultural residues, coal and fuel wood. Approximately 80-100% of the villagers have latrines. Table 5 provides more information in terms of community resource management and environmental conditions in the villages.

Table 5 : Community resource management and environmental conditions in the villages

No	Community	Kha Ly Ha	Tinh Loc	Dong Huong	An Thuan	Cho Moi	Trung Dong
	Community resource management						
1	Forest						
	Plantation activities	Yes	Yes	Yes	Yes	Yes	Yes
2	Drinking water and energy source						
2.1	Problem with drinking water	Yes	No	No		No	No
2.2	Fuel for cooking						
	Wood from forest (%)				10		10
	Wood from privately owned land (%)				18		
	Agricultural residues (%)	8	3	80	50	40	60
	Animal dung (%)	3		0,13	2	5	
	Coal/fuel wood (%)	85	80	15	15	50	10
	Gas (%)		10				1
	Electricity (%)	4	7	4,87	5	5	19
3	Latrines						
3.1	Latrine with ventilation (%)	92	90	100	100	80	100
3.2	Washout toilet (%)	8	10			20	

Basic information of the household level

Most of the households have 1 to 3 children. Education of villagers is relatively high. Most people have attended primary and secondary school.

The householders own land and use water from canals as an irrigation source. Rice is the most important agricultural product in the villages. In addition, other crops are planted such as maize, sweet potato, peanut, and soyan bean.

Livestock is one source of income in the villages. Most households breed either oxen, buffalo, pig or chicken.

Fuel wood and agricultural residues are the main energy sources for cooking purposes in most households. In addition, charcoal and kerosene are other energy sources.

The main water source in the households is from private hand pumps, accounting for 70% to 100%. Other sources of water include tap water from overhead tanks.

Many households use credit services from the bank as a loan for production development, livestock production and other activities.

Advanced technologies such as the application of new rice seeds and the plantation of peanut with nylon covers were introduced and applied in the villages with a high participation of the households. Table 6 provides more information of the survey households.

Table 6 : Household information

Order	Item	Trung Dong	An Thuan	Dong Huong	Tinh Loc	Kha Ly Ha	Cho Moi
1	Average number of children/household	2	3	3	2	2	2
2	Education (% of children go to school)	100%	100%	100%	100%	100%	100%
3	Agricultural production						
	Land owner	100%	100%	100%	100%	100%	100%
	Irrigation source	Canal	Canal	Canal	Canal	Canal	Canal
	Main agricultural production	Rice	Rice	Rice	Rice	Rice	Rice
4	Other Agricultural Products (number of households)						
	Maize	8/10	10/10	6/10	1/10	4/10	4/10
	Sweet potato	1/10	5/10	8/10	1/10	5/10	1/10
	Peanut	10/10	9/10	7/10	1/10		2/10
	Soyan bean					3/10	1/10
5	Livestock Production						
	Oxen:	x (3/10)	x (8/10)	x (8/10)	x (5/10)		x (9/10)
	Buffaloes:	x (6/10)					
	Pig	x (10/10)	x (10/10)	x (8/10)	x (8/10)	x (10/10)	x(10/10)
	Chicken	x (10/10)	x (10/10)	x (10/10)	x (7/10)	x (4/10)	x (8/10)
6	Energy Sources for Cooking:						
	Fuel wood	x (9/10)	x (10/10)	x (5/10)	x (6/10)		x(10/10)
	Charcoal			x (1/10)	x (6/10)	x (10/10)	x(10/10)
	Kerosene				x (1/10)		
	Agricultural Residues	x (10/10)	x (9/10)	x(10/10)	x (2/10)		x (9/10)
7	Water source						
	Private hand pump	100%	100%	80%	70%	100%	100%
	Tap water from overhead tank			20%			

	Community well, or borehole				30%		
8	On Financial Status:						
	did your household borrow money?	8/10	6/10	5/10	5/10	6/10	6/10
	From who	Bank	Bank	Bank, individual	Bank	Bank	Bank, individual
	For what purpose	Production	Production	Economic development	Economic Development	Livestock	Livestock, economic development
11	Technology						
	New rice seed	10/10	1/10	7/10		9/10	4/10
	Peanut cultivated by nilong cover tech	10/10	1/10	2/10		1/10	1/10
	IPM			7/10	3/10	8/10	1/10
	GP			3/10	7/10	8/10	10/10
	Clean water				1/10		

In the households who conducted the survey, the household head ranged from 30 years old to 70 years old, although about 90 percent of household heads were from 40 years old to 50 years old. The household children ranged from 1 to 5. This is displayed in Picture 3. In Vietnamese families, the traditional structure involves multiple generations living together in same house. This may include 3 to 4 generations. The survey shows that in these villages 5% of households have 3 generations living together.

With the economic development in Vietnam the type of house building has also changed from cottage house to tile roof and concrete house. Based on the type of house, we can see the change in economic condition of householders and villagers. At Tinh Loc village there are cottage houses in the survey of 10 households', most of house types are tile roof house, while there are only a few concrete houses.

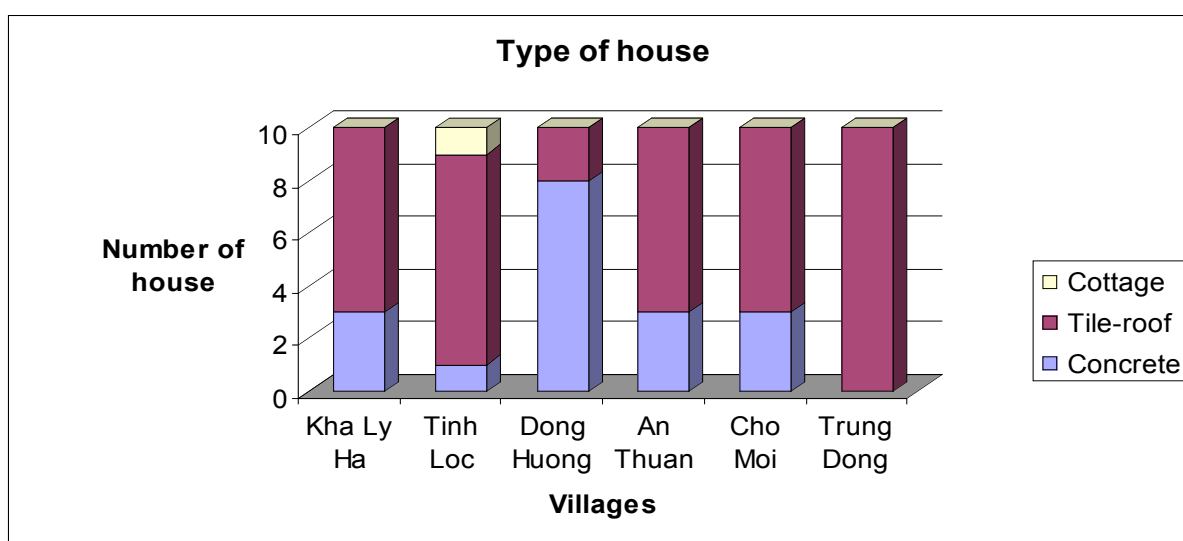


Figure 4. Type of house

Existing community development programs in the community in terms of technology and environment

Some current main community development programs conducted in the villages include:

- *Green Productivity for Community Development supported by Asian Productivity Organization (APO), Department of Science and Technology (DOST);*
- Rural Clean Water Supply and Sanitation in Vietnam supported by Department of Agriculture;
- *Technology Transfer Program supported by Department of Science and Technology*

A detailed description of these programs is provided below:

Green Productivity for Community Development

Supported by the Asian Productivity Organization (APO) and the Ministry of Science, technology and Environment (MOSTE), the Vietnam Productivity Centre (VPC) has been promoting Green Productivity (GP) in Vietnam since 1998. Starting as a demonstration project, GP has been successfully promoted so that it is now employed in more than 80 villages in 21 provinces across the country. Water pollution control, solid waste management, energy use, human and animal waste management, and pesticide and fertilizer use are the main issues that are addressed under GP programs. Some of the GP options that are commonly utilized include integrated pesticide management (IPM), natural farming (NF), water treatment facilities, mushroom cultivation using green waste from rice harvesting, worm cultivation, application of advanced furnaces for food processing to reduce air pollution, energy saving techniques and the introduction of routine solid waste collection systems.

Two villages in the survey have participated in the GP program since 1998. Four other villages have participated in the GP program from 2001.

Rural Clean Water Supply and Sanitation in Vietnam supported by Department of Agriculture and Rural Development

National policies, strategies and targets for rural water supply, sanitation and health are imbedded in the Comprehensive Poverty Reduction and Growth Strategy (CPRGS), the National Rural Clean Water Supply and Sanitation Strategy (NRWSSS) and the Vietnam Millennium Development Goals (VDG).

Three key social and poverty reduction targets in the CPRGS are directly related to water supply, sanitation and health services in the rural areas: i) ensuring the provision of essential infrastructure for poor people, poor communities and poor communes; ii) reducing child mortality and child malnutrition; and iii) achieving gender equality among empowering women. The CPRGS ambitiously calls for improving access to water to ensure that 75% of poor communities are adequately served by 2005, and all have access by 2010.

The NRWSSS provides a pragmatic strategic approach toward achieving 100% access to safe water and sanitation services in rural areas by 2020. It is underpinned by the principles of demand responsiveness, managing water as an economic as well as social good, basing decision-making and management at the lowest appropriate level, and emphasizing the participation of women in planning and management. Rural households and communities are expected to take the lead responsibility for rural water supply and sanitation to ensure sustainability. Government agencies are expected to play a facilitating role and ensure adherence to national regulations and standards. The households and communities are expected to make decisions about what type of service they want and are willing to pay for/contribute to through a process of informed choice. As a general principal, users are expected to co-finance for construction and pay the full operating costs of water and sanitation facilities.

The targets of the sector development are also outlined in the global millennium development goals (MDG), which is a global commitment that the proportion of people without sustainable access to safe drinking water and sanitation shall be reduced to one half during the period 1990 to 2015. In Vietnam the MDGs have been translated into national targets and indicators using the ten year Socio-Economic Development Strategy (SEDS), the NRWSSS and the CPRGS. The target of the water supply and

sanitation sector under Goal 7 ensuring environmental sustainability is that 60% of rural population has access to clean and safe water by 2005 and 85% by 2010.

Promotion of decentralisation to lowest appropriate level of planning and management roles and responsibilities with the involvement of local communities and households, promotion of private service providers and development of community-based operation and maintenance systems are among the key challenges for implementing the NRWSSS and hence achieving the targets set for rural water supply and sanitation up to 2020. There is skepticism about the capacity of local communities/communes to plan, finance, implement and manage their own development activities, which to some extent reflects a genuine need for capacity building in local government as well as at commune and lower levels.

The water supply and sanitation sector in Viet Nam is organizationally complex. Three ministries share major responsibility for the water and sanitation sector: Ministry of Agriculture and Rural Development (MARD), Ministry of Construction (MOC), and Ministry of Health (MOH). The MARD is responsible for rural water supply. The MOC is responsible for urban water supply, including towns with populations from 4,000 to 30,000. The Department of Preventive Medicine in the Ministry of Health (MOH) is chiefly responsible for sanitation services. A National Steering Committee for Water Supply and Sanitation, currently chaired by Ministry of Science and Technology (MOST), is responsible for co-ordinating activities of these ministries. Similar steering committees are established in about one-half of Viet Nam's provinces. The Rural Water Supply and Sanitation Program (RWSSP) became a national program in 1997, reflecting the government's commitment to this program and recognition of the program's complexity. The large increase in state spending for rural water and sanitation since 1990 mirrors the increasing policy priority placed on this sector. Nominal spending has increased from nearly VND 40 million in 1990 to more than VND 26 billion in 1997. In real terms, this is a 160-fold increase. By 2000, the state plans to increase spending for rural water and sanitation to VND 48 billion. Even at this higher spending level, rural water and sanitation will account for only 0.5 per cent of total state spending, far below estimates of resources needed to achieve the state's ambitious targets for this sector.

Technology Transfer Program supported by Department of Science and Technology

In Vietnam, technological choices are mainly made the farmers. After the agrarian reform in 1988, farmers have signed land use contracts with cooperative leaders (for 10-15 years) and exchange their products for production inputs and other services such as research and technology transfer, and receive 40-50 percent of the total production. The government programs such as agro-product processing, rural development, credit, irrigation, etc., promote farmers' adoption of new technology, with productivity and total production depending on farmers' decisions. The agricultural research institutes in Vietnam continuously develop and evaluate new technologies for transfer into production, for example:

1. Rice and other crop variety systems for different agro-ecological zones. In some areas, hybrid rice varieties are evaluated. Maize varieties suitable for the winter crop are determined, and hybrid maize varieties are tested. Potato varieties which are high-yielding, resistant to major pests, and have high tuber quality are selected and recommended for production. Technology packages for groundnut and legumes have been developed successfully and are widely applied in farmers' fields.
2. Systems of tuber crop processing, oil plant pressing and fodder production at farm level are installed in rural areas.
3. Methods of tissue culture, rapid propagation of potato varieties by sprout cutting and production of small potato tubers are applied in potato production.
4. The F1 hybrid pigs are widely kept in the country. Addition of micro-elements to the ration, use of hormones to increase reproductive performance in buffaloes contributed significantly to improved animal production.

The Vietnamese government conducts extension programmes, farming systems research and development in the whole country with the participation of local management organizations, cooperative leaders, researchers and other farmers' organizations.

Table 7 is the list of programs which have been implemented in the 6 survey villages

Table 7 : List of community development programs which have been conducted in the villages

TT	Program	Dong Huong	Kha Ly Ha	Cho Moi	Trung Dong	An Thuan	Tinh Loc
1	Green Productivity for Community development (GP)	x	x	x	x	x	x
2	Integrated Pest Management (IPM)		x				
3	Application of new variety		x				
4	Clean water						x
5	Total	1	3	1	1	1	2

All six villages have implemented Green Productivity programs while other programs have been applied in Tinh Loc and Kha Ly Ha villages. These two villages have higher economic conditions compared with other villages, with an average income from 4 million VND to 4.5 million VND/person/year, hence they can invest to new advanced technologies.

Application of new technologies and methods among the survey households

In relation to the economic situation, the households are classified into rich, medium and poor households.

The adoption of new technologies and methods in relation to the economic situation is shown in Table 8.

Table 8 : Adoption of new technologies and methods in relation to the economic situation

No	Village	Household	New rice seed	Peanut cultivated by nylon cover tech	IPM	GP	Clean water
1	Trung Dong	Rich	3	3			
		Medium	6	6			
		Poor	1	1			
2	An Thuan	Rich					
		Medium	1	1			
		Poor					
3	Dong Huong	Rich	2	0			
		Medium	5	2		3	
		Poor	0	0			
4	Tinh Loc	Rich				2	
		Medium				5	1
		Poor					
5	Kha Ly Ha	Rich	1			1	
		Medium	8	1	8	7	

		Poor	0				
6	Cho Moi	Rich	0				
		Medium	4	1			
		Poor	0				

It can be seen from the Table 8 that more households in the medium economic level participated in the community programs compared with rich families. The number of poor families is not high in these villages (only 2 families in the total of 60 families).

Key factors for community development programs

Point of view from local community

Some of the key factors which contribute to the success of community development programs can be summarized as follows:

- Support policies from government
- Enthusiasm of villagers
- Benefits of the technology
- Capacity building development
- Technology transfer method
- Participation
- Promotion
- Financial contribution of the villagers

Table 9 summarizes the results of the survey based on the level of importance of those factors on community development program from the view of community level. This is the results from community level survey (head of the community leader) through multi-choice question (+: little effect; ++: medium effect; +++: high effect)

Table 9 : Factors which effects on the success of program from community level

No	Village	Policies	Technol ogy	Capacity building	Transfer method	Particip ation	Financial contributio n	Promotion
1	Dong Huong	+	++	++	++	+++	++	++
2	Kha Ly Ha	++	+++	++	++	++	++	++
3	Cho Moi	+	+++	++	++	++	++	++
4	Trung Dong	++	++	+++	++	++	++	++
5	An Thuan	++	++	++	++	++	++	++
6	Tinh Loc	+	+++	+++	++	++	++	++

+ Less effects

++ More effects

A detailed description of how these factord effect the success of program are provided as follows:

Policy

The support of the government in terms of policy is a very important factor for disseminating the suitable technologies in rural areas.

Technology

For technology transfer programs, the selection of appropriate technology is very important for the success of the program. Successful pilot studies should have previously been undertaken to ensure suitable economic and environmental benefits. In addition, it should be more advantageous compared with old technologies, and the technology should also be suitable with the area.

Capacity building for provincial staff

Capacity building and establishment of an expert network in different areas is also necessary for the success of the program since they can provide technical assistance for villagers when needed. In addition, it is also one factor for dissemination the technology to other households.

Technology transfer method

- For training: “Awareness training” for a high number of people for promotional purposes and “deep training” for technical experts is required. These people will transfer these technologies to villagers for application and provided detailed information to villagers who will apply the technologies at their households.
- Organize study missions to the area which already have successfully implemented the technologies, so that people can learn through observation.
- Organize “field training” to allow people to understand through observing what they have previously learnt.

Participation

The participation of different levels is one factor for the success of the programs. Participation of the Department of Science and Technology (DOST) will ensure the support from local authorities in terms of policy. The support of local authorities at the commune and village level is also important to mobilize resources efficiently. In addition, participation of different Unions such as the Youth Union, Women’s Union, and Farmer’s Union is also important since they have a strong influence on villagers and can help encourage people to implement the new activities.

Promotion

Effective program implementation should be combined with promotion of these new applications to additional households and communities.

The most effective method of promotion in villages is through “word of mouth” by meetings, festivals and through the local radio in combination with posters, panels and environment news boards. These activities should be frequent so that they are effective in motivating the community to keep villages green, clean and beautiful.

Financial contribution of villagers

For the pilot model, the full financial support of government is beneficial. However, for the dissemination of the technologies, partial financial contribution from the village is important to ensure their commitment.

GP activities depend on the leadership of the local authority as well as the creativity and independence of the GP team. To ensure that the best possible team is utilised, selection criteria should be applied. Members of the team should be enthusiastic and have prestige within the community.

It is essential to select the families who are able to and enthusiastic enough to participate in specific applications that can be used as examples for other people to observe, study and replicate. In order for effective implementation to occur, the local authority should seriously, scientifically and systematically work with the GP teams.

Household point of view

From the household point of view, two aspects are crucial: technology and financial support. The point of view is different between rich, medium and poor households. For rich and medium household, technology is an important aspect while this aspect is not so important with poor household.

It can be seen that the households still rely heavily on financial support from the government. Training and promotion are also important factors for the success of community program since they help people to understand how to implement the technologies as well as the benefits of those technologies.

Table 10 Factors which effects on the success of program from household point of view

No	Village		Technology	Training	Transfer method	Financial support	Awareness Promotion
1	Trung Dong	Rich	+++	++	++	+++	++
		Medium	+++	+++	++	+++	++
		Poor	+	+	++	+++	+
2	An Thuan	Rich	+++	++	++	+++	++
		Medium	+++	++	++	+++	++
		Poor	+	+	++	+++	+
3	Dong Huong	Rich	+++	++	++	+++	++
		Medium	+++	++	++	+++	++
		Poor					
4	Tinh Loc	Rich	++	++	++	+++	++
		Medium	+++	++	+++	+++	++
		Poor					
5	Kha Ly Ha	Rich	++	++	++	+++	++
		Medium	+++	+++	++	+++	++
		Poor					
6	Cho Moi	Rich	++	++	+++	+++	++
		Medium	++	++	+++	+++	++
		Poor					

Difficulties and challenges while implementing community development programs and ways to overcome these challenges

Difficulties and challenges

Point of view from local authority

Some difficulties may be met during the implementation of community programs, as follows:

- People always look at the investment from government to solve their own problems and do not recognize that environmental pollution is also caused by their actions.
- Awareness and knowledge of people is not high enough and it takes time to persuade them to implement something new.
- The living standards of the villagers is still low and they are reluctant to implement new technologies which require high investment
- Lack of technical assistance: villagers do not receive enough technical information in order to implement new technologies or programs for community development.

Detail results of the survey are summarized in Table 11

Table 11 : Difficulties and challenges when implementing community development program from the local community point of view

No	Village	Awareness	Investment	Participation	Technical assistance
1	Dong Huong	+++	++	++	+++

2	Kha Ly Ha	+++	+++	++	++
3	Cho Moi	++	++	++	++
4	Trung Dong	++	+++	++	+++
5	An Thuan	+++	+++	++	++
6	Tinh Loc	+++	++	++	++

+ Less effects

++ More effects

Household point of view

The most significant difficulty for the application of community programs from the household point of view is the initial investment.

Technical assistance is also a difficulty for successful implementation of community programs, since the technology will not be successfully implemented if the community does not fully receive technical assistance from local experts. Table 12 provides detailed information from the view point of the household level in terms of rich, medium and poor households.

Table 12 : Difficulties and challenges while implementing community development programs from the household point of view

No	Village	Level of income	Awareness/knowledge	Investment	Technical assistance
1	Trung Dong	Rich	+++	++	+++
		Medium	+++	+++	++
		Poor	++	+++	++
2	An Thuan	Rich	+++	++	++
		Medium	+++	+++	+++
		Poor	++	+++	++
3	Dong Huong	Rich	++	++	+++
		Medium	+++	++	++
4	Tinh Loc	Rich	+++	++	++
		Medium	++	+++	+++
5	Kha Ly Ha	Rich	+++	+++	++
		Medium	++	+++	++
6	Cho Moi	Rich	+++	++	++
		Medium	++	+++	+++

Suggestions to overcome the challenges

Some proposed suggestions to overcome these challenges are provided below:

- The participation of villagers during the planning period is very important since this program is developed to serve their critical needs in the community
- In order to persuade villagers to implement the new technologies, the benefits of these technologies should be shown through tangible results from the implementation in other locations.
- Participation of different Unions in the villages such as Farmer's Union, Youth Union, Women's Union, etc. is also very important for the success of community programs since they are a key factor that can help to persuade the participation of villagers, as well as disseminate information about the benefits for people and why they should participate. For example, the Farmer's Union will have strong effect on pilot implementation and dissemination new technology for farming system while the Women's Union will have strong effect on dissemination of environmental programs such as solid waste

- management in the community.
- Promotion should be carried out to gradually change the habits of villagers to accept the new technologies and new concepts.

Conclusion

Community development programs in Bac Giang, specifically in the 6 villages surveyed, have been successful. Previously, the main activities at the commune level as agriculture however, non-agricultural activities, such as service activity and handy craft production with market orientation, are becoming more common. Most villages have access by vehicles, are connected to phone lines and 100% use electricity. Consequently, there are good conditions for developing other activities in the commune. In recent times, some technologies have been introduced and applied, such as New rice seed, Peanut cultivated by nylon cover tech, IPM, Green productivity and Clean water, which have all had good results. There is some interest for the government and local authority to become involved in rural development as the income of the villagers still low from 2,7 to 4,5 million dong/person/year (about 180 to 300 USD/person/year). To increase the living conditions at the community level, there needs to be more investment from government and other organizations relating to funds, technologies and enhanced capacity building for employees related to community activities and villagers.

Despite the many successes and achievements since the renovation period, the further development of agricultural and rural activities still faces many challenges. In the development of programs and policies in the future requires these challenges to be considered. Primarily, backward farming techniques, manual laborers, poverty, low income and low living conditions are key issues that should be evaluated and incorporated into future planning to ensure the effective development of rural areas. In order to achieve this, the following factors must be addressed:

- Investment in agriculture and rural areas. Lack of capital is one of the biggest problems for the development of agriculture and the rural economy.
- Production in rural areas. Production is highly variable, causing instabilities in the economy.
- Income and living standards. The income, expenditure and purchasing power of rural inhabitants is much lower than people living in urban areas.

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2. PROGRAM OF ACTIVITIES

(25-29 April 2005)

Date/Time	Activities
Mon., 25 April 2005	
Forenoon	Opening Ceremony Presentation and discussion on: Topic: "Social capital and rural community development: Case of Germany" by <i>Dr. Lutz Laschewsk</i>
Afternoon	Presentation and discussion on Topic: "The role of community in economic development: Evidence and issues" by <i>Dr. Takeshi Sakurai</i> Resource Paper Presentation: "Outline of rural society and rural community development effort in Taiwan" By <i>Dr. Tsorng-Chyi Hwang and Dr. Kong-tin Tsai</i>
Tues., 26 April	
Forenoon	Visit to Miao-li prefecture Visit to Gama Leisure Agricultural Zone
Afternoon	Visit to Hsing-fu and Sung-guan community
Wed., 27 April	
Forenoon	Presentation and discussion of outline of the survey and regional report: "Empirical evidence on social capital – A synthesis of 10-country reports" by <i>Mr. Shigeki Yokoyama</i> Presentation and discussion on the survey process and country report of Japan by <i>Dr. Seiichi Sakura</i>
Afternoon	Presentation of country report of the Republic of China, Malaysia, Thailand
Thurs., 28 April	
Forenoon	Presentation of country report of Indonesia, Islamic Republic of Iran, Lao PDR
Afternoon	Presentation of country reports of India, Vietnam, Sri Lanka
Fri., 29 April	
Forenoon	Country paper presentation by Bangladesh, Cambodia, Republic of Korea, Mongolia Nepal and the Philippines
Afternoon	Summing-up discussion Closing session