From:

Agrarian Reforms and Agricultural Productivity

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Report of the APO Study Meeting on Agrarian Reforms and Agricultural Productivity
Sri Lanka, 28 May – 2 June 2001

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AGRARIAN REFORMS AND AGRICULTURAL PRODUCTIVITY

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FOREWORD

The majority of Asian countries remain essentially agrarian. However, significant differences in agrarian structure exist among and within Asian countries. Agrarian reforms have been widely adopted in the past. Government interventions have had the objectives of accelerating social change, achieving greater equity in the agrarian structure, and improving agricultural productivity. A new international understanding of agrarian reforms is evolving, which includes the evolution of a free market for agricultural land, linking agrarian reforms with environmental protection, addressing emerging issues, enabling farmers to make informed choices on agricultural technology, etc. Land redistribution and growth with equity remain unmet goals, however. The overall achievements of agrarian reforms have been far from satisfactory in many member countries.

Facing the poor performance and the difficulties in implementing traditional land-redistribution programs, many governments have changed their methods for agrarian reforms. Currently, moderate approaches to implement gradual corrective measures are preferred. More effective, participatory, and socially acceptable institutional changes are demanded. These measures include improving title-holding systems to encourage investment, discouraging excessive land fragmentation. They often accompany other supportive measures such as improved extension services, institutional financing and infrastructure.

To assess the impact of agrarian reforms on agricultural productivity and to enhance the role of such reforms in sustainable agricultural development, the APO sponsored the Study Meeting on Agrarian Reforms and Agricultural Productivity that was hosted by Sri Lanka in 2001. This publication is a compilation of the papers and the report of the proceedings of that study meeting. It is hoped that this volume will prove useful to readers, especially those engaged in policy-making and planning to make agrarian reforms more relevant and effective in increasing agricultural productivity.

The APO is grateful to the Government of Sri Lanka for hosting the study meeting; to the Ministry of Agriculture and National Institute of Business Management for implementing the program; and to the resource persons for their valuable contributions. Special thanks are due to Dr. M. Ghaffar Chaudhry for editing the present volume.

TAKASHI TAJIMA
Secretary-General

Tokyo
October 2003

SUMMARY OF FINDINGS

INTRODUCTION

The Study Meeting on Agrarian Reforms and Agricultural Productivity was held in Colombo, Sri Lanka from 28 May to 2 June 2001. The meeting was organized by the Asian Productivity Organization (APO) and hosted by the Government of Sri Lanka. The program was implemented by the Ministry of Agriculture and National Institute of Business Management (NIBM). Sixteen participants from 11 member countries and five resource speakers from Economic and Social Commission for Asia and the Pacific (ESCAP), Bangkok; Food and Agriculture Organization of the United Nations (FAO), Manila; and Sri Lanka participated in the study meeting.

The objectives of the study meeting were: 1) to assess the impact of agrarian reforms on agricultural productivity; and 2) to identify measures to enhance role of agrarian reforms in sustainable agricultural development. The study meeting started with the presentation of resource papers by the selected experts. This was followed by the presentation of country reports wherein the participants reviewed the present situation of agrarian reforms and agricultural productivity in their respective countries, in an organized workshop and during site visits for the conduct of field studies.

The resource papers focused on the following specific topics: 1) Implementation of Agrarian Reforms in Asia – An Overview; 2) Some Issues Related to Agrarian Reforms; 3) Farmer Companies: Can They Stand up to Expectations in the Changing Economy?; 4) Agrarian Reforms and Agricultural Productivity: A Status Review of Sri Lanka's Experience; and 5) Promoting Stakeholders' Participation in Developing Agrarian Reform Communities in the Philippines. The following summary presents the highlights of the study meeting.

HIGHLIGHTS OF RESOURCE PAPERS

Implementation of Agrarian Reforms in Asia – An Overview (Mr. Kiran N. Pyakuryal)

Agrarian reforms, as we know, may be classified into structural reforms (land distribution, setting ceilings on landholdings, tenure reforms), development reforms (marketing reforms, development of rural infrastructures, micro-finance), and social reforms (group mobilization, farmers training, awareness creation). Objectives of agrarian reforms could be to achieve equity (demand and supply of land), to improve productivity (big vs. small farmers), and to promote environmental protection (recent development) and thereby preserve biodiversity.

As a result of declaration adopted by the World Conference on Agrarian Reforms and Rural Development (WCARRD) in 1979 and subsequent developments in the two decades that followed, new international understanding is evolving towards the free market agricultural land but land distribution and growth with equity are still unmet goals.

In Asia, agrarian reforms have been focused on land distribution, rural poverty and agricultural development. The agrarian reforms have performed extremely well in East Asia

(China, Japan, Republic of Korea) followed by Southeast Asia where Indonesia, Thailand and Vietnam are leading rice producing countries and two of them are important rice exporting countries of the world. However, Myanmar, once an important rice exporting country, now occupies the bottom position in terms of rice export due to poor performance of agrarian reforms. Reforms have been a total failure in some countries with only a partial success in other countries like India. However, South Asia has been successful in alleviating the starvation primarily due to crop intensification through Green Revolution.

The future issues in agrarian reforms included human and social capital development, rural-urban migration (to promote rational migration), and information and communication technology.

Some Issues Related to Agrarian Reforms (Mr. S. B. Rajapakse)

The paper discusses how efforts to achieve higher levels of productivity, are causing far-reaching structural changes in the agrarian situation in Sri Lanka. Two of the current policy objectives, relating to domestic agriculture, are to increase productivity with quality, and to penetrate the export market. High level technology is the strategy through which productivity increase and quality improvement are to be achieved. Improved seed and planting material, high-yielding varieties (HYVs), application of chemical fertilizer, use of pesticide and weedicides and mechanization are some of the inputs, composing the technology package.

These are expensive inputs, which the small farmers are unable to access in the absence of special support. The domestic price structure for agricultural products is not adequate for the small farmers to access the technology package, which is essential for higher levels of productivity. Similarly dependence on the external markets requires the improvement of the infrastructure involving good roads, efficient transport facilities and modern storage and packaging technologies. This would require heavy investments beyond the capacity of domestic agriculture sector. It could be seen, therefore, that the two-policy objectives viz. improvement in productivity and the export of domestic agricultural products require the flow of big capital from outside through metropolis and Trans National Corporations (TNCs) which have to be assured of reasonable return on investment. As such investment by TNCs may be highly desirable on efficiency grounds and uneconomic size of small farmers who are already being marginalized and pushed out of agriculture. It, however, remains to be seen as to what would be the implications of deliberate pursuit of such a policy.

The first policy implication is, whether a country like Sri Lanka should allow this process to continue. If so, to what extent especially in view of Sri Lanka's objectives of poverty alleviation, and food security.

Another policy implication is the resistance from the domestic small farmer groups. These groups may respond politically and protest against allocation of large pieces of land to foreign investors and providing them with facilities. Depending on the political fallout, the investors may be forced to withdraw their investments and move them elsewhere. If this happens, it would involve immense economic, social and political costs for the economy. How would a democratically elected government face this situation, is yet another serious issue.

In order to contain these issues, two extension systems can be proposed, one for the entrepreneurial class, and the other for the peasant class. But techno-bureaucratic organizations do not like such reorganization for fear of losing their power.

The paper discusses the Sri Lankan experience in strengthening the small landholders through farmer organizations, role of NGOs in developing infrastructure facilities, transfer of technology and improvement of institutions and policy options to cope with the emerging scenario as follows:

1. Instead of agrarian reforms, the need is to place direct emphasis on productivity improvement, what really seems to happen is that efforts made to increase agricultural productivity by investment of external capital, introduction of technology, better management, and the dependency on external markets, create the need for grater agrarian reforms.
2. The reforms as required today in Sri Lanka, necessitate the flow of labor out of agriculture to other sectors, such as industries and services.
3. The effect of agrarian reforms cannot be contained within the agriculture sector alone. It spreads over to the other sectors as well. Therefore, it becomes an extensive structural change in the economy of the country. How long it takes depends on the policies and strategies adopted to steer the process.

In view of the above, it is felt that all policy and strategy formulation in regard to agriculture and agrarian matters and even industry should take into consideration the macro-picture that has been very briefly sketched out.

Farmer Companies: Can They Stand up to Expectations in the Changing Economy?
(Ph.Dr. Gamini Batuwitage)

Agrarian reforms promise desirable change in the development of agrarian communities. Such reforms address issues obstructing development and attempt to create new conditions for farming community to operate. Farmer companies came to prominence in Sri Lanka in 1996 with the initial successful operations of Huruluwewa, farmer company in the North Central province, and the Nilwala, farmer company in the Southern province, operating on watershed resource management pilot projects. The two companies introduced a new mode of economic organization for farmer communities.

Impressed with the performance of farmer companies, the political leadership of the Ministry of Agriculture directed their expansion to all the districts. This paper describes the concept, its translation to action, its expansion and the outcome of promotional works during the past four years. The purpose of this exercise is to see if the farmer companies can stand up to the expectations of stakeholders as useful mode of operation in the changing economy.

Several diverse groups showed interest as stakeholders to promote farmer companies in view of their potential and excellent initial results. A careful analysis of different expectations and interests would reveal the following:

1. The stakeholders have different and sometimes competing personal interests while looking for gains from the common interest.
2. The stakeholders would be working together to the extent that such work ensured mutual interests.
3. The stakeholders may withdraw when they see no desirable benefits or when they feel that cost of involvement is likely to exceed the benefits.
4. The above interrelationships clearly show the presence of strong nexus of relationships among the stakeholders.

5. This means if stakeholders withdraw from obligations it is most likely that the business providing mutual benefits could collapse.
6. Such a nexus of relationships then reflects a model of interdependencies rather than a model of independent organization as farmers independent business venture.

The conceptual model for managing overlapping interests to create space for farmer companies confirms the above observations. The stakeholders are organized into three major groups viz. interests of political and bureaucratic leadership, interests of farming community and interests of the organized private sector.

The paper explains the process of growth and expansion of farmer companies in Sri Lanka with data on formation of farmer interest groups, registered farmer companies and distribution of operating farmer companies. It also highlights characteristics of the agrarian communities who expect change in development but are confronted with undesirable outcomes. Also, it shows a direction of efforts to benefit from the production environment if stakeholder interests are addressed in a collaborative process.

The local agrarian community demands reforms for change. Its internal forces are motivated by competition for accumulation and survival while it is exposed to external forces coming from the national government policy. The high agricultural productivity cannot be achieved without the involvement of agrarian communities, technology, organizational policy support, and above all development of other sectors for absorbing the excess population from agriculture.

Looking back at the stakeholder expectations, the strong interrelationships and interdependencies suggest a collaborative approach to economic development. The farmer companies are most likely to fail in satisfying stakeholders development if: 1) stakeholders interests are not recognized; 2) interdependencies are not considered; 3) collaboration among stakeholders is not promoted; 4) facts of uneven intervention are not given due weight; and 5) current political interest is ignored.

Agrarian Reforms and Agricultural Productivity: A Status Review of Sri Lanka's Experience (Mr. J. Alwis and Mr. R. D. Wanigaratne)

Due to widespread poverty in the population, concern for the poor permeated Sri Lanka's public policy since 1948, a strategy was adopted to reduce absolute poverty and ensure minimum standard of living through the introduction of free education, free health services and food ration subsidy. These measures were further supplemented by increased investments for the expansion of agriculture settlement programs and agriculture subsidy schemes. Overtime the levels of social development achieved were closer to these attained in industrial economies. As a result of these policies, Sri Lanka was ranked 82nd among 175 countries for purchasing power parity and placed 91st in the UNDP Human Development Index. Absolute poverty has been reduced within a decade from 31 percent in 1985/86 to 19 percent. However, widening income disparities are a major concern. With low population growth rate of 1.2 percent in 1998, the country is on the average of completing a demographic transition with an increasing aging population. Despite several national poverty alleviation programs, sustainable development is yet to be achieved.

Social development programs targeted at the poor included land alienation programs, transfer of population from congested areas of the wet zone to the dry zone for irrigated agriculture, tenancy laws, rest regulation for land, producer subsidies and state-sponsored guaranteed purchasing schemes. In response to an insurrection by the unemployed education youth, a five-year plan of investment and a land reform program with land ceiling were

implemented in the 1970s vesting 563,411 acres of private lands and 417,957 acres of plantation lands. Lands given for the settlement of people were subject to protective tenurial conditions, which militated against the flow of investments to agriculture from outside. Besides the protective conditions were circumvented by informal transactions and the settlers were trapped by the failure of the policy to rationalize the development potential of the land. Ultra poverty, malnourishment and rural indebtedness were widespread in the settlement schemes, which affected their production potential.

Measures taken to redress these negative features included special projects to increase crop yield, rehabilitation and modernization of irrigation infrastructure, implementation of water management and strategies to create new partnership among officials and farmers, priority to operation and management aspects and pursuit of intensive cropping and crop diversification to increase farm incomes.

Despite all these measures, poverty programs have only helped in containing ultra poverty conditions. In 1995/96, 35 percent of the rural poor were receiving very little of trickle down effects of distributive benefits. Over the last four decades income disparities have not changed significantly. A stalemate in income distribution and absolute poverty seems to have pervaded despite considerable variations in growth performance over the years.

Promotion of social welfare program at the expense of economic growth did not alleviate poverty. Increase in mobility of poor through infrastructure development, decentralized planning and local level development may provide some avenues for the poor to move out of their constrained environment. A higher level of empowerment of the poor to strengthen their social and economic positions appears to be urgent. An effort to reverse the negative terms of trade experienced by the food agricultural hinterland of the dry zone through the promotion of food processing and rural regional development with government investment and private sector participation appears to be feasible.

Promoting Stakeholders' Participation in Developing Agrarian Reform Communities in the Philippines (Mr. Menachem Lourie)

The persistent widespread rural poverty is directly related to low productivity and the rural households' dependence on inferior resource bases such as upland areas, aggravated by lack of alternative rural employment. Low farm incomes are related to weak rural infrastructure, limited know-how of improved farming technologies, insufficient marketing information, poor access to low-interest production credit, inadequate post-harvest facilities, weak farmer organizations and slow implementation of agrarian reform prior to 1992.

Recognizing the vital role of agriculture in economic recovery and its direct impact on rural poverty, the government in the late 1980s implemented a series of institutional reforms that included the Comprehensive Agrarian Reform Program (CARP). The CARP was instituted in 1987 by virtue of Proclamation No. 131 and by the subsequent enactment in 1988 of Republic Act (RA) No. 6657, otherwise known as the Comprehensive Agrarian Reform Law (CARL). It mandates the distribution of public and private lands to farmer beneficiaries in an effort to increase agricultural productivity, enhance income, develop rural infrastructure and support services and improve the standard of living of the agrarian reform beneficiaries (ARBs). CARP has a total scope of 8.06 million ha of which 5.34 million ha (66 percent) have been distributed.

To implement CARP, Department of Agrarian Reform (DAR) made a strategic decision to comprehensively focus its activities on agrarian reform committees (ARCs). This strategy was found to be more effective than thinly spreading the government's limited resources on its scattered ARBs. With the assistance of FAO Sustainable Agrarian Reform

Communities-Technical Support to Agrarian Reform and Rural Productivity Program (FAO/SARC-TSARRD), DAR had adopted an area – and people-focused approach that integrated all the development efforts for its beneficiaries.

The FAO implemented SARC-TSARRD which was set up primarily as an institutional strengthening project, jointly funded by the governments of the Netherlands and the Philippines through DAR, and executed by the FAO.

Through a network of some 850 field staff of DAR, the Project established farmer-led development teams (called farming systems development teams or FSD in short) in each selected ARC. These teams were composed of farmer leaders from the respective *barangays*, DAR field staff who were mainly the municipal-level officers and development facilitators, representatives of the respective Local Government Units (LGUs) such as the municipal agriculturist, planning officer and the municipal engineer, and personnel of NGOs active in the area.

These FSD teams were guided by the FAO/SARC-TSARRD over 2.5-month period through a structured six-phase training-cum-planning exercise. The final output of such trainings are viable ARC development plans, which will serve as the blueprint for the development of the ARCs.

FSD activities have been conducted in 436 out of 1,311 ARCs established nationwide and the development plans that were generated are in various stages of implementation. The success of the FSD approach has also created a growing demand for its replication in other ARCs across the country.

The ARC development plans, which were prepared using the participatory approach, acted as a basis for sourcing funds from the farmer organizations' own auto-savings, DAR's Agrarian Reform Fund, the respective LGUs, foreign grants as well as major loans from international banks, and investments from the private sector.

The Project's experience in applying the FSD approach has been recognized by foreign donor agencies. Large-scale loans provided by the World Bank, Asian Development Bank (ADB), and others have used the FSD approach as basis, and in many cases, even as a precondition for approving project loans intended for ARC development.

The FSD approach, therefore, is being applied within the wider context of rural development. Thus, DAR and the project are continuously exploring ways of using the FSD approach to reach out to a larger number of ARBs outside the confines of ARCs.

The project-supported activities are part of a long, ongoing development process and not all benefits derived from these interventions could be measured in a direct and quantifiable manner. However, there is already sufficient evidence as to their impact on the target beneficiaries. Two studies – one conducted by the project in 1999 covering the period 1995-97, and another conducted by the World Bank supported Agrarian Reform Community Development Project (WB-supported ARCDP) have confirmed a significant positive correlation between the Project's activities and the increase in household income, among other indicators. These results were attained during the same period when the growth in gross value added in agriculture was only 2.9 percent for 1996-97, 6.6 percent for 1997-98 and 3.8 percent for 1998-99.

COUNTRY REPORTS

Republic of China (Mr. Te-Fang Pan)

In Taiwan, agricultural development began with social construction followed by use of scientific technology, economic development and environment conservation. Accordingly

it is convenient to study Taiwan's agricultural development since 1946 under four stages/ periods: 1) the first period (1946-53) called recovery stage; 2) the second period (1954-68) known as growth stage; 3) the third period (1969-73) named as stagnancy stage; and 4) the fourth period (1974 onward) called maintenance stage.

In the first stage emphasis was on change of production institutions – most tenants became full-owner farmers. Multiple cropping index rose from 117 to 170. Agriculture made increasing contributions equivalent to 22 percent of agriculture output to non-agricultural sector. A shift from traditional to modern technology occurred as chemical fertilizers began to replace natural fertilizers for crop production.

In the second stage, agricultural production witnessed rapid growth as a result of rising fertilizer use, stable agricultural prices, cooperative marketing and export incentives.

In the third stage, growth of crop sector showed negative trend due to substantial shift of farm labor from agriculture to non-agriculture sector.

In fourth stage, the most pressing task included acceleration in agricultural growth, increased food security, and reduction in farm disparity. The government had promulgated important measures, like price support for rice, encouragement of mechanized cultivation and other modern technologies and assured delivery of key agricultural inputs, to boost agricultural production.

In view of growing emphasis on trade liberalization in the recent years under WTO regime, there is need to readjust agricultural structure to improve production and marketing system, to promote farmer's welfare, to rationalize use of resources and to strengthen biological conservation. To minimize negative impact of environment on agricultural production, eco-friendly agricultural practices such as organic farming should be considered. It may however be noted that Taiwan is already in the process of adapting to the world trend of sustainability and environment conservation.

Fiji (Mr. Aliki Turagakula)

The period under review highlights major changes in the post-independence era (1971-2000). The agriculture sector showed a general improvement in productivity of selected commodities (except rice and coconut). Success stories were sugar, ginger, root crops, kava, eggplant, papaya, poultry products, pork, fisheries, beef and dairy products. The Department of Agriculture continued to deal with over 15 major crops and livestock products spread over a large geographical area. This has often meant a thinner distribution of government's resources than desirable. Poor infrastructure, input supply, marketing and transportation facilities continued to hinder agricultural development. In addition, natural disasters, pest and diseases, and insecure land tenure have all exacerbated problems facing agricultural development.

Given Fiji's limited natural resource endowments, small-size of domestic market and the limited scope for industrialization, government realizes that the country will have to depend heavily on increased agricultural production through improving productivity to sustain the livelihood of a large section of the population. The recent agriculture review recognizes the need to accelerate Fiji's diversification efforts while ensuring continued emphasis on sugar, particularly in areas where Fiji has the competitive advantage. The sector review recognized these as high value niche exports in addition to production of traditional food crops.

Two land tenure systems are currently operated side by side: the customary land law in respect of unleased native land based on the community interest; and the native land trust

leasing system based on the individualization of property, a basic conflict in the land tenure system.

The four major strategies include: 1) examine ways of increasing agricultural production for immediate consumption of foods and for exports; 2) production at three scales viz. subsistence, commercial small landholders, and corporate or large scale farming; 3) more equitable distribution of benefits of development through directing agricultural activities to economically depressed areas supported with necessary infrastructure; and 4) rationalization of human and land resources in government support systems.

Indonesia (Mr. Gayatri K. Rana)

Agriculture's contribution to the economy of Indonesia is 16.7 percent and is diminishing. Almost 30 percent of the land (192 million ha) is under cultivation. Small-scale subsistence farms account for about 87 percent of the total cultivated land while remaining 13 percent are the large-scale farms.

The issue of land should not be merely considered from an economic point of view. Agrarian reforms and regulations on land ownership, land holding and land usage should be able to overcome problems, such as: 1) less attention to the agriculture sector in Indonesia's national economic development; 2) low bargaining position of the agriculture sector; 3) uncontrollable agricultural land conservation; 4) unbalanced structure of agricultural landholdings; 5) limited availability of potential land for agriculture; and 6) land fragmentation.

Agrarian reforms, in terms of land use management, in Indonesia started in 1964. The spirit of the reforms was to enhance people's welfare and prosperity, particularly for the small farmers and rural poor who were mostly neglected under colonial system. The Indonesian economy was growing @ 5-7 percent per year up to 1997, a year of financial crisis in Southeast Asia.

Since 1998, objectives of the land management policy have been: 1) improving and simplifying land registration system; 2) protecting the rights of land ownership; 3) improving the location permit policy; 4) providing a fair solution to land disputes; 5) delegating operational authority to local governments; and 6) opening up a special mail address and facsimile to receive complaints 24 hours a day.

As regards agricultural trade and foreign investment, the policy reforms were a response to market liberalization under the WTO regime while increasing efficiency and competitive advantage in the world market. Under the agricultural trade reforms in 1998 tariff on most food items fell to a maximum of 5 percent. Rural credit scheme reforms, starting in 1999, implied that only commercial banks would meet farmer's credit requirements. The foreign investment regimes have liberalized foreign investment in plantation, including palm oil and sugar.

The agrarian policy reform has increased awareness of the people to their rights of land. However, anticipated market liberalization should not have negative impact on small farmers. The government should ensure social welfare and prosperity of people especially that of small farmers, while attaining more rapid and efficient growth of the Indonesian agriculture sector.

Islamic Republic of Iran (Dr. Alirza Kashani)

Agriculture in Iran is an important sector with potentials and problems. Its contribution to GDP is approximately 27 percent, with a share of 23 percent and 24 percent in employment and non-oil exports, respectively. It meets 80 percent of the national food requirement.

Landlordism was the dominant farming system in the past. Pre- and post-revolution reforms of agriculture are the main changes in recent decades.

Shah's land reform (1962-72) with the objectives of increasing production and social justice, abolished the landlordism. Consequently the supportive umbrella of their functions was taken off. Various institutions including rural cooperative societies, agricultural bank, as well as education, health, and extension corps were devised as the substitutes for the landlords' functions. In total approximately 1.7 million ha of land, and 57 percent of the whole rural households were affected. The institutions were ineffective because they were external, bureaucratic, imperative, top-down, and non-participatory.

The main objective of post-revolution agricultural reforms was achieving self-sufficiency in staple foods. The reforms occurred during 1979-89 and 1990-99. The agricultural development measures used limited resources and capacities available to the regional authorities due to Iran-Iraq war. Newly established institutions such as Jahad-e-Sazandegi, Land Transfer Board and Islamic Village Councils, played a key role in development and support of agriculture after revolution. The second period consisted of two five-year plans during which agriculture was taken as the axis of development. Although much emphasis was on agriculture, yet it did not receive all the agreed resources in the budget.

New technologies have been the main means for development of the Iranian agriculture during the pre- and post-revolution era. Many farmers, specially the poor, did not adopt because the technologies were not easily accessible and appropriate to all farmers. The measures, however, increased the yields of most crops significantly. Externalities such as water losses, land degradation, deforestation, desertification and overgrazing of pastures, pollution with chemicals also emerged. It is said that the control of negative effects is possible at relatively little cost, and in this regard many attempts are underway.

The paper suggests participatory approach, close coordination among concerned institutions and policy support for further development of agriculture on sustainable basis.

Malaysia (Dr. Pazim Fadzim Othmam)

Since independence from the British rule in 1957, Malaysia undertook agrarian reforms involving various activities for raising farm productivity and farmers' income level. The most important strategies undertaken in the country were through land development, regional development, and National Agricultural Policies (NAPs) and Research and Development (R&D).

The land development programs are categorized into two types – new land development schemes and *in-situ* projects. The major agencies involved in the land development programs are Federal Land Development Authority (FELDA) for new land development schemes, and Federal Land Consolidation and Rehabilitation Authority (FELCRA), Rubber Industry for Smallholders Development Authority (RISDA), Integrated Agricultural Development Projects (IADPs) and Regional Development Authorities (RDAs) for *in-situ* projects. Implicit in the land development programs is goal of achieving crop diversification and advancement in the standard of living of the rural communities. The most significant progress made in the case of land development programs is the inclusion of palm oil, cocoa, timber and pepper in the list of agricultural exports. In addition, efforts were directed towards propagating active R&D in agriculture. This includes production, harvesting, post-harvest operations, marketing and processing of agricultural produce. In the case of rice new HYVs were introduced.

Despite the progress made so far, share of agriculture sector to GDP, employment opportunities, and export earnings has been on the declining trend. The major problems associated with the agriculture sector are price fluctuation, inter-sectoral productivity disparity, and high incidence of rural poverty.

The latest development has been acceptance of Agreement on Agriculture (AoA), a special multilateral agreement under the WTO. With the full implementation of AoA and Asian Free Trade Area (AFTA) the agriculture sector may be affected in various ways. Such as competition from cheap agricultural imports, competition for commercial crops, food security, conglomeration of large companies, and social hindrance to future poverty eradication programs.

It is recommended that the future agrarian reforms should be focused on improving farm productivity for the smallholding sector. Probably the uneconomic size of smallholdings could be managed as group-farming activities or cooperatives. The government should devise special mechanisms to safeguard farmers against adverse price fluctuations. In addition, poverty eradication programs should be continued in view of the relatively high incidence of poverty among the farming communities.

Future agrarian reforms should be systematically planned and designed in view of the changing needs of the future settings in agriculture sector. Certainly, agriculture sector must be able to utilize the resources optimally and be ready to compete in the world market if it were to sustain in the long run.

Mongolia (Dr. Nasandulam Damdinpureviin)

The paper mainly focuses on evolution and present status of vegetable husbandry in Mongolia with some discussion on agrarian reforms and agricultural productivity.

Vegetables are raised mechanically on large farms (5-10 ha) but manually on small farms (0.5-2 ha). Vegetable productivity continues to decline. Various constraints to enhancing vegetable productivity include small landholdings, inadequate irrigation water facilities, inappropriate farm machinery, high incidence of plant pests and diseases, low use of pesticides and herbicides, high cost of chemical fertilizers, scarcity of organic manure and inappropriate harvest operations.

Long-term comprehensive measures would be required to improve vegetable productivity in Mongolia. Soft loans should be granted to the stakeholders. Crop production fund should be used for introducing intensive cropping. Similarly insurance system to support vegetable farming should be introduced.

The paper suggests establishment of specialized agribusiness companies, introduction of mini-farms, revision of existing legislation and formulation of comprehensive law to enhance agricultural productivity.

Nepal (Dr. Hari Dhoj Pant and Rudra Kumar Shrestha)

Agrarian reforms were initiated in Nepal after the end of the Rana Regime in 1951. The relevant steps taken included: Land Reform Commission, 1952; 13-point Royal Declaration, 1956; Land Act 1958; Birta Abolition Ac, 1959; Agriculture (New Provision) Act 1962; and Land Reform Act 1964. In actuality the Birta Abolition Act 1959 and Land Reform Act 1964 were of revolutionary nature. The Land Reform Act 1964 put a differential ceiling of 16 ha, 2.6 ha and 4.2 ha in Terai, Kathmandu Valley and other hilly areas, respectively. Additional exemption was made to the land for housing purpose. Rent was also

fixed at one-half of the output of the main crop. It endeavored for the protection of tenant rights in terms of ceiling on ownership of land and fixation of land rent.

Agricultural low productivity in Nepal may be due to numerous factors such as depletion of human and financial resources in rural areas, lack of youth interest in farming, and traditional methods of cultivation. The measures to improve agriculture sector in Nepal include: land revenue for equality and efficiency; consolidation of land records; discouraging large landholdings; facilitating land leasing and contract farming; provision of credit institutions; encouraging land consolidation; discouraging land sub-division; land pricing in capital market; commercial land for land market; institutional provision; legislative provision for capital market; and simplified tax proposal.

In the Ninth Plan (1997-2002), programs were launched to meet the main targets such as the dual land ownership, creation of appropriate atmosphere for reforming the prevailing land ownership structure, development of appropriate land-use system and arrangement to stop land fragmentation, management of settlement, establishment of land preservation office and development of land communication system. The strategies of the Agricultural Perspective Plan (20 years) were based on improved technology like Green Revolution, adequate utilization of available infrastructure, comparative advantage, large-scale public participation and women involvement, and program implementation in the selected priority areas.

Philippines (Ms. Atanacia M. Guevarra and Ms. Delia Baldovino-Gabales)

Throughout the history of agrarian reforms in the Philippines, peasant revolts and struggles resulted in the institution of policies on agrarian reforms. However, most of the past agrarian reform programs generally fell short of their development objectives due to: 1) lack of political will to undertake them; 2) lack of farmers' empowering and enabling mechanisms to make the program implementable and sustainable; and 3) weak and inadequate institutions to carry out the programs. Thus in 1987, under the President Corazon Aquino, RA No. 6657 or the Comprehensive Agrarian Reform Law (CARL) was enacted. While the previous laws covered only rice and corn lands, the CARL covered all agricultural lands regardless of crops grown and tenurial arrangements. Two major components of CARL were Land Acquisition and Development (LAD) and Program Beneficiaries Development (PBD).

Under the PBD component, land distribution was backed up by the provision of necessary support services such as institutional development, infrastructure facilities like irrigation and farm-to-market roads, credit and marketing assistance and R&D. With the objectives of increasing agricultural productivity and income of the farmer-beneficiaries, the adoption of modern agricultural technologies was a priority concern.

Hinged on DAR's vision of "a nation where there was equitable land ownership with empowered Agrarian Reform Beneficiaries" coupled with the challenges of globalizing economy, the DAR adopted the Agrarian Reform Communities strategy where development interventions were focused on the provision of or access to capital, appropriate technology, production and marketing assistance and enterprise development and investment generation through the promotion of alternative agribusiness schemes towards improving farm productivity and enterprise profitability.

With the recent enactment of RA No. 8552 of 1998 or "An Act Strengthening Further the Comprehensive Agrarian Reform Program" (CARP) authorized ₱50 billion additional appropriation for CARP implementation for the next 10 years. Taking into consideration the Local Government Code, the DAR adopted new strategies to further enhance program

implementation and ensure accomplishment of its program targets. As of December 2000, the DAR has: 1) distributed 3.0 million ha of land to 1.73 million farmers while improving the tenurial relations in 1.4 million ha of farmlands benefiting 1.1 million farmers; and 2) provided package of support services interventions to about 3.0 million farmers.

Agrarian reforms for future would be those which adopt models of agricultural technologies and are highly productive, sustainable and environment- and gender-friendly.

Sri Lanka (Messrs. U. G. Abeygunawardena, S. V. Ariyaratne and W. D. Dharmasiri)

The implementation of the policy on irrigated land settlements and making use of vast areas of abandoned lands in various parts of the dry zone dates back to the pre-independence era (before 1948), which mobilized people from thickly populated areas.

The Paddy Lands Act (1958) regularized the feudal relationship between the landlord and the tenant cultivator, ensuring smooth cultivation and securing the social status of the tenant cultivator. Cultivation Committees established under the act sought farmer's participation and coordinated the functions of government organizations.

The Food Drive Program during 1965 and 1970 implemented a production plan creating power coordination bodies at all levels for achieving a considerable increase in production. The five-year plans implemented since 1971 made drastic changes in agricultural policies. Restrictions which were imposed against imports of agricultural produce benefitted the farmers. Agricultural Productivity Committees (APCs) were formed with excessive powers in decision-making and implementation. As there was not a check and balance mechanism, the APCs failed to achieve their objectives. However, the Agricultural Productivity Centers established in this period, are still functioning under the name of Agrarian Centers. All company and private-owned lands were taken over by the government, and their management was entrusted to cooperative establishment. Due to lack of management skills among managers, the objectives of the land reform could not be achieved. A considerable extent of land was distributed among landless low-income groups.

The paper also discusses contribution of the accelerated Mahaweli Development Program, and the Integrated Management of Agricultural Settlements (IMAS) Program to agricultural development in Sri Lanka.

The tenancy rights of the cultivators, which hampered the continual cultivation and productivity due to disputes, will cease to function from 19 August 2002 in accordance with the provisions of the Agrarian Development Act 2000. The Act has introduced effective measures to enable landowners to cultivate agricultural lands according to the prescribed standards. Furthermore, the Act has introduced a structure of farmer organizations at all levels ensuring the full participation and empowerment of farmers.

Issues and constraints in agriculture development include: lack of effective measures to minimize cost while increasing production; fragmentation of agricultural landholdings; negative attitudes and values regarding the possession of lands; barriers against adoption of technological advancements; unawareness on marketing techniques among farmers; division and compartmentalization of agricultural agencies; lack of an overall policy framework; disorganization of farming communities; lack of effective planning and monitoring procedures; less attention on training, education and research; poor extension services; and rigidity of laws and regulations.

Strategies to address above issues are formulation and implementation of sound policies to improve productivity in the long run, mobilization and empowerment of farmers, enactment of law to restrict the fragmentation of landholding, training for adoption of modern

technology, survey of marketing, development of managerial and entrepreneurial skills of farmers, strengthening and diversification in research and motivational schemes for researchers and introduction of modern irrigation techniques.

Thailand (Mr. Chatchai Chinavornsiriwattana)

In Thailand land reforms have been underway since 1933. The Agriculture Land Reform Office has already declared and introduced the land reform in 69 provinces with an area of 51 million *rais* (6.25 *rais* = 1 ha) benefiting 1.2 million farmers. It has also leased land acquired from the private sector to 30,000 farmers for exclusive agricultural use.

Land Development Department is responsible for solving the problems associated with soil degradation, soil and water conservation and efficient land use and has made every possible effort in that regard. In 1992, two new strategies, Land Development Village (LDV) and Soil Doctor (SD) were initiated. The involvement and enthusiasm of the villagers, with the support of cooperative agencies, have been spectacular and points to the viability and sustainability of this program. In fact the project area of Thung Kula Rong Hai has already improved 549,520 *rais* saline soil benefiting 14,280 households. The soils thus recovered have now become the biggest area to produce jasmine rice in Thailand.

The coastal area is very important to Thailand's socio-economic condition. Among numerous development activities, shrimp farming is most suited to the coastal ecosystem. Land area under shrimp farms rose from 26,036 ha to 81,552 ha between 1980 and 1989 under the planned and dedicated efforts of the Land Development Department in the coastal area of five Thailand provinces.

As economic development is a never-ending process, so should be the agrarian reforms, because there is always room for improving the *status quo*. It is in this context that the Thailand's 8th National Social and Economic Development Plan has relevance and contains further reforms that emphasize to: 1) improve farmer efficiency; 2) support farmers in sustainable agriculture practices; 3) change the extension system currently in place; and 4) increase the public activities for a better interaction with the government.

Thailand (Ms. Jirapan Chutchawanchaipan)

Agriculture is the dominant sector in Thai economy. However, its contribution to GDP has declined from 19 percent in 1982-86 to 11.44 percent during 1997-2001. The major agricultural exports comprise of rice, rubber, cassava, sugarcane, pineapple, etc. Thailand is one of the largest food exporters in Southeast Asia. The agricultural growth and income distributions are affected by agrarian structure. Farmland holding is 132 *rais* or 41.25 percent of total land. Average farm size is 25.3 *rais* with 245,815 farms. Only 60 percent of farm area are owner-operated.

During 1960-2001, Thailand had eight National Economic and Social Development Plans. The agrarian reforms were successful to earn foreign exchange through increased exports which led to deterioration or depletion of the natural resource base such as forests, coastal zone and fertile land of the country. Similarly they accelerated the land-use conversion with adverse effects on environment and human being. The high inequality of income distribution posed another problem.

Ministry of Agriculture and Cooperatives had concentrated on agrarian reforms by identifying appropriate agricultural zones for crop cultivation to enhance efficient and systematic use of land and water resources.

Future agrarian reforms may include: 1) development of human resource and strengthening of farmer institutions; 2) sustainable farming systems such as nature farming, organic farming, etc.; 3) improvement of productivity to enhance production and competitiveness; and 4) protection of natural resources and environment.

Vietnam (Dr. Bui Thi Ngoc Dzung)

The agriculture sector of Vietnam has achieved rapid development in recent years, just after short periods when some important policies and strategies on agricultural development in general and on agricultural land reform in particular were formulated. Vietnam has achieved self-sufficiency in agricultural products and is converting into a commercial agricultural production country. It has emerged as a big agro-product exporting country in the region. The annual agro-products export turnover has reached US$3 billion.

In spite of remarkable achievements, Vietnamese agriculture cannot be regarded as developed one. The reasons include low crop productivity, irrational sectoral structure, slow transition, lack of quality products, absence of competitive power in commercial agriculture, unstable market, and inadequate physical and technical facilities for agriculture sector.

Formulation and implementation of reasonable agrarian reform policy will, therefore, lead to increase agricultural production, improved quality of agricultural products and added support to domestic consumption and processing industry. This would be consistent with integrated and balanced agricultural development.

This paper discusses historical evolution of agrarian reforms in Vietnam and their impact on agricultural productivity and socio-economic development over the following sub-periods.

– The period 1945-75 (land to the tiller)
– The period 1967-80 (before renovation "*doi moi*")
– The period 1981-88 (start renovation)
– The period 1989 to present (integrated renovation period).

The paper also explains present policies of Vietnam Government concerning agrarian reforms, role of agrarian reforms in improving agricultural productivity and measures for enhancing role of agrarian reforms in sustainable agricultural development. It also suggests land reform policies for the future.

FIELD STUDIES

For field studies in the host country, the participants visited the following organizations/companies:

1. Hiriyala Farmers (Peoples) Company.
2. Dambulla Dedicated Economic Center.
3. Hingurakgoda CIC Seed Farm.

Hiriyala Farmers (Peoples) Company (31 May 2001)

The participants were welcomed by Mr. R. B. Pethinagoda, General Manager of the Hiriyala Farmers (People) Company (HFC), and his staff. Dr G. Batuwitage briefed the participants as follows:

The HFC was founded in 1997 as a collaborative effort of 133 small farmers' organizations in the Hiriyala Electorate of Kurunegala district. It covers about 22,200 farm families. The company was incorporated in 1998 as a people's company, a legal entity, under the Company Act.

The objectives of the HFC, among others, are: to increase farmers' income through economic organization and investment and to ensure a reasonable price for the farmers produce by purchasing, value addition, reduction in post-harvest losses and moving primary products to specific markets.

These objectives are in line with the new agricultural policy of the Government of Sri Lanka. Promotion of farmer companies is one of the mechanisms adopted to ensure survival and prosperity of small farmers in the market economy. The farmer company mode of operation is considered a vehicle in the transformation of the traditional small farm agriculture into more commercialized agricultural pursuits.

There are 3,015 shareholders representing 123 farmer organizations with shares of Rs.1.8 million deposited at present. The farmer company has invested more than Rs.4.5 million for paddy seed production and sale, paddy purchasing and other business affairs.

The current assets, among others, include 71 acres of land, the building for the rice processing center, rice flour production center, seed cleaning center, seed cleaning machine worth Rs.2 million, paddy stores, wholesale marketing stall at Badagamuwa, etc.

At present, the Company provides services to the farmers including investment in producing seed for paddy at farmers field on contract basis, purchasing seed and edible paddy from farmers, providing information and weeders to farmers who practice the newly introduced system of rice intensification for higher yields at lower cost, and purchase and sale of farmers produce at the Company's sale outlets.

The HFC has proposed several projects seeking national/international funding. Such projects are rice processing complex, cold storage for onions and vegetables, processing of fruits and vegetables, high quality organic fertilizers production project, paddy seed production and marketing, nature farming training center and demonstration farm, processing and marketing grain pulses and other farm products and the farmers' center for technology, communication and welfare.

Dambulla Dedicated Economic Center (31 May 2001)

The participants were welcomed by Mr. M. Wijeratne, Chairman, Dambulla Dedicated Economic Center (DDEC), traders' association. Mr. Wijeratne briefed the participants as follows:

The DDEC was established in 1999. Since 1998, the Sri Lanka Government has established many DDECs in the country to facilitate trading of agricultural products. The DDEC is the first regional marketing center in Sri Lanka, which was established with an investment of SLRs.115 million (Sri Lanka rupees). It is also the first market, owned and operated by the central government with the help of Ministry of Industries but now control vests with Ministry of Food and Marketing Development. A trust board, consisting of government officials, representatives of trade association and farmers, manages the center.

Major market participants are commission agents, farmers and traders. Transporters and laborers involved in loading and unloading of commodities are other market participants and provide support services. There are 144 shops in the market. One shop has been provided for the Bank of Ceylon and other for a farmers' association. The remaining stalls are operated by private businessmen. Traders have rented some of these shops. The traders

specialize in trading by commodities. More than 50 percent of the traders are involved in trading of lowland vegetables. Number of traders specialized in upland vegetables has increase considerably after the establishment of the DDEC. Some new traders, especially those who did not have link with farmers, started buying vegetables by visiting production areas and selling them at the DDEC.

There is an association of commission agents, which appears to be the supreme governing body within the market. It has imposed rules and regulations to promote and facilitate market operations. The membership is compulsory for the traders.

One of the unique features of the DDEC is the direct participation of the farmer in selling of farm produce. Farmers from Matale and surrounding districts bring vegetables directly to the market. After establishment of the new market, the number of farmers bringing vegetables has gone up because of price they can get compared to that of collectors. The farmers have a good relationship with the commission traders because traders come from the production areas and farmers always supply products to the area-based trader. Another major group of suppliers is collectors.

With regard to buyers, there are several groups involved in purchasing. Among them, major categories are wholesalers, retailers and wholesalers-cum-retailers registering for 98 percent of the total weekly purchases. The retailers have accounted for the largest share of the total purchase in the DDEC.

Market operation includes marketing activities, which could be divided into exchange functions, distribution functions and facilitative functions. Exchange functions include buying and selling or buyer-supplier activities. Here suppliers are present in addition to the commission agents. Usual practice is that commission agents sell produce on behalf of the suppliers. At DDEC, the suppliers and buyers do the transaction through a commission agent. The commission agent charges a commission for his service. The farmers are provided interest-free credit by the buyers (traders) to purchase agricultural inputs. Some buyers also purchase the products on credit basis.

Hingurakgoda CIC Seed Farm (1 June 2001)

The participants were welcomed by Mr. Ananda Assiriyage, Director of CIC Seeds (Pvt.) Ltd. who briefed them at the CIC Seeds Farm as follows:

This farm is situated about 200 km away in northeast of Colombo. Total area of the farm is 1,300 acres of which 750 acres, 60 acres and 30 acres are used to grow paddy, mango and coconut, respectively.

The CIC ventured into the seed and planting material industry in view of business opportunities arising from government Policy Document of 1997. The CIC Seeds (Pvt.) Ltd. mission is to be identified as a producer of elite seeds and planting materials with the best quality standards. Their commitment is to contribute to the development of the agriculture sector by enhancing productivity and profitability. The CIC took over Hingurakgoda Seeds Farm in August 1998. Since then the company has undertaken several structural, organizational and developmental initiatives that have increased rice productivity by about 33 percent. The company has accomplished several achievements since 1998, including supply of quality seed for rice cultivation, provision of advisory and consultancy services to agriculture sector in Sri Lanka, blending and marketing of special fertilizers, production of elite planting material, flower, bulbs and exotic vegetables, the export market, marketing of agrotechnology equipment, etc.

The company is constrained by short duration for cultivating large land area, labor scarcity during planting periods and inadequate irrigation water. The CIC seeds is facing marketing difficulties as it has to compete with subsidized government seed.

Please note that all of the organizations/farms discussed above have been recently privatized under a government ordinance in order to improve agricultural productivity and encourage investments in various enterprises in Sri Lanka.

ISSUES AND RECOMMENDATIONS

Experiences of agrarian reforms in the APO member countries and their impact on agricultural productivity were discussed by the participants. While the experiences on agrarian reforms are diverse in different countries, there are common lessons to share and benefit from experiences of one another. The study meeting agreed that agrarian reforms play an important role in improving agricultural productivity and to ensure a more sustained impact they need to be considered in a wider context of rural development. They should not be limited to move land redistribution, setting up of ceilings on landholdings and tenurial changes but should also encompass necessary aspects of agricultural support services for agriculture as well as for non-farm rural sector. There was a consensus that proper execution of agrarian reforms in their wider context will lead to enhance agricultural productivity and food security in the region. The participants identified the salient issues in agrarian reforms and agricultural productivity and forwarded suggestions to address them as follows:

1. Provision of adequate support services is essential for improving agricultural productivity. However, it was noted that most of the APO member countries provided inadequate agricultural support services necessary for improved agricultural productivity. Thus the participants reiterated the need to synchronize the provision of agricultural support services such as appropriate infrastructure facilities, improved extension services, greater access to institutional credit, establishment of marketing linkages, etc.
2. Experience has shown that conventional land reforms were unable to establish proper linkage of agriculture sector with non-agriculture sector. The study meeting suggested to adopt pragmatic approaches for the establishment of such strategic linkages, both forward and backward to generate off- and non-farm rural employment opportunities so as to increase income of the rural households. Besides importance of coordinating activities of relevant agencies was emphasized.
3. In view of increasing competition due to trade liberalization under the WTO regime, the participants agreed that member countries should extend efforts to identify their comparative advantage in agricultural production and devise programs for agricultural development that are compatible with above requirements.
4. Many of the member countries so far have not established an effective mechanism of land titling which is essential for household investment in farming operations and access to institutional credit. The study meeting recommended that respective governments should expedite programs on land registration and land titling as well as establish an appropriate and effective land-use planning program.
5. So far many of the member countries have not fully benefitted from the potential of information and communication technologies in promoting agrarian reforms in their wider context. The participants emphasized that agrarian reforms should capitalize on

the proper use of modern information and communication technologies. Besides there was a need to establish an effective mechanism to share information among the member countries.

6. Adequate people's participation, particularly, the beneficiaries and the relevant stakeholders were essential for the success and sustainability of any reform program. Such participation, however, did not get due attention of the policy-makers and planners during formulation and execution of the previous and ongoing agrarian reform programs. The study meeting emphasized the need of full people's participation in the current and future agrarian reform programs for their success and sustainability.

   The participants also suggested that respective governments should promote awareness among the stakeholders and beneficiaries through providing initiatives and programs aimed at encouraging people's active participation in all development processes.

7. Much of the reform measures envisioned under different programs require proximity of planning and implementation systems to the agrarian community to solicit their participation and involvement in decision-making. It is also necessary to obviate negative aspects of top-down approaches, which are so common with implementation strategies. In order to overcome these constraints, decentralization policies with a deep commitment for their success in implementation are necessary. Mobilization of local knowledge, resources and actors that are so relevant for local level planning and execution can emanate from decentralization measures.
8. Agrarian reforms need to learn from the past experience while considering emerging trends. At every stage in planning and formulation, analysis of reliable data and field research information are essential which could be obtained through an effective research and information delivery system. Some countries have land tenure centers and agrarian research institutes, which provide valuable guidance for policy-making. Some others have working relations with universities to monitor the work and provide research material for use in accurate planning and implementation. Such bodies can provide a regular supply of researchers on a long-term basis and even provide expertise in agrarian reform to meet country's needs.
9. The adoption of certain modern agro-technologies, such as use of chemicals, has been causing environmental degradation. The participants pointed out that adoption of modern technologies and inputs should be considered with regard to their impact on cost of production.
10. The participants, while realizing the fact that rural-urban migration would continue, suggested that there was a need to make rural-urban migration more rational in order to improve labor productivity. The participants emphasized the need of creating more farm and non-farm job opportunities in the rural areas to minimize migration from rural to urban areas.
11. In view of low levels of human resource development in many APO member countries, the participants suggested that further education and training should be provided in both agriculture and non-agriculture sectors, particularly with emphasis on improvement of skills of agricultural extension staff and support services' officers.

1. IMPLEMENTATION OF AGRARIAN REFORMS IN ASIA – AN OVERVIEW

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The agrarian reforms in the Asian developing countries can broadly be categorized into three parts – structural reforms, developmental reforms and social reforms. The reforms impacted overall economic and social lives of people living in rural areas who are dependent largely on agriculture sector for their employment and income. While land reforms is focused more narrowly on the relationship between the agricultural land and people dependent on them, agrarian reforms attempted to go beyond it and influenced overall rural development, which differed in approaches and scope among different countries. However two underlying goals of agrarian reforms were maintained as the guiding principles. They were: increase productivity of the agriculture and allied sectors; and promote equitable access and reward to all deserving people in rural areas.

Structural Reforms

The structural reforms had three main elements: land redistribution, particularly to the landless rural poor who were primarily dependent on wage labor for their livelihood; setting ceilings on the maximum agricultural landholding that an individual and/or family could hold; and the tenurial reforms by protecting rights of the tenants. The structural reforms of agricultural land were based both on equitable and productivity considerations. The rationale behind the structural reforms of land was several, including inelasticity of land supply. It was thus important to distribute it more equitably and avoid monopolistic or skewed ownership. In many Asian developing countries the preliminary steps of agrarian reforms started with the legislative provisions to set the ownership ceiling and distribution of surplus land. The countries where dual relationship of landlord and tenant was retained, tenurial reforms were an important part of the structural reforms. The main features of tenurial reforms were three: ceiling on rent payable by the tenant; provision of tenure's rights on tilled land; and distribution of cost of cultivation.

Access to land is the fundamental mechanism to promote growth with equity in rural areas. It unleashes the potentiality of rural people, particularly the poor to participate in the growth process and thus help to transform rural areas, including rapid alleviation of poverty. The significant decline in rural poverty in the East Asian countries can largely be attributed to the radical land reforms initiated and implemented in the 1950s. Thus the structural reforms of land ownership was the centerpiece of agrarian reforms in any country. While the

land distribution was the most important initial step of agrarian reforms it was not the sufficient condition to accomplish higher growth, eradicate poverty and attain equity.

Development Reforms

This segment of agrarian reform is quite critical to alleviate rural poverty. They provided key support to the land reforms process and enabled the farmers gain benefits from the change. Although the development reforms could encompass several activities related to overall rural development the following are the key components:

- Marketing reforms
- Development of rural infrastructures such as rural roads, irrigation, etc.
- Micro-finance services.

The marketing reforms broadly included three aspects: (i) provision of marketing sites for producers and buyers; (ii) regulatory provision for quality control; and (iii) price information to be regularly and widely disseminated. One of the major problems faced by the primary producers, particularly small and marginal farmers, is their inability to dispose their products at competitive prices. While governments had attempted to set minimum prices of major commodities such as rice, wheat, pulses, etc. its enforcement had been weak and ineffective. The creation of competitive environment by uniting marketing reforms had been observed as more rewarding to the farmers than direct price intervention by governmental agencies.

The agrarian reforms would not succeed without rural infrastructure development. Construction of rural roads and creation of additional irrigational facilities inevitably leads to additional production and enables farmers to benefits from the expanded market opportunities. The attainment of agrarian reform's objective to diversify the agricultural production according to the comparative national advantage particularly in the wake of globalization also rested largely on the systematic development of rural infrastructure. The study carried out in India (Binswanger, *et al*., 1993) found out investments in rural infrastructure had direct gains to the farmers in terms of reduced transportation costs. The support to the success of agrarian reforms also came in terms of reduced transaction costs of credit services. In essence the overall benefits arising from increased rural infrastructure to the farmers could not be overemphasized.

An important part of developmental reforms would be availability of micro-finance – both availability of credit to small and marginal farmers and provision of savings facilities. As agrarian reforms aimed to replace/substitute the traditional money-lending rural institutions as well, its success depended on the successful development of micro-finance services. The delayed response in micro-finance services in Asian developing countries particularly in South Asian countries had negatively affected the agrarian reforms process in the early 1950s and 1960s.

Social Reforms

The agrarian reforms go beyond land distribution and infrastructure development to make its impacts equitably shared by all in the rural areas. Thus social reforms were important elements of agrarian process. These reforms were basically aimed to prepare rural people to manage their economic transactions by coming together and being self-reliant. As the entire agrarian process aimed to transform the rural areas of the developing countries from

feudal to modern system, individual farmers would have to acquire more strength through groups' dynamics and knowledge. The following are the three main elements of social reforms:

- Group mobilization
- Farmers training farmers
- Community consciousness.

The formation of small and marginal farmers' group within the agrarian reforms are now universally accepted and implemented strategy of agrarian reform process. Both for economic and social activities individuals at the grassroots are vulnerable and prone to exploitation from within and outside of the community. Government agencies as well as NGOs had provided encouragement and support to form groups of like-minded farmers to initiate income-generating activities, marketing activities and educational services. Several examples of successful groups' operations are found in the Asian developing countries. However, those initiatives to bring the farmers together in many countries grew independently of the initial agrarian reforms process.

The strategy of 'farmers training farmers' had been successful strategy in the rural areas. As the agrarian reforms were initiated the dissemination of knowledge from the governments' agencies and even from the NGOs are difficult. The training in the new production technologies particularly where change of products were necessary, farmers' training was more effective and productive.

The community consciousness is an educative process to fully benefit from agrarian reforms. In many countries this preparedness process is sometime neglected which was detrimental in the proper application of reforms. From the policy perspectives, legal provisions, and economic and social instruments were given more priority and less attention was paid to prepare rural people for awareness of their new responsibilities and seizure of the new opportunities.

Changing Paradigm

The traditional objective of agrarian reforms was to distribute agricultural land more equitably as land was the most important source of income generation in the rural areas. This objective still remained an important objective in the Asian context. Further, labor in the rural areas still remained primarily engaged in agricultural activities. However the limit of benefits to come from land redistribution was declining overtime as agricultural land is already in smallholdings in most of the countries. Except in a few countries, however the redistribution of land had been extremely limited due to shortfall in the anticipated quantity of excess land. Thus the original goal of structural reforms had been more refined to add value through other activities.

The increase in land productivity was the other key objective of agrarian reforms. The countries that had been successful to equitably distribute land such as China and the Republic of Korea had also been able to raise land productivity at a higher percentage than other countries. In many developing countries particularly in South Asian countries middle tiers such as *zamindari* system were successfully abolished but the full implementation lacked political commitment. As a result of which the impact on productivity gain was very marginal. The lack of productivity gain in many developing countries was also the result of narrow implementation of agrarian reforms. While the need of increasing land productivity

still remained a primary goal of the agrarian reforms, it was substantially enlarged in many countries by expanding agricultural research and other technological developments.

The most important new development of agrarian reforms was the protection of environment through prevention of agro-chemical's abuse and maintenance of biodiversity. In the 1950s and 1960s there was hardly any reference to the protection of ecological balance through appropriate development of land and other natural resources. The unhindered encroachment of marginal land for agricultural purposes as well as deforestation of the past few decades had a devastating effect on the ecological balance in many Asian developing countries. The natural disasters, flood, landslides, etc. led to loss of productivity and human lives in several countries. The limited availability of land and water resources that were suitable for agricultural use also necessitated their protection through more regulated uses. Thus the maintenance of food security without food production and excessive use of chemicals harming environmental conditions has become a priority area of agrarian reforms in recent years.

Overview of Asian Experiences

The overview of Asian experiences is difficult task as neither they were similar in character nor were undertaken at the same time. The nature and direction of successful agrarian reforms in some selected countries, however, tend to show some common features. Not all of them had, however, been implemented in the similar political environment.

The East Asian countries notably the Republic of Korea and Taiwan had initiated more substantive and radical agrarian reforms in the middle of the last century, which were successfully implemented. The successful implementation led to increase in agricultural productivity, more equitable distribution of agricultural land and rapid transformation of economy from agricultural to industrial one. The same cannot be said of other countries of Southeast Asia such as Thailand and Indonesia.

The organization of the World Conference on Agrarian Reforms and Rural Development (WCARDD) in 1979 was a global attempt to revitalize agrarian reforms. While the WCARRD had reiterated the need to implement comprehensive agrarian reforms, it also acknowledged the difficulties in its implementation. There was a consensus to initiate strong political commitment to implement the full reforms but the review carried out in 1990s indicated that land distribution and growth with equity still remained unmet goals. It had been observed during the past two decades that more emphasis was placed on the market force as main instrument of land distribution than legislative initiatives. The growing reliance on market for distribution had slowed down pursuit of land reforms considerably. The globalization and market liberalization had also slowed down the agrarian reforms' momentum. As the economic foundation of agrarian reforms based on subsidies and market interventions was not sustainable, the policies were gradually shifted to open market policies. However without alternative program, the deteriorating conditions of rural poor had continued. It was also realized that the shift in the emphasis to open market policies may be beneficial in the long run but it created competition among the unequals. Thus the rural poor continued to be at a disadvantaged position.

The agrarian reforms process in China had passed through various phases since 1950s, some of them were painful and also detrimental to the rural population. The Chinese reforms had three major phases. Firstly, immediately after the Revolution, a radical land reforms program was introduced in which lands from landlords were expropriated and redistributed among landless peasants. The main goal of these reforms was to make tillers having their

own land – the dream of Chinese farmers for thousands of years. This was however a short-lived change and by the middle of 1950s China experimented with collectivization of production and marketing of agricultural producers. As the individual farmers were forced to join the collectives, they practically lost individual decision-making rights in respect of their land. Eventually those collectives were called People's Commune and several studies had concluded their poor performance (http://www.google.com/agrarian reforms/China) as they resulted in negative effects on rural economy.

The latest agrarian reforms in China, the third major reform, was initiated in 1978 with the introduction of household responsibility system. In many respects this phase of reforms was more comprehensive in which land redistribution (from collectives to individual private households) was only one of the components. Other equally important components included market reforms and crop diversification. As this reform process came along with the opening of other aspects of economy as well, support services, particularly rural infrastructure also got adequate attention. The other important feature of these reforms was development of township enterprises in the rural parts of the country. This was a major improvement in the agrarian reforms by linking agricultural activities with the industrial sector.

The household responsibility system initially increased agricultural production at a faster rate but the momentum could not be sustained for long. It started exhibiting few problems such as overexploitation of soil for short-term gains, fragmentation of landholdings and lack of land improvement. However, despite its shortcomings, it had contributed substantially to transform rural China and alleviate poverty.

The experiences of agrarian reforms in India had been fragmented and partial. It still remains an unfinished business. Unlike in China, the agrarian reforms in India were not uniformly implemented due to the division of its responsibility between central and State governments. According to Dr. K. Venekatasubramanain, Member, Planning Commission (2001) the important objectives of land reform measures were: (i) to enhance productivity of land; (ii) to ensure distributive justice; (iii) to achieve land for the tiller; and (iv) to transfer income from few to many. Immediately after the independence the State governments took legal measures to: (i) to abolish intermediaries such as *zamindars*; (ii) to reform tenancy through fair rent and security; (iii) to fix ceiling on agricultural land; (iv) to consolidate land; and (v) to promote cooperative farming.

The feature of Indian agrarian reforms was its exclusive concentration on land structure reforms. There was fair amount of success in abolishing large landholders and intermediaries yet the efficacy of other policies were considerably diluted due to a number of reasons. The legal provisions did not benefit tillers working below the tenants such as sub-tenants and sharecroppers. The reforms also could not eliminate the "rent receiving class" completely as landlords managed to continue to engage in informal intermediaries. The tenancy reforms had three core elements: regulation of rent, security of tenure, and conferring ownership to tenants. Due to informal intermediaries' system retained in many States, this goal was far from accomplished. Also the '*Benami* holdings' by powerful landlords had undermined effective implementation of ceiling on landholdings.

The agrarian reforms in India can be characterized by its mixed results. In one of the States, West Bengal the land reforms had been successfully implemented under its 'Operation Barga' scheme. The political commitment of State government was the main reason of its success. On the other hand in the States like Bihar the implementation was dismal. Assessed from the comprehensive perspectives like, social justice and economic efficiency, Indian land reforms had been partially successful as it shifted the pattern of land ownership substantially.

From the development reforms perspectives the agrarian reforms had undergone a rapid change and had made positive effects on the agriculture sector. The investment in rural infrastructure and agricultural research and extension since 1960s was significant. While cooperatives as an instrument of social change in rural areas could not perform effectively. Other forms of social mobilization initiation by both government and NGOs had been successfully launched. In this regard, the government assistance to the poorest of the poor under its Integrated Rural Development Program (IRDP) was noteworthy. While there was a debate on the proper utilization of the vast resources made available under the scheme, IRDP acted as a powerful support mechanism under agrarian reforms process to assist directly the rural poor.

Nepal experimented with agrarian reforms in 1964 with more emphasis on changing the ownership pattern of agricultural land. Earlier in 1960 the higher intermediaries were abolished. The Nepalese agrarian reforms had mainly three components: (i) ceiling on the agricultural landholdings; (ii) protection of tenants through fixation of rent and legal provisions against their *ad hoc* eviction; and (iii) imposition of compulsory deposits to be paid by both landowners and tillers. While the unique feature of this reform to collect savings to utilize for lending to the farmers at a concessional interest had to acclaim, its management was far from efficient. The biggest contribution of this reform was a change in the ownership pattern of land and discouragement to acquire agricultural land as a means of secure investment. However the imposition of ceiling could not generate enough surplus land for redistribution to the landless as one of the key envisaged goals of reform. Regarding the protection of tenants' rights, the reform was more successful as evictions were largely halted with the administrative and judiciary support. The development aspects of reforms were however not adequately implemented. The infrastructure development was not part of the reform process and social mobilization was not adequately followed through. The partial implementation thus was not successful to stimulate the land productivity. Nearly after 10 years of the agrarian reforms, major initiatives were taken to mobilize the small farmers to form groups and act as rural development agent. While this initiative was independent of agrarian reforms process and was coordinated by the Agricultural Development Bank, it nevertheless provided strong support to the small and marginal farmers. The small farmers development program was largely based on the group borrowing without collateral. It enabled the agrarian reform process to move forward and, in real sense, raise land productivity.

The Comprehensive Agrarian Reform Program (CARP) was the cornerstone of the latest agrarian reforms in the Philippines. The main goal of this reform was to redistribute land to enhance smallholders' access to land. This was quite desirable aim considering that only 2 percent of the farmers controlled more than one-third of total land. Yet after 10 years of its implementation less than one-third of the land earmarked for redistribution had actually been transferred (http://www.oxfamaerica.org/advocacy/part5.htm).

The lack of political, institutional and logistical support to properly implement agrarian reforms in the Philippines had been its major difficulties. Also, the economic and financial support that the small and marginal farmers required to carry on with the agricultural activities had never been provided sufficiently. As a result the agrarian reforms in the Philippines remained a continuing battle.

The beginning of agrarian reforms in Thailand goes back to the execution of Agricultural Land Reform Act, 1975. The purpose of agrarian reforms in Thailand was to bring more orderly change in the ownership structure of land rather than a drastic change in

ownership unlike in some other Asian developing countries. The goals of tenurial structure change were to enable tenants and landless to become owner-operators, to provide land ownership to squatters and to ensure fairer share of output between owners and tenants. In Thai agrarian reforms, the objectives were to attain optimal farm size through land consolidation, and prevention of land fragmentation and increase agricultural productivity. The diversification of crops instead of mono-cropping was also an important goal of agrarian reforms.

As indicated earlier the Thai agrarian reforms, while not being a radical step, concentrated on developing important support services, and rural infrastructure on a continuous basis. The agriculture sector played an important and supportive role for the rapid development of Thai economy in the 1980s and 1990. Although the gap between the rate of growth between agriculture and non-agriculture sectors widened during the period and consequently the contribution of agriculture sector to GDP fell from 50 percent to less than 15 percent, the manufacturing sector was broadly supported by the agricultural production. The success of agrarian reforms also led to increased demand from rural people, which further stimulated the growth of non-agriculture sectors.

The implementation of agrarian reforms in Asian as indicated earlier, remained as an unfinished task. However the emphasis of restructuring of land ownership, particularly enforcing strict limit on individual ownership had lost importance. As globalization of economic activities expanded gradually through trade liberalization and increased private sectors' participation in core sectors of the economy, the market became increasingly determining factor. And in the political rhetoric agrarian reforms lost their priority. However the initial goals of agrarian reforms to bring social justice and raise agricultural production had not changed in many Asian developing countries. While impressive economic achievements were attained for rural people, the agriculture sector still remained a dominant source of income and employment. Three quarters of absolute poor still remained in rural areas for which agricultural land is the ultimate source of income and employment. The market forces alone would not and should not be allowed to determine the demand and supply of agricultural land in Asia.

Future Issues

The future prospects and challenges for agrarian reforms are new and varied. The future would be more challenging than past due to more population and limited land. Meanwhile it would be more promising due to enormous development in agricultural and information technologies. The knowledge from agricultural research in terms of high-yielding seeds, farm management and prevention from insects and pests had enabled the farmers to increase agricultural production substantially during the past three decades. Further the recent development of information technology holds prospects to reach farmers at a faster rate reducing the risks of crop failure. Consequently the future agrarian reforms might deal with the following issues:

1. ***Development of Human and Social Capital***

The agricultural land is still very important resource for the rural area. However the human capital would play more critical role in future to attain the twin goals of equity and agricultural production. It would be, increasingly, more appropriate to invest in education and health sectors in rural areas and for farmers to enable them optimize their benefits from both agriculture and non-agriculture sectors without moving from rural areas.

2. ***Rural-Urban Migration***

This is a new phenomenon not envisaged as a part of agrarian reforms in the past. The high concentration of population in rural areas is indeed a reality but encouraging people to migrate to urban areas cannot solve it. The urban areas are already ill prepared to cope with the existing population. More migration from rural areas would inevitably lead to deterioration in the quality of urban living and also to high unemployment and social unrest.

3. ***Information and Communication Technology***

The prospects of new information and communication technology (ICT) are quite promising for rural areas as well as for farmers. The new technology in the short run, however, cannot provide direct benefits in rural areas due to low level of infrastructure development such as lack of telephone lines and electricity supply. The future agrarian reforms need to consider easy and affordable access to information as it would be increasingly powerful tool to determine social justice and productivity. The traditional means of communication such as radio and TV which had played key role in providing information on new technologies to the farmers so far would be essential to expand use of modern ICT such as internet. Finally the effective strategies should include the development of basic infrastructure for connectivity and access, develop human capacity, and offer affordable demand-driven ICT services. From institutional viewpoint group formation of end-users and their participation in actual development offer a better future.

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2. FARMER COMPANIES: CAN THEY STAND UP TO EXPECTATIONS IN THE CHANGING ECONOMY?

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INTRODUCTION

Agrarian reforms promise desirable change to agrarian communities' development. Such reforms address issues obstructing development and attempt creating new conditions to farming community to operate. Farmer companies came to prominence in Sri Lanka in 1996 with the initial successful operations of Huruluwewa Farmer Company in the North Central province and the Nilwala Farmer Company in the Southern province as two pilot projects under a watershed resource management project as an attempt to introduce a new mode of economic organization for farmer communities.

Having been attracted by the information of potential, the political leadership of the Ministry of Agriculture directed the expansion of farmer companies to all the districts. This paper describes the concept, its translation to action, its expansion and the outcome of that promotional work as against the expectations of the stakeholders during the past four years. The aim is to address the question whether farmer companies can stand up to the stakeholders as useful mode of operation in the changing economy?

STAKEHOLDER EXPECTATIONS

Several different groups of parties showed interest to promote farmer companies in line with the potentials talked about and initial results. These interests or expectations can be presented as follows:

Stakeholders	Interests/Expectations
1. Initial promoters of Watershed Resource Management Project who tested the farmer company mode for two years	C To test the company mode as an organizational mode of operation for ensuring the survival of small farmers, the highest majority of 1.8 million farm families in Sri Lanka, in the open economy since a farm family of small farmers is not considered a viable economic unit. C To demonstrate that it is 'profit to farmers' investment' and not 'water' which is the unifying phenomenon in resource management in irrigation settlements.

... To be continued

Continuation

Stakeholders	Interests/Expectations
	C To demonstrate the possibility of consolidation of efforts with investment by poor farmers together with progressive farmers in fragmented water-short paddy lands and uplands by forming their own companies and mobilizing investments for such lands that produce for identified markets until land consolidation efforts could be made successful. C To increase farmers' economic and political status for promotion of their interests by acting as a strong pressure group.
2. Farmers	C To earn an attractive return to their production soon after harvest by selling through the company. C To obtain inputs (good quality seed, fertilizer, implements and credit) easily and on easy terms as investments. C To be able to increase and improve production with stability of returns. C To be able to communicate, as shareholders of their own company, they need to act as a stronger pressure group for influencing chances in government policy where necessary.
3. Farmer representatives, directorate and company staff	C Involvement for mutual benefits. C Leadership to practice capabilities for benefits, prominence and satisfaction. C Compensation adequate to work and opportunities for future prospects.
4. Local level government officials interacting with farmers	C Involvement for mutual benefits. C Job satisfaction. C Compensation adequate to work and opportunities for future prospects.
5. Government officers promoting farmer companies from national level	C To ensure an increase in the number of performing farmer companies for obligation of performance of duties and for job satisfaction. C To gain experience for future prospects. C To respond to demand for services. C To enjoy the sharing of satisfaction of success of farmers' ventures.
6. Local political leaders	C To win acceptance of effective performance. C To win support of farmers by supporting their ventures. C To get involved for mutual benefits.

... To be continued

Continuation

Stakeholders	Interests/Expectations
7. Political leaders at higher levels	C To gain prominence by giving leadership to processes that can grow nationwide. C To increase the number of farmers benefiting from the concept and working arrangements. C To help pressure groups and communities for service obligations by being political leaders elected by people.
8. Organized private sector business operations	C To establish trade links for ensuring stable supply of production/raw materials in required quantities and quality at low prices. C To ensure greater profits on investments.

A careful analysis of these different expectations and interests would show the following:

1. The stakeholders have different and some times competing personal interests while looking for gains from the common interest.
2. The stakeholders would be willing to work together as far as such work ensured mutual interests.
3. The stakeholders may withdraw when they see no desirable benefits or when they see the cost of involvement is likely to exceed the benefits.
4. Such interrelationships clearly show the presence of strong nexus of relationships among the stakeholders as shown in Figure 1.
5. This means that if the stakeholders withdraw from obligations it is most likely that the business believed to provide mutual benefits could collapse.
6. Such a nexus of relationships then reflects a model of interdependencies rather than a model of independent farmers' organizations for business ventures.

The conceptual model for managing overlapping interests to create space for farmer companies (Figure 2) confirms the above observations. Figure 2 organizes the stakeholders into three major groups viz; Interests of political and bureaucratic leadership, Interests of farming community and Interests of the organized private sector. The three circles represent the interests of the three groups.

Figure 2 shows that more space will be created for the farmer company operations to the extent the three circles overlap. The model guides to identify the specific forces that are in operation in any location and in any farmer company to push the three circles toward or away from each other with effects on farmer company's operation. It also throws light on the areas which should be considered for articulating interventions in an effort to address the issues.

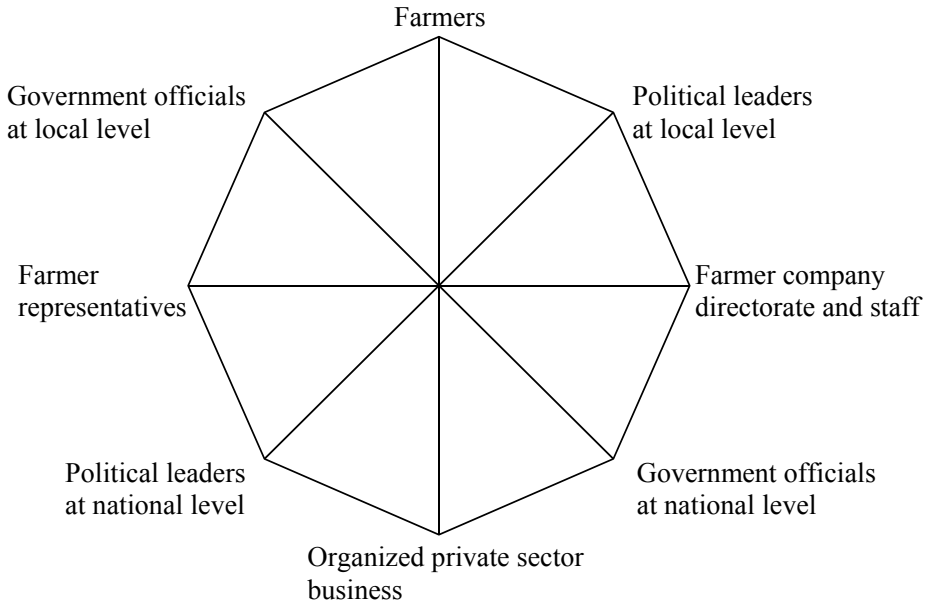

Figure 1. Nexus of Relationships Among Stakeholders

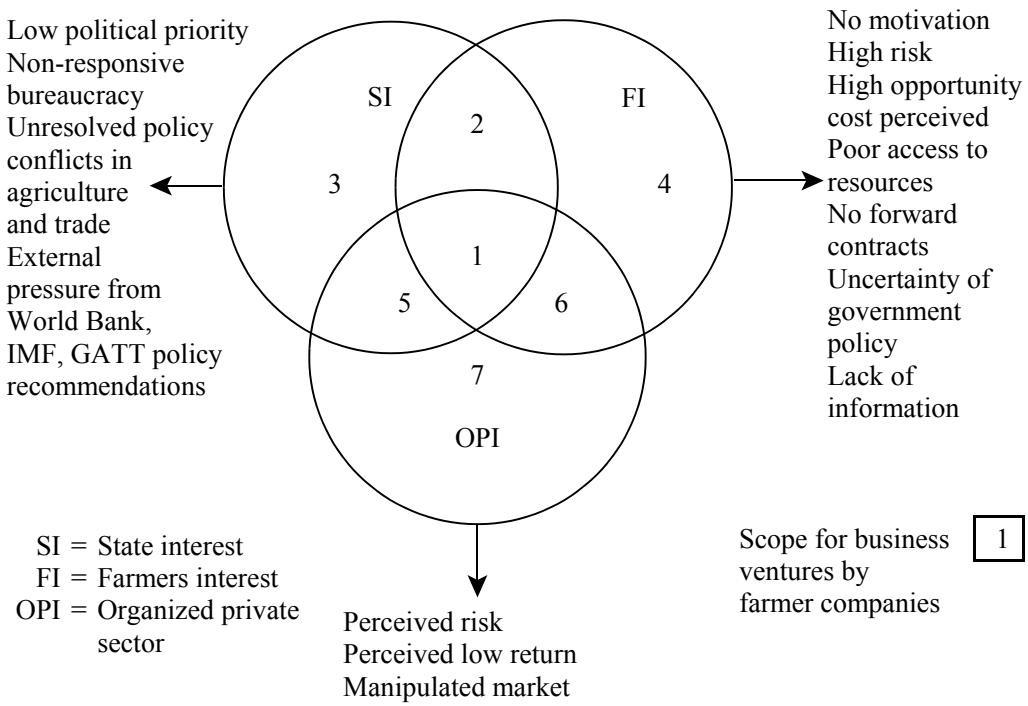

Figure 2. A Model for Assessing and Manipulating Forces
To Create Space for Farmer Companies

The factors that motivate the three interest groups pulling away from each other as indicated in Figure 2 are the underlying causes talked about as influencing causes. For example segment 7 of Figure 2 indicates interests of the organized private sector which do not match with the interests of the other two groups, i.e., state and farmers. Such interests may arise out of profit-making motives of the organized private business sectors. Segment 1 shows the area where the interests of all the three groups overlap. This is the scope for farmer companies to prosper since the interests of all three groups are mutually agreeable and supportive. What is then necessary is to identify what factors would increase that segment and promote common interests so that expectations of all stakeholders could be addressed positively. If not, the farmer company model as agrarian reform would not be effective in fulfilling stakeholder interests and therefore would fail to bring about the desired change from the reform.

GROWTH AND EXPANSION

Farmer company promotion process starts with awareness creation among farmer groups and field officers who interact with farmers for services at district and divisional levels. At these meetings the current problems confronted by farmers, such as problems of marketing as the major one and subsequently the problems of inputs such as water, seed, fertilizer and agro-chemicals, credit, technology and implements, are discussed. The need for producing for markets, production scheduling, maintaining quality and obliging for commitments of trade agreements with the supply of agreed quantities in time are discussed.

The state policy objectives of transforming the traditional small farm subsistence agriculture to a more commercialized profitable economic venture are described at awareness creation stage, indicating the need for viable economic organization for the farmers to face the challenges of the market economy. Farmers form interest groups with a temporary working committee to undertake the initial planning work leading to the formal establishment of the farmer company at those meetings.

Farmer companies get their formal status and the license to do business once they get registered under the Companies Act. The Registrar of companies registers three types of companies, viz.; private companies, public companies and peoples' companies. For a people's company to be registered the minimum requirement is 50 shareholders. The price of a share is Rs.10 and no single shareholder, individually or jointly with the family members can own more than 10 percent of the shares. A Memorandum of Articles and Association has to be submitted which clearly outlines the objectives of the company and the by-laws for operations. The Board of Directors is elected by the shareholders and the responsibility of the directors is to make profits for the shareholders. Director's tenure in office is one year although he/she can be re-elected for the following year. The company should have a chartered secretary and should submit to the Registrar of companies, annual accounts audited by a charted accountant. All these requirements to obtain legal status are described at these meetings.

Figure 3 shows the growth of forming those interest groups in 17 districts as the joint efforts of the promoters of farmer companies at national, district, divisional and sub-divisional level responding to the calls of interested farmer representatives, government officials and political leaders.

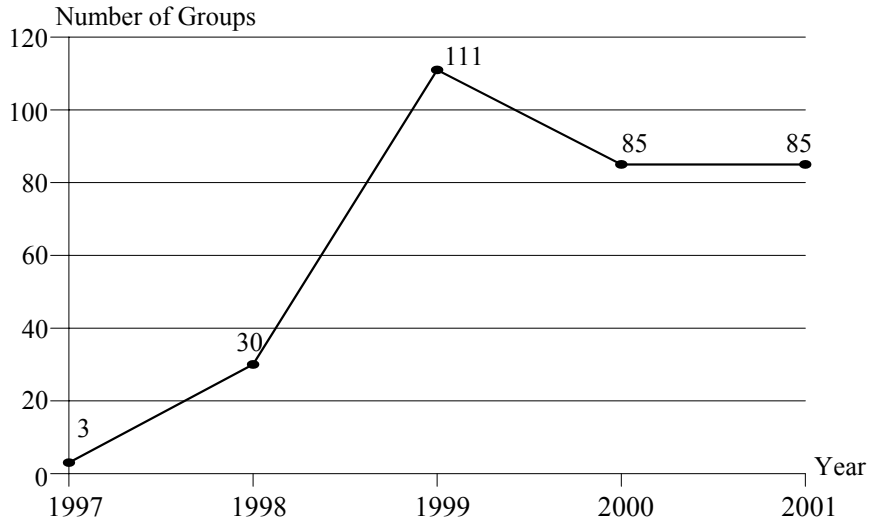

Figure 3. Formation of Farmer Interest Groups

Several meetings conducted to review progress of work of those interest groups revealed that the dependence on the government officials to get assistance to form companies has hindered the transformation of the interest group to a registered farmer company. It had been pointed out that it is of no use to register a company without a viable business activity to earn an adequate return. It was found that those whose interests of forming a farmer company was focused to attract government support for obtaining office space, buildings, equipment, credit, etc. could not move fast because such assistance was not forthcoming that easily.

The question whether the business activity should come first or the company and *vice versa* was addressed by the promoters presenting a methodology to identify viable business activities through collaborative planning. It has been recognized that the successful identification of such business opportunities are mediated by various other factors in the rural, regional economies with a little hard work that the initial interest groups have to mobilize. These assessments cleared the understanding not to expect all the interest groups to form farmer companies, but to support those emerging farmer companies which carry out their business plans since government cannot be expected to form such business ventures on the basis of a top down approach.

Figure 4 shows the growth of registered farmer companies with legal status. There can be few more farmer companies not included in this database but registered and under operation in some districts with their own sources of support. Also, there are companies with successful business operations, but still in the process of obtaining the legal status by registration.

There were 85 farmer interest groups engaged in the process of operating business as registered companies or still in the process of either obtaining legal status, or searching for business activity as at end of March 2001. There are 32 registered companies. The total numbers of shareholders are 20,002 with Rs.14,021,090 as share capital. There are three national level farmer companies with 500 shareholders and shares amounting to Rs.4,400,000.

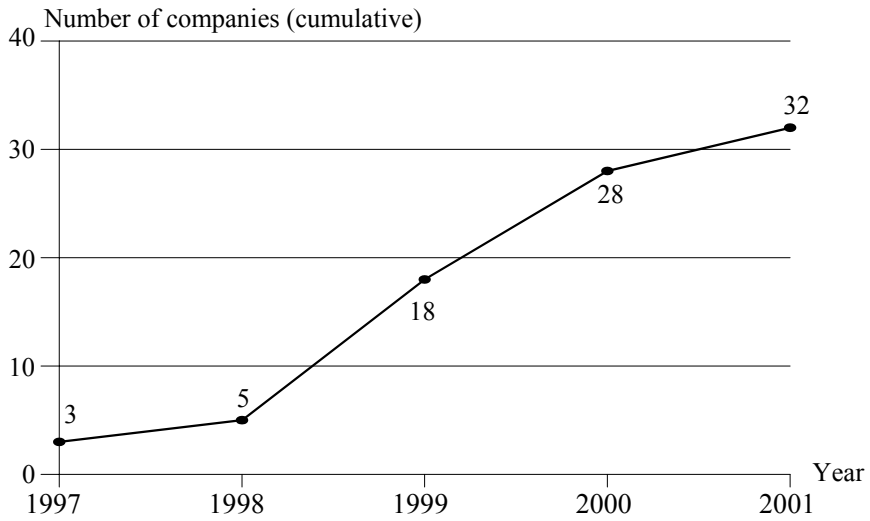

Figure 4. Registered Farmer Companies

The latest development is to form national level farmer companies for the production, organization and marketing of major food crops. Three companies for potatoes, pepper and onions have been formed and the tendency continues to form national level farmer companies for maize, lime and pulses as well.

Thirteen farmer companies have obtained Rs.36,277,119 as credit from the Govi Jana Bank which is a farmer credit scheme implemented by the Ministry of Agriculture through the Department of Agrarian Services. Rs.13.2 million has been paid back and other loans are in various stages of recovery. Some farmer companies have received credit from other sources as well. Hiriyala Farmer Company has applied for a loan of Rs.55 million for its rice processing center from a leading state bank. Regional banks support farmer company investments. A leading private bank introduced a credit card system recently to farmers through Bakamuna and Ruhuna Farmer Companies. This arrangement has been given wide newspaper publicity.

Figure 5 presents the types of products and distribution of farmer company operations in the country. New products are introduced time to time and the map is updated accordingly.

The current status of the farmer companies with regard to their assets and liabilities, business operations, annual turnover, investment plans and benefits to shareholders provides a range of information of companies performing at a very low key, while several farmer companies have been engaged in business ventures with promising returns. Galenbindunuwewa Farmer Company, which was the first pilot project entered into business agreements worth Rs.111 million, with the Ministry of Health to supply soybean and aflatoxin-free maize for a production of supplementary food item to be distributed free of charge among malnourished mothers and children. The Company managed to produce aflatoxin-free maize stock of 395 mt for the first time in the country. The farmer company raised capital from a local state bank to the amount of Rs.29.6 million for the business plan. Also, the company met the farmers' expectations by making available a good market, ready cash for their produce at harvest, and by raising the hope for stable income earning opportunity.

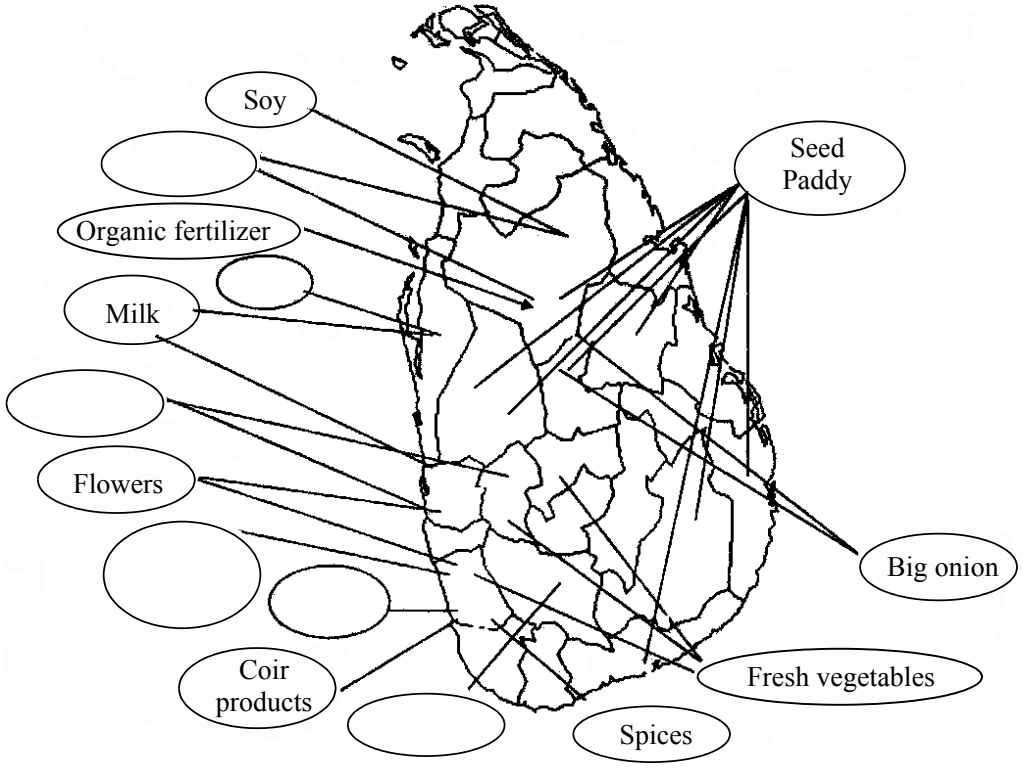

Figure 5. Distribution of Operating Farmer Companies

Today the farmer company is grappling with a problem of recovery due to a complex problem of maltreatment by the purchasing company of farm products, a slackness on the part of companies in maintaining quality allowing the purchasing company to downgrade them, withdrawal of collaboration by certain key local bureaucrats acting on their own interest and the challenges from the market economy where trade related tactics are difficult to avoid.

Akkaraipattu Farmer Company made a big success by obtaining a loan of Rs.5 million for the purchase of paddy from the farmers and completed the transaction with a profit after sealing the credit. In the following season, the Company managed to secure a loan of Rs.7.5 million and is now engaged in gainful business. The Company has distributed part of the profit among the farmer shareholders.

A problem analysis was undertaken with the farmer leaders of the registered farmer companies recently with the Minister of Agriculture observing the process to recognize the felt needs of the companies. The major problems are related to the challenges they face from competition. As Amartya Sen once stated, competition is the key but not everyone can play. The farmer companies request state support until they stand on their feet with strong business ventures.

Figure 6 presents a framework to understand how the external forces affect internal characteristics of the agrarian communities who expect change as development but confront with undesirable outcomes. Also, it shows a direction to make efforts to benefit from the production environment if stakeholder interests are addressed in a collaborative process.

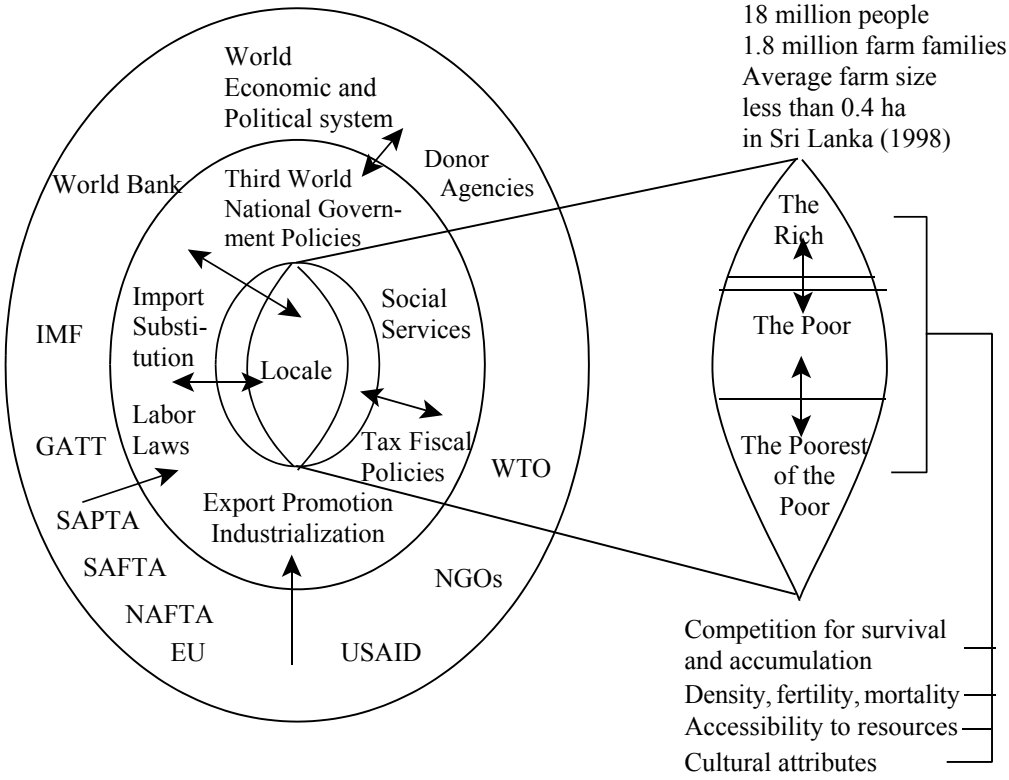

Figure 6.

The agrarian community in the local areas demands reforms for change. Its internal forces are marked with the process of competition for accumulation and survival and the external forces coming from the national government policy form key determinants of the stimulation of change. The high agricultural productivity cannot be achieved independent of the agrarian communities whose main livelihood depends on the agricultural pursuits until the other sectors of the economy are developed to absorb the excess population from agriculture.

CONCLUSIONS

Looking back at the stakeholder expectations, the strong interrelationships and interdependencies which form the current reality, the need for a collaborative approach is recognized to better understand the stakeholder positions and interests for joint decision-making and sharing of responsibility for implementing such decisions, that affect the farmer company mode of operation. Since people, and the places they occupy, have inherited uneven development, the promises of level playing field for fair competition would take a while until fair access to technology and resources for productivity enhancement truly appears. With the challenges for domestic production environment by the global framework affecting local reforms, the question of whether farmer companies can stand up to the expectations in the changing economy would remain unanswered while efforts of the stakeholders would continue to resolve issues within the broad context of the forces of the market economy? The large-scale emergence of farmer companies with political leaders'

interests of producing worthwhile outcomes will have to be assessed giving adequate time to operate. The new direction, however, indicates recognition of the potential of farmer companies to address issues demanding agrarian reforms and agricultural productivity.

3. AGRARIAN REFORMS AND AGRICULTURAL PRODUCTIVITY: A STATUS REVIEW OF SRI LANKA'S EXPERIENCE

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THE NATIONAL DEVELOPMENT SETTING

Sri Lanka has been judged to be well above the global average, particularly in health and education attainments. The adult life expectancy of 72 years is only about 3 percent less than the mean for industrial countries. The literacy rate of 90 percent places the country about 9 percent below that of industrial countries. These figures put Sri Lanka closer to industrialized countries than to the developing countries in which it is placed in terms of national income. Among 175 countries it ranks 82 in real GDP per capita adjusted for purchasing power parity, while in terms of the Human Development Index (HDI) of the UNDP it ranks 91. This attainment in social development is attributed to the continuous pursuit of a complex of social welfare programs in the country for over five decades.

In spite of an ongoing war Sri Lanka has maintained a moderate economic growth of about 4.3 percent in 1999. The official unemployment rate has undergone a steady decline from an average of 14.4 percent in the period 1990-94 to 11.3 percent in 1996 and further to a single digit unemployment position of 8.8 percent in 1999. In comparison the 1999 estimated average rate of unemployment was 6.5 percent for advanced industrialized economies.

Sri Lanka has also made significant advances in the character and quality of employment. The female labor force participation rate (especially in the 25-34 age group) recorded a growth of 3 percent per year since 1993, which was nearly three times that of males (1.3 percent). Female unemployment was reduced from 21.7 percent in 1993 to 12.5 percent by 1999, while male unemployment also reduced from 9.7 percent to 6.8 percent over the same period. An emerging gender differential that favored females in education also appeared to be present in employment of the labor force. For instance, by 1999 about 60 percent of the employed females had educational attainments of GCE(OL) (General Certificate of Education – Ordinary Level) and above, while it was 36 percent among the males.

Overall, the share of the public sector in total employment had declined from 21 percent in 1990 to 14 percent by 1999. In contrast, the small-scale business sector has contributed significantly in generating self-employment. For instance, its share of the total

employment increased from 39 percent in 1990 to 41 percent by 1999. An emphasis was laid since early 1980s on industry-based employment creation, which was further improved upon in the post-1994 period. It involved the setting-up of industrial estates, export promotion zones, regional garment factory programs, technology and science parks, industrial townships and Board of Investment projects with a total capacity of generating 161,732 new job placements to be fully realized by 2004 (Ministry of Finance and Planning, 2000). At the same time the government has intervened to further ensure job security and labor wage security through a series of new legislations and programs initiated in the latter half of 1990s to assist workers employed within the country as well as abroad.

Sri Lanka's population grew at a rate of 1.2 percent in 1998, and the country is on the verge of completing the 'process of demographic transition' within a relatively short period of little over five decades since mid-1940s. A direct result is a trend towards an aging population, which is expected to become increasingly prominent within the next two decades. It is expected that by 2003 about 22 percent of the population will be in age cohorts above 60 years while 39 percent will be in age cohorts of above 50 years. Thus, social development policies and programs of the country in the 1990s, particularly in the late 1990s, have increasingly begun to address the current and future implications of an aging population on health and social protection, vocational training and self-employment opportunity creation for the aged, particularly among the poor.

The momentum gained by a continuous refinement in the targeting and coverage of social welfare programs alongside a shift of the national economy from a low growth (below 4 percent) to a moderate growth (4-6 percent) phase had resulted in reducing the incidence of absolute poverty and deprivation while dampening the scope for their reassertion. Absolute poverty was significantly reduced within a decade from a 'higher' point of 31 percent in 1985/86 to a relatively 'lower' position of 19 percent by 1996/97.

Yet, a 'hard core' absolute poverty condition of around 20 percent has persisted over the last three decades. About 50 percent of the population of the country receive a mean income of less than Rs.2,250 per month (Ratnayake, 1997). Though the per capita income has increased over the years the distribution is highly skewed. The national income share of the bottom 40 percent of the population has declined from 19.3 percent in 1973 to 14.8 percent by 1990/91 and to 13 percent by 1996/97. In contrast, the share of the top 20 percent was 53 percent in 1996/97.

About 10 percent of the labor force (1997) are unemployed and most of them are youth. Rates of unemployment are especially high for new entrants to the labor force (36 percent) and for youth aged 20-24 years. Women form about a third of the labor force and about 50 percent are unemployed. It is also reported that 90 percent of persons with disabilities in the country are unemployed. Of children under five years of age, 38 percent are malnourished and about 500,000 children in school-going ages do not attend schools.

About 50 percent of the housing in Sri Lanka have been determined to be of sub-standard quality. Nearly 22 percent of the population of the country reveal a lack of access to safe drinking water while 24 percent of the population lack access to proper sanitation. Around 56 percent of the population lack access to electricity (UNDP, 1998).

Thus, while a series of wide ranging national poverty alleviation programs have been launched by successive governments over the past several decades and social welfare policies and programs directed towards improving the basic needs of health, education, housing and sanitation needs of the population, a sustainable dent has not been achieved in eradicating the basal income poverty position. In addition, persisting gaps in improving the requirements

of physical quality of life of the population do not coincide and augur well with the apparent prosperity exhibited in urban and infrastructure development as well as with the tremendous increases in consumerism in the country.

The high attainments in education and health, and appreciable advances made in human development thus seem to cover a sub-stratum of structural disabilities which breed poverty. A recent UNDP study (1998, p. 66) on Sri Lanka reveals that the country is experiencing a situation where economic growth seems to be manifested upon a base of sharp regional contrasts in the distribution of human development attainments as well as poverty.

The development experience of Sri Lanka over the last 50 years, particularly in attempting to solve the poverty question has been at best weak. Policy-making and implementation actions have been segmented. Duplication and overlapping of functions and even overlapping of target groups of various programs have been all too frequent.

While such actions have been wasteful in terms of limited development funds and other resources, a more damaging aspect is that such segmented programs have in fact desegregated populations on the basis of unique emphases and specific target direction of programs. Thus, 'haves' and 'have nots' have emerged within the poor, among women, children, and other groups in the society during the duration of such programs, promoting 'exclusions' even when programs have integration as one of their objectives.

The failure to develop a proactive balance between economic and social development, with strong institutional and resource linkages between the two components, is considered to be a fundamental problem in Sri Lanka. This has been identified in numerous empirical and desk research writings and in policy debates over the last three decades in Sri Lanka. This has generated structural disabilities within the society preventing certain segments of the national population from contributing to and benefiting from the mainstream economic processes. It has also lead to economic and societal disparities and a lop-sided development in the country to such an extent that a phrase of despair, *kolombata kiri apita kakiri* (approx. meaning: growth and prosperity benefits Colombo and teaches bitter lessons to us – rural areas), has been making rounds in a Myrdalian cumulative causal way reaching rising states of condensation of anger particularly among the rural youth in recent times.

Within the context of the above realities this paper reviews the process of agrarian reform and social development that has been promoted in Sri Lanka over the last five decades. The objective of the review is to draw lessons that may prove useful for a needed urgent dialogue on finding ways and means of building strong institutional linkages to bridge the current gaps between economic growth and social development.

THE EVOLUTION OF SOCIAL DEVELOPMENT POLICIES IN SRI LANKA

Sri Lanka's development policies even as far back as the first Land Commission sittings of 1927-29, have been largely based upon a notion that the state must ensure that all members of the society should have a stake in economic progress, should contribute to it, and be benefitted through it. A deliberate minimalist welfare policy of redistributing income and consumption was therefore pursued by successive governments since late 1920s. The state took on a special responsibility of providing a range of measures and services to those segments of the country's population collectively classed as the poor and the disadvantaged, who on their own volition and resources could not attain a national minimum standard of life. Sri Lanka's social development attainments in post-independence period up to the present thus owe much to the historically high levels of social development and the policy-making

and management administrative mechanisms which were formed and strengthened over the decades to maintain social development programs.

Sri Lanka's experience in developing 'safety nets' for securing both a minimum living standard as well as legal and administrative safeguards ensuring entitlements of the marginalized segments of the civil society were both innovative and wide-ranging in coverage as social development became an important focus of convergence of the politico-bureaucratic systems in the country. The welfare state that emerged was unique in promoting the quality of human development within a country which in GNP per capita terms was classed as a member of the third world.

An attainment and maintenance of a minimal standard of living was sought through: (i) direction of a wide range of basic inputs and services at subsidised rates to maintain nominal production growth; (ii) commitment of a fairly constant per capita expenditure on a range of consumption services and the provision of subsidised food and other subsidies; (iii) provision of free education, health; (iv) introduction of large-scale transfer payments through pauper allowances, like the Food Stamp Program, *Janasaviya* and *Samurdhi* programs and other relatively more modest transfer payments; (v) resettlement of landless persons in frontier areas, 'land-for-the landless' under re-distributive component of land reforms, securing higher access rights of tenants to the lands they till and to the product of their labor through 'lands-to-the tiller' tenure reforms; and (vi) allocation of lands for house construction for the landless and homeless.

Measures that were introduced in Sri Lanka to ensure a minimalist welfare state were largely biased towards rural areas where about 78 percent of the total population (including the plantation sector) were engaged in and dependent upon agriculture for their food and fiber and employment and income needs.

Thus, large-scale transfer payments and subsidies as well as land redistributions and other programs tended to become interlinked with agricultural progress. Tenure and land reforms of the post-independence period, food and input subsidies, and large-scale poverty alleviation programs such as *Janasaviya* and *Samurdhi* were wholly or partially linked with the promotion of agriculture as a means of ensuring food and income security for the poor.

With rice as the staple food, national self-sufficiency in rice, through domestic production efforts have been judged to be about 86 percent. Per capita consumption of rice has remained fairly static at about 105 kg per capita per year, with an elasticity of consumption demand at around 0.23, indicating a high inelasticity of demand to changes in price, in spite of increases in consumption in wheat flour-based foods since 1980s.

However, farm-gate prices in basic food products have remained low and static in case of paddy and subjected to wide fluctuations in case of other field crop (OFC) products, affecting farmers' incomes. This coupled with rising input prices and stagnant yields with 'a plateau condition' (probably reflecting the onset of a technological plateau) reached in most crops over the last two decades, coupled with prevailing inflationary conditions, the real net incomes of farm households have declined. Consequently, the incidence of poverty has also deepened in the rural areas and is found associated with the producers of food crops.

At the same time, Sri Lanka's population migration patterns over the last five decades do not reveal a significant volume of inter-zonal movement of people, particularly from the Dry Zone to the Wet Zone. Migration patterns have been largely confined to movements across adjacent districts and provinces.

Thus, unemployed and underemployed job seekers of largely agriculture-based Dry Zone regions and more remote districts of the Wet Zone by and large tended to accumulate

within the agricultural economy as the principal source of employment and income generation in such regions. Land fragmentation, marginal land degradation through spontaneous (encroached) settlements and other negative conditions have ensued, to generate and extend pockets of poverty to cover large economically lagging areas within these hinterland agricultural regions.

All governments since independence through various measures have increasingly sought to stem the resultant deepening of poverty conditions in rural areas. Rural industrialization has at times been forced in (as for example, through the 300-garment factory program of 1980s) through provision of incentives to large- and medium-scale investors to generate employment opportunities in hitherto depressed regions. Programs of self- to micro-enterprises development have been promoted as an integral part of the national drive to alleviate rural poverty, via large-scale poverty alleviation programs such as the *Janasaviya* and *Samurdhi*.

An encapsulated view of Sri Lankan welfare reform experience yields two aspects which help to adequately explain the quality of social development attainments achieved by the country, as well as partly explain the persistence of poverty conditions among large segments of the population as well as across rural regions.

One is the multiplicity of, and at times conflicting, reform objectives set within the rural sector and embodied in welfare promoting programs. The tenure and land reform exercises initiated in the period 1958-80 had both welfare and production growth/efficiency objectives, and were done in the name of the landless poor as measures to improve their lot. But in practice the different objectives could not be met and were often in conflict with each other, resulting in neither achieving the goals of ensuring tenure security and nor a significant distribution to landless of lands taken over from private and company land owning interests. There is also no evidence that these reform exercises significantly improved the production efficiency and productivity of land, labor and capital resources.

The other is the issue of conformity of reform measures with varied political and economic policy objectives set outside the rural agrarian sector. The latter aspect was particularly important for its impact on the ultimate directions taken by welfare reform implementation and growth and equity implications of the end-results that were realized.

The dynamics of the postwar welfare reform programs introduced in Sri Lanka is best realized in the survival capacities revealed by certain time-tested continuing programs (e.g., pauper allowance program, the free milk food program for infants of the poor, mid-day meal program for poor school children). It is also seen in other programs, which surfaced, peaked, and dissipated over the years (e.g., a blanket program of free supply of rice to the entire population of the country, which lasted until late 1970s). Their relative short-run impacts on growth and equity aspects set within a dynamic political environment have been instrumental in ultimately determining the survival capacity of these programs.

Where the impact of a welfare program introduced by one government fitted the development rationale of a succeeding government, the program survived through a process of adaptation. A case in point is the food stamps program of 1979 and its modification under the more wide ranging *Janasaviya* National Poverty Alleviation Program introduced in 1988/89 and the subsequent incorporation and modification of the latter in 1996 and to date in the *Samurdhi* program of national poverty eradication. At the same time, where a welfare program established by one government did not fit the development rationale of a succeeding government the program did not survive a political change. A case in point was the radical

land reform programs introduced in the early to mid-1970s, which were not pursued by successive governments since late 1970s.

Often, continuing programs are themselves influenced by lessons derived from other programs, with short-run objectives and survival abilities that have ended. As often, the latter also serves as stop-gap measures in continuing programs. An example is drawn in the 'million jobs' program to be completed in one year introduced in 1970 which ended with the 1971 insurgency, after which a more well thought out five-year plan was developed with the objective of bringing together a range of allied programs directly or indirectly aimed at reducing the high incidence of unemployment, particularly the more volatile unemployment/ underemployment among educated youth. The sentiments of this plan formed the base for a series of rolling one-year investment plans that have been introduced since 1977 to the present day. Currently, a six-year overall plan of development is under preparation, which aims at bringing together the rolling investment programs under an overall national development goal.

The overall Sri Lankan welfare reform experience is a lesson in benefits and failing of continuous experimentation with radical and liberal reform. Advances in ensuring food security and upgrading the physical quality of life coexist with a relative inability to make a lasting dent in a basal problem such as poverty that is endemic to rural areas.

SAFETY NET PROGRAMS AND SPECIAL PROTECTION MEASURES

When poverty is considered as a condition of 'severe social and economic deprivation' it presupposes the existence of a continuum of deprivation bounded at either end by 'low' and 'severe' states of poverty. The 'severe' state of poverty may be equated with absolute deprivation of the basic necessities of life, the most immediate being food. At the other end of the continuum, the 'low' state of poverty may also be equated with 'relative deprivation' or relative poverty, as it is relative to those who are at the 'severe' end of the poverty continuum, as well as those near and above a prescribed poverty line.

A range of social welfare programs have been introduced in Sri Lanka to protect the poor against a further shift along the above continuum of deprivation. These programs were variously targeted to alleviate the conditions of the poor, who may be conveniently grouped under the characteristics of the population falling within various states of the above poverty continuum. They are:

(a) programs directed at poverty prevention dovetailed to those who are classed as poor to near-poor;
(b) programs of poverty alleviation directed at those who are at the 'middle' to 'low' end of the continuum of poverty;
(c) programs aimed at cushioning the poor at the 'low' to 'high' end of the poverty continuum with food and income subsidies with the objective of safeguarding them against elements of extreme derivation through critical shortages in basic food intake; and
(d) programs and actions aimed at special protection measures against exploitation and depravity among particular segments of the population. These largely cut across all economic strata, though the exploited usually are found concentrated among the poor.

Basically, 'programs aimed at poverty prevention' were dovetailed to the unemployed and underemployed members of the economically active or inactive national population. Vocational training programs, self-enterprise establishment programs, 'land-for-the landless' programs and 'security of tenure' reform programs may be considered as some examples of programs that were aimed at poverty prevention among the poor and near-poor.

POVERTY PREVENTION PROGRAMS FOR POOR AND NEAR-POOR

Tenure Reforms

Since early 1950s successive measures of tenure reform has been introduced, particularly in the paddy (land) sector to improve the security of access to land, thereby, to improve access to a food source and to a means of income generation, among tenant (and hired labor) populations.* These measures sought to provide:

(a) security of tenure on a permanent and heritable basis to tenants;
(b) regulate rents payable to landlords by tenants;
(c) secure productivity increases through better direction of input services;
(d) assure higher incomes to producers through subsidies, high floor prices, and state sponsored produce procurement services;
(e) provide institutional framework to mobilize cultivators to derive benefits of collective bargaining through farmer organizations; and
(f) fix agricultural labor wage through setting up Wage Boards, etc.

The tenure reforms were basically target-oriented poverty prevention measures aimed at particular groups of near-poor and poor classed as tenants and agricultural labor.

However, a large number of empirical studies on tenancy reforms conducted over the years (Wanigaratne, 1980) reveal that the tenancy reforms were largely unable to root out the exploitative elements of tenancy in the country. Duration of tenancies before final termination was found in village studies to have declined from over seven years in the early 1950s and before to about two years in the 1972-77 period, about two seasons by late 1980s and to a single season or two in the 1990s. One study (Agrarian Research and Training Institute [ARTI], 1978) notes that of 43,143 reported tenant evictions between 1958 and 1971 only 18 percent ended in a final restoration.

As population and inflationary pressures mounted, and cyclical downturns affected the economy the demand for land has grown and so have land values. Thereby, landowners have sought to increasingly assert their rights over the use and disposal of their land, to the detriment of the tenant. However, in the 1990s with the increasing impacts of liberal economic policies that have been followed by governments since 1997, employment and income generation avenues have grown, thereby reducing the importance of agricultural lands (especially paddy lands) for former tenant and agricultural labor families as the sole means of meeting their food and income needs.

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* Relevant Tenure Acts are: The Paddy Lands Act No. 1 of 1953; The Paddy Land Act No. 1 of 1958; The Agricultural Productivity Act No. 2 of 1972; The Agricultural Lands Act No. 42 of 1973; The Agrarian Services Act No. 58 of 1979; and Amendments therein during 1988,1991, 1997 and 2001.

On the other hand, the newly amended Agrarian Services Act (2001) which allows for an expanded membership in farmer organizations set up under it incorporates owners of land, tenants, squatters on state and private lands, and even non-farm sector entrepreneurs. While it paves the way for a wider participation of tillers and investors in farmer organizations, it is also systematically paving the way for a movement of capital interests into the farmer organizations and into domestic food sector.

The new Act is in complete conformity with the macro-economic need to effect higher flexibilities in basic resources governing food production, employment and income creation as was sought by open economic policies pursued by governments since1977.

However, the element of higher definition of entitlement of users of crop land and thereby higher access to the product it entails may, in a context of major settlement schemes which are the key producers of the national staple, in a production environment of assured irrigation supplies that is highly favorable to it, lead to further bifurcation of income and living standard disparities already present within rural areas.

The attempt to legitimize the current largely informal broad base participation of users of agricultural lands, particularly within the context of irrigated lands in land settlement projects may eventually lead to a process of legitimization of informal land accumulation that has been noted in numerous studies over the years (see Wanigaratne, 1995, Table 3, p. 21., for a synthesis of data from a number of relevant studies). The eventual displacement of those users who cannot efficiently till the land they have received from the state (without doubt a valuable public resource) may result in shifting the poor segments of the settlers in irrigated settlement projects and accurate abject poverty. On a conservative estimate the number that may be eventually affected would be around 200,000 families, or about 21 percent of the totality of families that are found within irrigated settlement projects.

Land Reforms

The land reforms of the 1970s reflected a response of the government to several critical problems. Educated youth accounted for 47.4 percent of the total unemployed, which by 1973 amounted to about one million (Central Bank of Sri Lanka: Annual Report, 1978; and Consumer Finance Survey, 1973, Table 36, p. 487). The failure of a short-term (in fact a single year) employment program in 1970 which sought to create an unrealistic target of one million jobs within an year, in a context of low economic growth (2.6 percent per year), increased youth unrest culminating in a youth insurrection in 1971. The insurrection brought the land and youth unemployment issues to the forefront, pressurising the government towards introducing a set of measures which included a Five-Year Plan of Investment (1972-76) with a social objective of expanding employment opportunities as a way of raising incomes and living standards of low-income households. They also pushed the government to introduce radical structural change through a program of land reform.

The pressures brought about by the insurrection is clearly evident in the following statement by Mr. Hector Kobbekaduwa, the then Minister of Agriculture and Lands in introducing the first Land Reform Act, Land Reform Act No. 1 of 1972, to the National State Assembly:

"*We do not want to see another April 1971 in this country. This is why I pressed the Prime Minister to hasten legislation in regard to land reform. I felt that this was one of the several causes that led to the April incidents.... There are many people in this country who do not have any land for themselves.... This situation cannot be allowed to continue... if we*

cannot realize our objectives through this bill, we will move others to solve the problem of landlessness" (*op. cit*., Kobbekaduwa, CDN: 19.08.1972)

Through two Land Reform Acts in 1972 and 1975 a total of 563,411 acres of private lands and 417,957 plantation lands owned by public companies (both local and foreign) were vested with the state. Of them about 10 percent were distributed in small blocks of 0.25 acre to 1 acre among the landless in areas where landlessness was most acute. An additional 7 percent earmarked for redistribution was largely alienated over the subsequent years. As a populist measure the distribution of small parcels of land to a large number of landless proved counterproductive over the years.

The land parcels were too small to be economically viable and resulted in an enlargement of the near-landless category of essentially non-viable holding at the national level. A village-level impact assessment study of the land reform exercise done by Wanigaratne and Samad (1980) reveals that "*... in terms of lands that were alienated to people between 1972 and mid-1977, the unit of alienation ranged from 0.25 acre to 2 acres, with a concentration in the 0.5-1 acre range. The changing decisions concerning the unit of alienation reflect the lack of uniform policy in regard to the redistribution process. This noticeable lapse in decision-making brought into focus the reaction of the decision-makers to different pressures which were felt at various times in the demand of local Members of Parliament and various groups*" (*op.cit*., p. 25).

Thus, in the alienation program of the land reforms the need of land recipients to gain a firm economic foothold in the agricultural service system was compromised by the intervention of secular political urgencies over program expediency. The redistribution was also largely confined to highland and not paddy land. The land reforms prescribed high land ceiling of 25 acres in a country where over 60 percent of the paddy holdings were less than 1 acre. On the other hand, a reduced paddy land ceiling also would have merely enlarged the share of non-viable micro-holdings.

In fairness to the hopes expressed by initiators of the land reforms some amount of de-concentration of land may in fact have been brought about through the land reforms and land alienation under traditional village expansion projects. Thus, a possible impact of the land redistribution programs in the Wet Zone, where the land reforms and village expansion schemes were more prominent, was seen in the decline of the Gini Coefficient of land concentration from 0.68 in 1961, to 0.59 in 1971 and to 0.54 in 1981 (Wanigaratne, 1992, Table 5, p. 18). However, such short-run equity effects of the land reform could not be sustained. In most cases, leases issued to the occupiers of micro land parcels alienated were not renewed with the political change in 1997, resulting in the former legitimate settlers being relegated to a position of squatters on state land (Wanigaratne and Samad, 1980).

LAND SETTLEMENT PROJECTS

Since early 1930s up to the present, the resettlement of landless persons in state lands has been promoted by governments as a major liberal democratic welfare strategy to satisfy the land, food and income needs of the poor. Between 1920 and 1985 nearly 1,763,260 million acres of state land were alienated under various forms of land settlement projects to approximately 845,502 landless families. Of the lands that were alienated about 90.6 percent had been alienated to the landless poor according to the records kept in the Land Commissioner's Department. Since 1985 an estimated total of about 250,000 acres have

been added through the Mahaweli Program and other irrigated settlement projects through village expansion schemes and regularization of spontaneous settlements.

The total accommodated in the land settlement projects up to the present is estimated at about 1.1 million settler families. With an average family size of about five persons, the total population in various land settlement projects is estimated at 5.5 million persons or nearly 30 percent of the entire population of the island.

Settlers who received land were lease holders or restricted grant permit holders of the state, thereby not reaching the full ownership over the lands they occupy. This continues to affect their ability to capitalize the land asset in seeking funds to move into a path of investment diversification. On the other hand the state does not wish to entirely relinquish its hold and interest on valuable agricultural land, over which it exerts superior national interest and which it could deploy for appropriate future uses.

In addition, a 'preservation of the peasant class', an ideal held by land authorities in the country since the first Land Commission sittings of 1927-29 continues to militate against the establishment of a formal land market over settlement lands. Legislations such as the Land Development Ordinance of 1935 and its subsequent amendments over the years have sought to prevent not only legal fragmentation of alienated lands thus preventing a proliferation of unviable sized holdings but also a displacement of settlers from their lands through manipulations of land speculators, while also preventing land accumulations by traders and other private entrepreneurs in settlement lands.

Nevertheless, these well intended legal and administrative moves have by and large not prevented the formation of an informal land market over settlement lands. Nor, have they prevented informal land subdivision and land accumulation. A high degree of informal subdivision of land and the establishment of an informal land market through disguised leases, mortgages, sales and complex tenure arrangements have thus emerged in settlement lands (Wanigaratne, 1995). These processes seemingly recreate within alienated state lands the poverty generating forces which are prevalent within private lands of both Wet and Dry Zone regions of the island.

For example, Wanigaratne (1995: 11) notes through a review of empirical research data on 10 major settlement projects, including the Mahaweli, that "... *Around 80 percent of the households of both old and new projects tended to cultivate holdings of less than 1.22 ha; 30 percent less than 0.8 ha; and about 10 percent less than 0.41 ha. At the other end of the scale, about 13 percent of the households cultivated lowland holdings equal to or more than 1.63 ha, indicating that some operational consolidation of land in large holdings also took place..... The breakup of the initial, more egalitarian holding-size distribution into one of more inequity....* " (*op. cit*., Table 2, p. 10 and 11) is apparently taking place.

The production base in case of irrigated settlement lands is largely confined to paddy, which only yields a low level of subsistence security in a small to micro-land holdings context. Paddy production as it is conducted with a constant stock of capital breeds poverty, even when irrigated settlement projects make a contribution of about 60 percent to the domestic production of paddy. A recent settler time-line study by Wanigaratne and Wimaladharma (2001, unpublished document) reveals the following relationships.

In System C of the Mahaweli where time-series data was available, gross farm incomes have generally increased at a rate of 3.2 percent per year in System C during the 10-year period, 1989/90 to 2000/01, production costs have increased at a higher rate of 6.2 percent per year during the same period (Table 1). The net farm income has declined by 4.4 percent per year. The ratio of net to gross income indicates that the net value has been able to

account for a rising share of the gross total value of the output, between 67-70 percent, up to 1994/95. Since then it had undergone a decline to about 45 percent of the gross total value of the output by 1996 and a further drastic decline to 26 percent. This is largely due to an increase in the rate of growth in production costs which almost doubled that of rate of growth in the value of the output.

Table 1. Settler Farm Budgets

(Rs./year)

Item	2000/01[1]	1996/97[2]	1994/95[3]	1994/95[4]	1992/93[5]	1989/90[6]
Gross income	71,848	79,824	73,940	71,890	64,966	52,284
Production cost	53,000	43,488	24,030	21,560	22,891	29,136
Net farm income	18,848	36,336	49,910	50,330	42,075	28,404
Living expenses	52,974	48,195	44,760	43,370	39,128	22,140
New disposable income	-34,126	-11,859	5,150	6,960	2,947	6,264
Ratio of living expenses to gross income	0.737	0.604	0.605	0.603	0.602	0.423
Ratio of net income to gross income	0.262	0.455	0.675	0.700	0.648	0.543
Net income returns to unit cost	0.356	0.836	2.077	2.334	1.838	1.0

Sources: 1. Time-Line Survey Summary COP for System C Sample;
2. PMU (Planning and Monitoring Unit)-PMHE Baseline Survey, System C, 1997, p. 201;
3. Nippon Koei Co. Ltd., SAPS Final Report, System C, 1995, p. T.28;
4. *Ibid*.;
5. *Ibid*., Bench Mark Survey, System C, 1994, p. 23; and
6. PMU, *Study on Settler Ability to Pay O&M Charges, System C, 1990/91*, Table5, p. 201.

Concurrently, household living expenses also have grown at a rate of 3.9 percent per year in the 1990s, thereby depressing the ability of settler households to save disposable incomes for diversified investment. Living expenses have accounted for a constant share at about 60 percent of the gross value of agricultural output in the 1990s, keeping pace with the nominal increase of 4.2 percent per year in the gross incomes of settler households. However, at the beginning of 2000 decade it seems to have moved a notch higher to 74 percent, far outpacing a nominal gross income increase of 1.3 percent per year in the 1990s.

The net returns to unit cost as a measure of cost-efficiency in crop agricultural farms of settlers has also been low in the paddy dominated System C. A low 'peak' was identified in 1994/95 at a unit net return of 2.33. Thus, for every rupee invested in 1994/95 in System C only Rs.2.33 worth of crop output was attained, whereas *ideally the unit net return should have been about 3-4 fold above that attainment for the crop sector to generate sufficiently strong investment links with other sectors of the settlement and encompassing regional and national economies*. Since 1996 the net return to unit cost has taken a downward plunge shifting to 0.8 in 1996/97 and four years later down to 0.3.

Thus, the study concludes that rising costs of production in the face of static technology, stagnant yields and output, particularly in paddy, as well as farm-gate price uncertainties in OFCs, have continued to greatly depress the ability of settlers, particularly

in highly paddy-oriented systems such as systems B and C, to improve their income positions. In older systems such as Systems H and G, where OFCs used to take on the slack in paddy-based income generation, the decline in the cultivated area under OFCs, have pushed farmers further into paddy (*op. cit*., p. 14).

Ultra-poverty (9 percent) with malnourishment (51 percent) and a high incidence of rolling indebtedness (30 percent) have been identified even within new projects such as the Mahaweli, which accounts for 25 percent of the domestic production of paddy and higher shares in OFCs (Sumanasekera, 1990; and MASL/PMU ([Mahaweli Authority of Sri Lanka], 1993).

In retrospect, land settlement, as a redistributive evolutionary land reform, has had its impact in stemming to a great extent a rural population influx into urban locations resulting in an uncontrolled urban overcrowding and resultant poverty generation problems. Rural-urban migration data over the last 50 years show that the movement has been confined to adjacent districts of the Dry Zone itself, where irrigated settlement schemes are found concentrated. Long distance moves from the Dry Zone to the more urban metropolitan districts of the Wet Zone have remained insignificant to date. At the same time irrigated settlement projects continue to contribute about 65-70 percent of the domestic production of the staple, while a higher share of OFCs such as chilies, onion, banana, soybean, and cowpea comes from these projects. The Mahaweli project alone contributes about 22-25 percent to the national production of paddy. A substantial contribution is made by the Mahaweli in power generation, with a share of about 35 percent (1998). Over one million families or about a third of the population in Sri Lanka have been provided with lands under different forms of land settlement projects in the island. The regional development impact in terms of roads, electricity, telecommunication, transport, trade and commerce and urban growth in the Dry Zone is largely due to the establishment of irrigated settlement projects. In the Wet Zone the village expansion projects have also kept the village population from moving into towns in an uncontrolled way. In nominal income terms and in access to facilities, settlers in the Dry Zone irrigated settlements are better off than villagers and squatters of the same zone.

Alongside these positive gains those settled in irrigated settlement projects as mentioned above by and large remain subsistence-maintaining generally with a constant stock of capital as the settlement projects are mono-crop-based, essentially in paddy. They thus suffer from seasonal effects of the mono-crop which impedes commerce and trade, and realization of higher employment and incomes. Inadequate incomes and relative poverty continues to affect them.

As Alwis (1986) notes in an analysis of irrigation policies in the island, the policy perception of irrigated settlement projects and settlement programs as appendages of the long-held social welfare ideal, to relieve people of their immediate distress, the design of the physical water delivery system more for equity, for example, to provide supplementary irrigation during *Maha* with inadequate discharge capacities (Mahaweli is an exception) and inadequate integration between the irrigation sector and the agriculture sector, which could more effectively assist the projects to reach higher agricultural productivity and more remunerative crop mixes are yet found wanting.

While various institutional development efforts have been made up to date, to mobilize farmer organizations for better water management and higher incomes through improving their bargaining capacities, and localized success stories are also prevalent, by and large they have not been quite successful in generating a wide-ranging process of farmer institutional development. Other new and often successful efforts of increasing their participation in

rehabilitating irrigation works have not resulted in an ultimate taking over of management on their own of the irrigation system, as a process even covering individual settlement projects. The fault probably lies in the economy that underlies the irrigation rehabilitation and the farmer mobilization within farmer organizations.

ECONOMIC GROWTH AND POVERTY CONDITIONS

Incidence of Poverty

Broad-based poverty alleviation and social protection programs that have been underway in Sri Lanka for many decades and liberalized economic policies that have been pursued since 1977 have however not made a significant dent in reducing the incidence of ultra-poverty up to the present. Nevertheless, they probably have had an effect in preventing a further deterioration in living standards, the prevailing incidence of ultra-poverty conditions and income disparities for several decades up to the present.

About 33 percent of the population were at or below the 'national consumption poverty line' of Rs.860 per capita during 1995/96 and 35 percent of the poor were in the rural sector accounting for over 75 percent of the population of Sri Lanka.

About 22.3 percent of the population were below 'an ultra-poverty line' of Rs.69/ person/month in 1978/79. It increased to 23.6 percent by 1981/82, at an ultra poverty line of Rs.75/person/month (Gunaratne, 1987: p. 3 and Appendix Table A.3). A poverty peak condition was reached in the mid-1980s, with 27.3 percent of the population falling below an ultra-poverty line of Rs.471/person/month in 1985/86.

With the recovery of the economy in the early 1990s from a phase of down turn in GDP growth since mid-1980s, coupled with the short-run direct effects of ongoing national poverty alleviation programs, the incidence of ultra-poverty seems to have declined. Thus, by 1990/ 91 ultra-poor accounted for only 22.4 percent of the population, representing a decline by nearly 5 percentage points from the 'peak' in 1985/86 (World Bank, 1994: Table 1.4, p. 7). By 1995/96, 21.1 percent of the population remained in ultra-poverty at ultra-poverty line of Rs.717/person/month. Its incidence is highest (23 percent) in the rural sector (Department of Census and Statistics, 1985/86, 1990/91 and 1995/96; Aturupane, 1997; and Ratnayake, 1998).

National efforts at gaining further reductions in ultra-poverty seem to have hit upon 'a hard rock' in the 1990s, with a basal condition in ultra-poverty being reached at about 21 percent. This condition has remained unchanged in spite of the operation of nationwide poverty alleviation programs such as the *Janasaviya* and the *Samurdhi* programs which succeeded it. It also seems to accompany a stabilization of economic growth at around 5 percent per year. This basal condition paralleled the position that existed nearly two decades ago in 1978/79 (22.3 percent), at the end of a long phase of low economic growth (at less than 3 percent) within a highly welfare-oriented closed economy. Apparently, the intervening period of relatively higher economic growth established within a liberalizing economy and a better targeting of welfare programs than before, has not improved the conditions of the poorest of the poor in the country in a significant way.

Within the group of 'ultra-poor' about 8 percent is conceived to belong to a state of severe deprivation in basic necessities for survival, such as food, clothing and shelter. In relative poverty terms these belong to the lowest income decile, harboring an estimated 328,000 households. The share of the total household income accounted for by the lowest decile to which this group belongs appears to be around 1.9 percent, which has remained

unchanged since 1953. This is less than one-fifth of an ideal position of perfect equity for the lowest decile, indicating a much lower than expected income share of the ultra-poor. Landless indigents and squatters in marginal lands, manual labor households in economically and resource-wise depressed areas and such others who belong to 'this group have remained largely marginalized and immobile within an ultra-poverty income niche over the last 50 or more years'.

On the other hand, the poor who fall below a higher national poverty line are considered to be at the 'upper borders of poverty'. These are considered to move in and out of the poverty line, as a lifeline or a seasonal movement. They are conceived to be particularly responsive to changing conditions in the overall economy and to be relatively more mobile. They are usually marginal farmers, marginal farmer-cum-hired labor, hired labor-cum-occasional artisans, and other such unskilled and semiskilled persons or households. This group of poor is conceived to be at the top of a '**poverty continuum**', and who are characterized by 'low' to 'moderate' state of poverty over a reference time period.

During 1985/86 about 13.3 percent of the population in the country belonged to this group in a poverty income bracket between a 'higher' poverty line of Rs.565/person/month and a 'lower' ultra-poverty line of Rs.421/person/month. The relative size of this population segment to the national population declined to 13.0 percent five years later in 1990/91 (computed from World Bank, 1994: Table 1.4, p. 7; and Ratnayake, 1998).

'Relative poverty' in terms of disparities in the distribution of household incomes has also not improved over the last four decades. The share of the lower 40 percent of households accounted for only 14.5 percent of the total income as against a 40.6-percent share by the highest 10 percent in 1953. In 1973, the highest 10 percent of households accounted for a 30-percent share of the total income, while the lowest 40 percent of the households accounted for a 15-percent share. Over two decades later in 1995/96 the position remained more or less the same, with the lower 40 percent accounting for 13.8 percent of the total income while the highest 10 percent accounted for 39.8 percent (Department of Census and Statistics and Central Bank of Sri Lanka, Socio-Economic Survey, 1973; Department of Census and Statistics, Household Income and Expenditure Survey 1995/96; World Bank, 1994; and Ratnayake, 1998).

During 1980/81 the Mean Monthly Household Income (MMHI) of the country was recorded at. Rs.1,136. By 1985/86 the MMHI at current prices was Rs.2,012 as compared to Rs.1,196 (at 1980/81 constant prices). A decade later in 1995/96 the MMHI situation indicated a relative improvement, with an income of Rs.6,579 at current prices and an income of Rs.1,285 at constant 1980-81 prices, reflecting an improvement of 7 percent from what it was a decade ago in 1985/86 (Ratnayake, 1998).

At the same time the above changes in relative poverty conditions were manifested upon a general improvement in economic conditions from what it was in the late 1980s and before. Yet, the relative improvement in nominal and real household incomes since the late 1970s, has not in effect resulted in an upward income mobility of the population in the poverty income brackets. Consequently, no 'regressive transfer of income' has taken place from the lowest decile, where the ultra-poor are concentrated, to other income decile placed at the upper margin of 'low' to moderate poverty groups. Nor, is there any evidence that a mobility of households in income decile immediately below the poverty line to those immediately above it has ensued over the last two decades. Similarly, very little 'trickle-down effects' of distributive benefits of economic growth have ensued from the highest income decile to the middle income decile.

Income distribution inequalities as measured by the Gini Coefficient also reveal that over the last four decades since 1953 income disparities have not changed in a significant way. In 1953 the Gini Coefficient for Income Receivers was computed at 0.50 and for Spending Units, at 0.46. By 1996/97, over four decades later, it was more or less at the same level, with a coefficient value of 0.50 for Income Receivers and 0.45 for Spending Units (Central Bank and Department of Census and Statistics, Socio-economic Surveys: 1953-1996/97).

A qualitative difference however existed between the two time periods in that the income and consumption disparities of 1953 were manifested upon a state of high welfare and a relatively less liberalized economy with lower nominal and real incomes. In contrast, the disparities in 1996/97 were within a setting of relatively less emphasis on welfare, growing economic liberalization and structural adjustment, with relatively higher nominal and real incomes. The welfare programs of 1953 extended to the total population of the island whereas the welfare programs of 1996/97 were increasingly target-oriented at poorer and disadvantaged segments of the population.

CONCLUSIONS

Historically, the sustained promotion of social welfare programs across governments has been at the expense of economic growth, in a context of persistent poverty within both rural and urban areas. The direction of about 40-50 percent of the public expenditure even up to the late 1960s towards promoting a wide range of welfare distribution programs also established a high dependence of the populace on the largesse of the state. This expenditure was incurred within a context of low economic growth of about 2.2 percent per year. It now accounts for about 14 percent of total public expenditure (Central Bank of Sri Lanka, 1998: Table 53) but within a context of a relatively higher economic growth at 5 percent per year in a liberalizing economy, which probably can withstand a welfare expenditure of about Rs.28.7 billion per year.

Nevertheless, the issue is that this substantial expenditure has not made an appreciable dent in the form of alleviation of mass poverty in the country in a sustainable way. The hardcore ultra-poverty base accounting for 21 percent of the population continues to resist new and improved targeted strategies and other measures directed to improve the conditions of the absolute poor. In this context, it is reckoned that through social protection schemes and safety net programs, the poor and vulnerable groups are only being protected until economic growth moves into a higher and more sustainable path resulting in a proliferation of avenues for self- betterment of conditions of the poor.

Some Critical Features and Possibilities

Within a context of persisting poverty and a regional variation in the distribution pattern of population in poverty, a desirable regionally balanced progress in human development demands a national pro-poor strategy and actions beyond what is being attempted through the *Samurdhi* and other related programs. Such a strategy must necessarily be closely interlinked with prevailing national ideologies with respect to the promotion of economic growth and living standards, as well as through other desirable social development attributes (UNDP, 1998:66). Certain critical features are generally associated with the poor which are often overlooked in poverty alleviation efforts. These need to be provided some attention as they reveal the presence of certain preconditions which have to be met to realize

a more lasting impact in establishing a self-sustaining process of poverty alleviation. These are briefly summarized below:

1. ***Poor Tend To Be Less Mobile***

Being less mobile, their search space for employment and income sources is at best limited. This relative immobility also tends to become an inter-generationally transmitted process. A lack of access to better schools and to sources where technical skills could be enhanced, lack of access to information and an inability to establish contacts with influentials who could assist find employment, and other considerations tend to be transmitted inter-generationally such that successive generations are maintained in a state of ultra-poverty.

A way out of this stasis may be through provision of access roads, electricity, better access to public services and information flows from outside through de-centralized planning and implementation of public services. This may reduce the prevailing transaction costs for the poor.

A further way out may be to use traditional skills/trades among the poor for large-scale production with local resources.

2. ***The High Vulnerability of the Poor***

The poor are particularly vulnerable to natural and man-made changes in their immediate environment: a rainy period or a drought may seriously reduce their work opportunities as casual labor, seriously affect their incomes and create household food stock shortages. In turn, their basic economic well-being is compromised. A wedding, funeral or some other household function will push them into debt making a heavy toll upon their existing consumption fragility.

Financial vulnerabilities among the poor may be ameliorated through the development of a system of self-sustaining micro-finance and micro-enterprises for the needy. Given proper identification of inherent strengths and felt needs of the ultra-poor, micro-credit mechanisms should help them to tide over changes in their economic environment.

3. ***High Diversity and Permutations in Poverty Generating Causes***

This impedes the realization of goals of poverty alleviation programs even when they are carefully targeted. Blueprint approaches do not work in their presence; nor does canned programs work, when the poor, or even the ultra-poor are considered as a homogenous mass. Nor will poverty alleviation actions attain a sustainable success where poverty generating causes even within a given locality are confined to a narrow repertoire of causes such as the lack of land, lack of a steady income, etc.

What may ultimately work out, may be programs which address themselves to existing diversities and permutations of poverty generating causes and develop strategies that are flexible enough to cater to such diversity.

4. ***Adverse Agrarian Structures and Weak Entitlements to Means of Economic Betterment***

These affect access of the poor to means of economic betterment as a matter of democratic right of a citizen of the country. They impede the ability of the poor to gain a higher share of the value of their labor and other resources. They also generate a strong element of powerlessness among the poor, and more so among the ultra-poor, such that the poor become incapable of deriving a socially acceptable value for use of their labor and skills. They also become incapable of self-realizing their full potential of inherent talents and capabilities.

A higher legitimization of rights of access of the poor to opportunities for self-betterment and a higher level of empowerment of the poor to seek legal and administrative

means on their own to strengthen their social and economic positions appears to be the need of the day. Ultimately, it is through a strengthening of their entitlements that the poor would be able to break out of the traditional stranglehold on their progress placed through adverse agrarian structures and related dependencies.

Yet, *empowerment efforts also need to work in close step with provision of services to the poor*, particularly those services that the poor aspire for. If this does not happen it may lead to a situation where the poor had been greatly motivated with their aspirations significantly raised but without the necessary complementary services and avenues for self-realization of such aspirations. This leads to a particularly volatile situation of a dissatisfied and organized poor, who now see a commonality in their problems – a group consciousness. If their aspirations are not speedily satisfied, as two past youth insurgencies reveal, they could easily be swayed by political extremists to meet their own ideological models of social and economic transformation.

5. ***Substantial Economic and Social Development Disparities***

These disparities exist across regions in Sri Lanka, establishing what may be construed as a set of leading and lagging regions. The latter, largely created through their remoteness are also affected by a relatively lower level of development attention. Some of these regions lack basic resource endowments such a reliable water supply needed for their development. Alternate solutions to such deficiencies must be found to bring these regions and their resident poor into the mainstream economic development process in the country.

A form of inter-regional, largely one-way extraction of surpluses or a negative terms of trade is usually found associated with such regions which also form the major food and agricultural hinterland of the Dry Zone. These Dry Zone regions provide primary food in rice and vegetables for the more commercialized Wet Zone region of the island. Wet Zone commercial centers and regions have noticeably gained more, through economic linkages with these food-producing agricultural regions of the Dry Zone. These food producing regions also harbor large pockets of poverty, with populations endemically affected by low incomes, nutritional poverty and low living standards. At the same time, other poverty pockets exist in areas within both the Dry and Wet Zones with particular deficiencies in their resource bases which depress choices for employment and income improvement.

A selective regional closure may be a desirable strategy to bring in the needed regional balance in development. A system of graduated controls over raw material, commodity and technology transfers with accompanying measures such as graduated taxes may dampen processes which leach investment capital from such regions. This may be coupled with a concurrent intensification of needed services and access facilities through higher public sector investment. In addition, a set of incentives may be developed to entice higher private sector investment towards lagging regions.

However, the eradication of pockets of poverty between locations and population groups demands directed attention of a more targeted form, taking into consideration the high diversity and permutations in poverty generating causes.

6. It is a fact of life that the struggle to gain access to basic needs such as food, clothing and shelter is infinitely stronger among the poorest and the destitute than those above them. At the infra-subsistence levels of poverty perhaps a dynamic equilibrium exists in the primeval struggle among the poor to reach a balance between needs and their satisfaction through access to resources within their reach. The poor tend to be particularly innovative. They tend to optimize the use of whatever resources they may have within reach for basic survival. Consequently, the innate drive to survive is adjudged to be particularly strong among the

poor. The issue as to why such traits tend to atrophy once an access route is provided to them through intervention programs, of the sort discussed in this paper, continue to intrigue development planners in Sri Lanka and elsewhere.

An answer may perhaps lie in the very base of life. Invention, innovation and survival are interlinked and basic to the evolutionary struggle of mankind. When a threat to survival is removed there is no further cause for stimulation of latent drives to invent and innovate. No struggle would emerge as there is no longer a cause for it. Social entropy would set in, and with it a drift towards a state of socio-economic stasis. Such a state would stultify individual initiative and the drive for personal betterment. Instead a feeling of 'security' will prevail in the performance of routine tasks.

Transposed to the context of poverty, it would mean that the *mere provision of an access route to higher incomes and living standards for the poor will also not invariably inculcate an urge among the poor to better themselves and be competitive*. New challenges and strategies will have to be continually developed for the poor and be met by the poor. An investment emphasis must be made in order that needed vocational and technical skills as well as education to become competitive in labor markets.

Policy Concerns

The failure to develop a proactive balance between economic and social development, with strong institutional and resource linkages between the two components, is considered to be a fundamental problem in Sri Lanka. This generates structural disabilities within the society preventing certain segments of the national population from contributing to and benefiting from the mainstream economic processes. It leads to economic and societal disparities and a lop-sided development.

It pivots upon a central principle 'accessibility'. Segments of the population who are variously classed as the poor continue to be placed in such slots of socio-economic marginalization because they lack access to means for improvement in their status. They are deprived by circumstances largely beyond their control to attain a level of societal dignity as contributors to social, economic and institutional progress.

Therefore, in development policy-making a priority consideration is increasingly accorded to establish a balance between economic and social development. In this context, the statement of the President of Sri Lanka at the UN Summit in Social Development held at Copenhagen (March 1995) that " *... social development, social integration and social justice go beyond ensuring the physical well-being of the individual. We believe in simultaneously strengthening the democratic framework with which people participate on the formulation and implementation of policy ....*" is re-interpreted to denote a commitment on the part of the government for establishing a strong institutional base in order to strike a balance between economic and social development.

The mission objective of this commitment seems to be to strengthen the institutional linkages of economic growth and redistribution of benefits of growth to mutually re-enforce each other. The expectation is that such a mutual re-enforcement will harbinger in a strong foundation for generating a process of sustained economic and socio-institutional development in the country. The *modus operandi* of this development approach seems to be to take on the social development component as 'a priority' in establishing a strong institutional base.

A probable guiding rationale appears to be that the necessary impulses for generating stronger linkages between economic growth and redistribution of benefits has to come from

an initial strengthening of institutional structures and processes governing social development. "*Human rights, fundamental freedoms, and the rule of law, access to justice, elimination of discrimination as well as transparent and accountable government ....*" (*op. cit.*, President of Sri Lanka, March 1995, Copenhagen) form some of the 'necessary impulses' for promotion of stronger linkages between growth and redistribution. They also serve both as facets of institutionalization of both economic and social development as well as benefits that flow from the process of institutionalization.

A further consideration is that whereas the 'institutional base of economic growth' is largely governed by prevailing flexibilities in the operation of the market mechanism, 'the institutional base of redistributive equity' is largely socially driven. Thus, a higher socially-driven institutionalization promotes redistributive equity in many ways. They range from safe and secure life space, secure social networks, civil associations such as peoples organizations, political participation, access to knowledge and skills, access to means of production and self-betterment, assurance of an economically productive life, protection against unemployment, affordable healthcare, access to a good, practical education, an adequate diet, and a secure and dignified old age.

Assurance of redistributive equity through a strong institutions enables economic growth to provide for the expansion of the productive forces of the society for the purpose of achieving 'full citizenship rights' by the entire population itself.

'A freer operation of market forces may be the answer' as it provides the type of competitive atmosphere which keeps all income strata of a population in a state of flux and competition. Thereby the 'survival urge' is kept alive, dynamic and pervading. In a context of a more liberalized operation of market forces within the country a sustained process of upward income transfer may gradually ease those who are at ultra-poverty and poverty levels out of the poverty trap.

The future projected demographic scenario by 2031 is one in which 56 percent of the dependent population will be persons above 60 years of age with much less people added to the population through natural increase than now. It means that social security for aged persons, health, vocational training and other interventions which could assist the aging population to lead useful and independent lives have to be provided for. The current social welfare policies must therefore initiate a qualitative shift in investment emphasis to meet such a future challenge. Therefore, while the capacity of the poor needs to be improved through a concerted direction of investment a concurrent investment needs to be made for assurance of welfare for the aged in the future, with an emphasis upon improving their competitiveness in labor markets to assure an independent means for survival.

Therefore, 'a policy shift towards a more liberalized market economy than now is desirable' to establish such a competitive base among the poor which keeps them dynamic, mobile and independent rather than continue as wards of the state. Maintaining such a dynamism among the poor is considered to set in motion 'a process of regressive transfer of income' from bottom rungs of the national income ladder as more of the poor move out of previously static positions in the 'poverty continuum'. By improving the capacities of the poor to become competitive in labor markets, an upward mobility of the poor towards higher income levels may be realized over the long run.

However, it is also a fact of life in Sri Lanka that until economic growth moves into a more stable upward path accompanied by a more liberalized resource transfer process within the national economy and until a proliferation of avenues for self-betterment is

realized, vulnerable groups need to be and will be protected through social protection schemes and safety net programs.

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4. PROMOTING STAKEHOLDERS' PARTICIPATION IN DEVELOPING AGRARIAN REFORM COMMUNITIES IN THE PHILIPPINES

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THE AGRICULTURE SECTOR, INEQUITABLE LAND DISTRIBUTION AND RURAL POVERTY

The agriculture sector continues to play a significant role in the Philippine economy in terms of its direct contribution to production, employment and farmers' income. It accounts for about 22 percent of the GDP, 16 percent of export earnings and remains the most important source of employment, directly employing 43 percent of the labor force. Nearly 60 percent of the Philippine population live in rural areas and are directly or indirectly dependent on agriculture for their livelihood.

Agricultural policies gave priority to the agricultural export-oriented commodity producers dominated by a small proportion of large-scale landowners, who until 1988 controlled 70 percent of the total agricultural land. Thus, the livelihood of the majority of agricultural producers, including 10 million tenants and farm workers and about two million small owner cultivators, has not improved.

The persistent widespread rural poverty is also directly related to low productivity and the rural households' dependence on inferior resource bases such as upland areas, aggravated by lack of alternative rural employment. Low farm incomes are related to weak rural infrastructure, limited know-how on improved farming technologies, insufficient marketing information, poor access to low interest production credit, inadequate post-harvest facilities, weak farmers' organizations and slow implementation of agrarian reform prior to 1992.

The continuing bipolar and inequitable agricultural development conditions generated widespread rural poverty, malnutrition, and rural-urban migration. The average farm family income is about US$750-1,000 per year, while farm wages average about US$2-3 plus food per day, depending on the type of work and season. About 50 percent of the rural population lives below the established poverty line while about 1.6 million rural households lack sufficient income to overcome malnutrition. As a result of low income and underemployment of the rural labor force, women suffer the worst conditions particularly in female-managed and female-headed households.

Recognizing the vital role of agriculture in economic recovery and its direct impact on rural poverty, the government in the late 1980s implemented a series of institutional reforms that included the Comprehensive Agrarian Reform Program (CARP). The CARP was instituted on 22 July 1987 by virtue of Proclamation No. 131 and by the subsequent enactment on 10 June 1988 of Republic Act No. 6657, otherwise known as the Comprehensive Agrarian Reform Law (CARL). It mandates the distribution of public and private lands to farmer beneficiaries in an effort to increase agricultural productivity, enhance income, and to develop rural infrastructure and support services and improve the standard of living of the agrarian reform beneficiaries (ARBs). CARP has a total scope of 8.06 million ha of which 5.34 million ha or 66 percent have been distributed (Department of Agrarian Reform [DAR], June 2000).

THE PROJECT AND ITS DEVELOPMENT ENVIRONMENT

FAO/SARC-TSARRD was set up primarily as an institutional strengthening project. Its specific mandate is to assist the DAR transform ARBs into self-reliant and productive farmers. It is also tasked to help address the main thrusts of DAR which are geared toward food security and poverty alleviation.

The Project provides technical assistance to DAR in its implementation of CARP. CARP addresses national efforts to improve the tenurial status and livelihood of more than three million ARBs, more than half of whom have already receive their land titles. Yet, many of these ARBs, including those who are part of the ARCs,[1] belong to the least developed rural households whose incomes fall below the established poverty line for rural areas in the Philippines.

Many of the ARBs, former landless laborers and tenants, are now owners of small parcels of land. To make their lands productive, they require a package of support services such as cooperative development and management, agricultural extension services, access to institutional credit, infrastructure facilities such as farm-to-market roads, irrigation and post-harvest facilities, and improved marketing linkages. Likewise, ARBs should have access to information on market prices and demand to be able to respond quickly to the changing patterns in the domestic and international markets. These support services are needed to enhance the on-farm and off-farm productivity to increase their income. Many of these small farmers were organized into various types of farmers' organizations and are now the focus of assistance.

To ensure that support services are provided to agrarian reform communities (ARCs), DAR actively promotes activities for Program Beneficiaries Development (PBD). The need became even more pronounced with the devolution of certain support services functions from the national government agencies to the local government units (LGUs) at the provincial and municipal levels.[2] Basic services and facilities such as agricultural extension, community-

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[1] An ARC is a contiguous area composed of a cluster of *barangays* (villages) within a municipality with at least 60 percent of its population composed of ARBs. As of December 2000, 1,311 ARCs have been established nationwide by DAR and plans to have a total of 2,000 by 2004.

[2] The transfer and devolution of certain powers and responsibilities that relate to support services to LGUs is included in the 1991 Local Government Code.

based forestry projects, infrastructure projects and other support services, have been transferred to LGUs.

In its implementation of CARP, DAR made a strategic decision to comprehensively focus its activities on ARCs. This strategy was found to be more effective than thinly spreading the government's limited resources on its scattered ARBs. Consequently, the development of ARCs has become the centerfold of CARP implementation. With the assistance of SARC-TSARRD, DAR has adopted an area- and people-focused approach that integrated all the development efforts for its beneficiaries.

Within the ARCs are several organizations – cooperative, association, auto-saving group and the like. DAR provided these ARCs with staff support through the development facilitators (DFs) who were tasked to coordinate the provision of services to their respective ARCs. DAR also provided trainings, some supplies and facilities. Some of the organizations were able to avail of institutional credit which are not easily accessible to individual ARBs. The ultimate goal is to transform these ARCs into self-sustaining economic and social entities and could be in a better position to request and obtain higher levels of support services from the different administrative and political bodies.

THE PROJECT'S APPROACHES TO DEVELOP AGRARIAN COMMUNITIES

To achieve its objectives, FAO/SARC-TSARRD developed and applied participatory development approaches that helped project beneficiaries improve their access to the necessary support services and increased their levels of productivity and income on a sustainable basis.

Primary Beneficiaries and Major Stakeholders

The following were identified as the major partners in the development process of ARCs. As primary beneficiaries or major stakeholders, they have actively participated in nearly 436 cases where the SARC-TSARRD approach was applied to develop ARCs. They are:

i. ARBs and their organizations;
ii. LGUs at the provincial and municipal levels; government agencies such as the DAR, the Department of Environment and Natural Resources (DENR), the Department of Agriculture (DA), and selected state agricultural universities and colleges, among others;
iii. NGOs active in the ARCs and supportive of CARP at various administrative levels;
iv. some foreign-assisted projects with funding from donor governments, international development banks and donor agencies which are involved in ARC development (i.e., World Bank (WB), United Nations Development Programme (UNDP), European Union (EU), Asian Development Bank (ADB), Overseas Economic Cooperation Fund (OECF) of Japan, and others);
v. agribusiness enterprises representing the private sector; and
vi. small farm households and all community residents immediately beyond the boundaries of ARCs covered by the Project.

An important feature of the approaches is the promotion of the above stakeholders' participation at all levels in the Project's development cycle. This cycle consists of the following interrelated components:

A. Application of the Farming Systems Development (FSD) approach;
B. Conduct of post-FSD training courses;
C. Conduct of agribusiness linkaging; and
D. Conduct of credit facilitation.

These are explained in more detail in the following sections.

A. Application of the FSD Approach

The FSD approach as applied by SARC-TSARRD covers a wide range of community development processes. In addition to adopting the major FSD components that include classifying farm practices into farming systems and looking into their specific constraints and potentials, the approach had dynamically evolved and expanded to include integrated area development (IAD) elements while putting emphasis on stakeholders' participation.

Through a network of about 850 field staff of DAR, the Project established farmer-led development teams in each selected ARC. These teams are composed of **farmer leaders, DAR field staff** (who are mainly the municipal-level officers), **representatives of the respective LGUs** usually involving the municipal agriculturist, planning officer and the municipal engineer, and **personnel of NGOs** active in the area. The composition of these development teams considered those most relevant to the ARC development process and by having members who have distinct advantage and clear understanding of specific local conditions. As a whole, the applied FSD process is consistent with the decentralization and devolution of development functions to local administrative levels (Table 1 and Figure 1).

These FSD teams are guided by the Project over a 2.5-month period through a structured six-phase training-cum-planning exercise that results in the preparation of realistic development plans for the ARCs. These plans are presented by the Teams to their respective communities and subsequently become part of the development plans of the local governments.

1. ***The Training-cum-Planning Exercise***

The training-cum-planning exercise aims to develop local teams who will be guided in the preparation of a development plan for their respective ARCs and who will continuously explore ways to improve their farm and non-farm productivity thereby increasing incomes of both ARBs and non-ARBs in the area. The training-cum-planning exercise is composed of the following phases:

Phase I – This is when consultations with residents in their respective *barangays* take place. During such *barangay* workshop-consultations (BWCs), people are encouraged to identify and prioritize their major constraints and to propose areas where community contribution would complement external support. Information gathered during these activities, which were observed to have some bias toward infrastructure facilities, were important sources of data for the planning process. As of February 2001, 801 BWCs have been conducted by the Project. Aside from the BWCs, the conduct of provincial/municipal orientations, and the formation of FSD teams are also done during this phase.

Table 1. Composition of FSD Teams Established Nationwide, 1995 to February 2001

Island	Region	Provinces	Teams	NGO	LGU	PO[a]	MARO[b]	DF	DARPO[c]	DARRO[d]	Others	Total
Luzon	CAR[e]	7	20	6	40	60	15	32	28	8	5	194
	I	4	32	6	94	270	30	44	52	26	2	524
	II	6	30	8	93	168	28	34	35	16	8	390
	III	8	26	8	64	77	21	25	32	5	10	242
	IV	12	39	18	86	121	31	47	63	2	11	379
	V	2	12	4	59	55	21	19	23	7	0	188
Sub-total		39	159	50	436	751	146	201	233	64	36	1,917
Visayas	VI	6	52	13	135	174	57	64	75	7	20	545
	VII	4	26	15	69	110	28	132	29	5	2	390
	VIII	6	51	10	100	176	45	67	53	9	5	465
Sub-total		16	129	38	304	460	130	263	157	21	27	1,400
Mindanao	IX	3	18	10	48	41	19	22	23	3	10	176
	X	4	43	11	149	200	43	53	35	21	2	514
	XI	7	42	11	145	144	44	47	40	16	6	453
	XII	3	37	7	122	168	50	59	25	7	2	440
	XIII	4	20	4	61	83	23	25	22	7	2	227
Sub-total		21	160	43	525	636	179	206	145	54	22	1,810
Total		76	448	131	1,265	1,847	455	670	535	139	85	5,217

Notes: [a] People's organizations comprising the multipurpose cooperatives, women's groups, irrigators service association and rural youth groups; [b] Municipal Agrarian Reform Officer of the DAR; [c] DAR Provincial Officer represented by technical staff from the Beneficiaries Development Coordination Division (BDCD); [d] DAR Regional Office represented by technical staff from the Support Services Division (SSD); and [e] Cordillera Administrative Region.

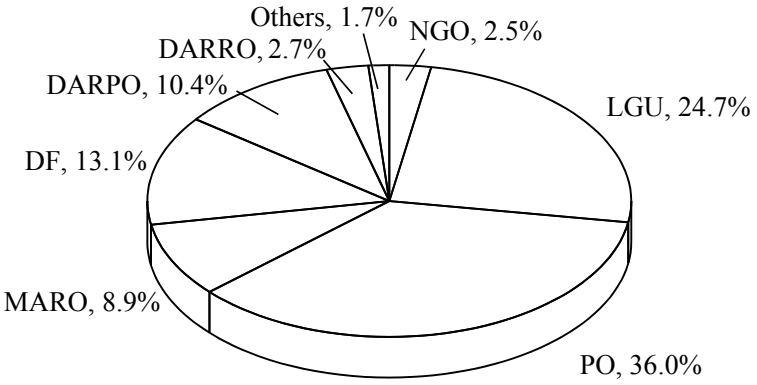


Figure 1. Distribution of Membership in FSD Teams

Phase II – Additional data relevant to the planning process are collected by the FSD teams through household surveys on a given sample and from available secondary sources, among others. The data collected are consolidated to become the ARC profile.

Phase III – This is a five-day residential training where FSD teams are introduced to the fundamental concepts of systems development and how these are applied to develop their ARCs. This phase includes additional instructions on how to collect data, and enhancement of skills in data tabulation and data analysis.

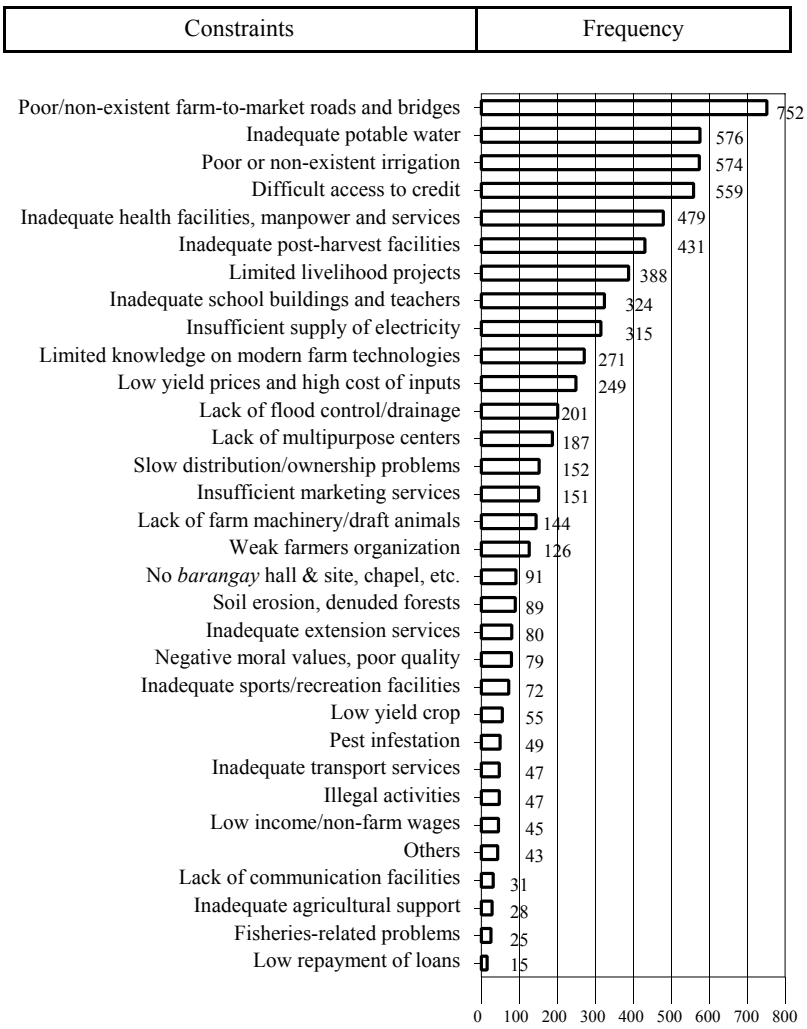
Phase IV – This phase involves fieldwork for the FSD teams where they are tasked to conduct additional household surveys and focused dialogues with selected farmers to review the viability of their farming activities using the initial tables of cost and return for major costs of production. The focused dialogue serves as a venue for identifying additional crops and crop combinations. The emphasis is on crops that have available marketing outlets and on the use of improved farming practices to bring in higher income. Off-farm and non-farm activities are also discussed as a means to augment incomes. The farmers' class expands and deepens their understanding of their current crops and practices and provides them with easy methods of computing their cost and return to help them decide improvements in their farm operations.

Phase V – This consists of the second five-day residential training where the FSD teams analyze all the data collected from different sources to establish the constraints and potentials of the various farm type/models then put them together to draft the development plans for their respective ARCs. These Plans include proposed development projects performance indicators to monitor the progress of plan implementation, and ideas on resource mobilization from various sources. An action plan to pursue implementation is also prepared.

Phase VI – During this phase, the newly prepared ARC Development Plan is presented to the community by the FSD team, in the presence of LGU officials and staff headed by the municipal mayor, and other relevant offices and NGOs. In most cases, the Plan is approved by the community and becomes part of the local government plan. It was observed that in many cases, the municipal mayors make pledges right then and there for the implementation of several identified components. Eventually, these ARC Development Plans are used to mobilize needed resources for the ARC.

2. ***Encouraging Barangay Residents' Participation***

The FSD training-cum-planning exercise includes a program of consultation with *barangay* residents which had been a significant source of data for planning purposes and for mobilizing local support. The BWCs encouraged *barangay* residents to identify and prioritize their major constraints and pinpoint areas where community contribution would complement external support. As of February 2001, the Project has conducted 801 BWCs which were attended by 66,287 participants in ARCs involved in the FSD program (Figure 2).



Priority Ranking*			
1	2	3	4
290	174	128	66
74	103	101	76
165	114	66	52
106	104	111	76
4	16	48	70
2	26	42	66
23	41	36	60
8	14	33	41
6	38	40	41
5	11	21	31
21	28	34	38
28	30	27	23
2	5	4	13
12	14	11	11
3	8	10	22
7	18	15	23
8	6	6	10
1	3	6	6
2	4	8	7
1	5	8	6
1	4	4	4
1	0	0	2
11	6	7	9
3	4	3	3
0	5	7	3
0	1	0	3
8	7	4	2
0	0	1	3
0	1	1	1
2	2	2	3
0	1	0	3
0	1	0	3

Figure 2. Frequency and Priority Ranking of Identified Constraints in 801 *Barangays* of 367

Source: FAO/SARC-TSARRD.

Note: The entries represent the frequency a constraint was prioritized by *barangay* residents and ranked as No. 1, No. 2, No. 3 and No. 4. For example, the lack or poor condition of farm-to-market roads and bridges was ranked in 290 *barangays* as Priority No. 1, in 174 *barangays* as Priority No. 2, in 128 *barangays* as Priority No. 3 and in 66 *barangays* as Priority No. 4.

FSD activities have been conducted in 436 out of 1,311 ARCs established nationwide and the development plans that were generated are in various stages of implementation. Moreover, the application of the FSD approach has created a growing demand for its replication in other ARCs.

3. ***Growing Demand for FSD Program Application***

The growing demand for the application of the Project's approaches is manifested by the numerous requests which the Project continues to receive from DAR field staff, *barangay* captains, municipal mayors, NGOs and implementors of foreign-assisted projects for the inclusion of their ARCs in the FSD program.

In several cases, LGUs of fifth class municipalities have initiated FSD activities on their own or through cost-sharing arrangement with the Project. In most of these cases, the Project provided guidance mostly through the trainers of DAR who have become FSD practitioners.

The Project has also extended technical assistance in the application of the FSD approach to 24 LGUs in five provinces in municipalities where ARCs are located. One example is the municipality of Manolo Fortich, province of Bukidnon in Mindanao. The Project gave technical assistance to the municipal government in the conduct of the orientation-training and consultation-workshop for its *barangay* workers. It also provided assistance when the LGU applied the FSD approach to its community development planning that led to the formulation of the Municipal Integrated Development Plan.

To address the growing demand for FSD application, the Project has conducted three intensive trainers' training courses of 35 days each for selected field staff of DAR and NGO personnel. This enabled the Project to establish a cadre of experienced trainers in order to cover more ARCs, and at the same time, ensure sustainability of the development process.

4. ***Adapting the Training-cum-Planning Activities to Local Situations***

Special care was taken to develop a training-cum-planning exercise that can be easily understood and that allows the full participation of all members of the FSD Team. In many ways, it can be seen as a "balancing act" between the need to come up with sophisticated planning methods that may result in losing the farmers' full participation, and the need to avoid a too simplistic method that is close to the traditional and ineffective "shopping list" approach.

As applied by the Project, the FSD training-cum-planning activities do not use the usual theoretical textbook approach to area development planning. Instead, the training was especially designed to suit local ARC conditions.

Thus, an FSD training manual was developed and used by the Project. The manual had been revised and continuously updated to integrate the rich field experiences gained during the last five years of FSD application.

5. ***Mobilizing Funds through the ARC Development Plans***

The ARC Development Plans, which were prepared using the participatory approach, served as a basis for sourcing funds from the farmers' organizations' own auto-savings, DAR's Agrarian Reform Fund (ARF), respective LGUs, foreign grants as well as major loans from international banks, and investments from the private sector.

The Project's experience in applying the FSD approach has been recognized by foreign donor agencies. Large-scale loans provided by the WB, ADB, and others have focused on such an approach as a basis, and in many cases, even as a condition for approving project loans intended for ARC development. Recognizing the positive and significant impact of the

Project's approach to ARC development, DAR has institutionalized FSD as a development strategy for its ARCs.

6. ***Expanding Beyond the Confines of ARCs***

Agrarian reform communities are located within municipalities and do not function in isolation. Many of the solutions to the constraints within the ARC are found outside the confines of the community, mostly at the municipal level and beyond. The community depends on the wider environment for most of its requirements in terms of specialized and essential services. Thus, the linkages with the municipal and the provincial administrative levels (LGUs) are being closely established and must be sustained.

Since development activities in an ARC often benefit small farmers beyond its boundaries, the FSD approach is being applied within the wider context of rural development. In this connection, the DAR administration and the Project staff are continuously exploring ways of using the FSD approach to reach out to a larger number of ARBs situated outside the confines of ARCs.

7. ***Monitoring and Evaluating Stakeholders' Participation***

The Project monitors and evaluates stakeholders' participation through the network of DAR field staff nationwide which are in constant touch with the other stakeholders. Performance of the Project's activities are captured mostly through several progress monitoring and impact assessment exercises conducted in the following manner:

- The data collected during the FSD training-cum-planning exercise enable the FSD Team to prepare a baseline data covering all the social and economic indicators pertaining to an ARC and its individual households.
- After a two- to three- year period, the same type of data are collected and a comparative analysis between the two sets of data is undertaken to ascertain changes and impact.

8. ***Impact on the Beneficiaries***

The Project-supported activities are part of a long ongoing process and not all benefits derived from these interventions could be measured in a direct and quantifiable manner. However, there are already sufficient evidences as to the positive impact of these activities on the target beneficiaries. Two studies – one conducted by the Project itself in 1998 covering the period 1995-97, and the more recent one which was conducted by the WB-supported Agrarian Reform Communities Development Project (ARCDP) – have confirmed a significantly positive correlation between the Project's activities and the increase in household income, among other indicators.

The study "Impact of the FSD Application in the Development of ARCs" conducted by SARC-TSARRD in 1998 covered the years 1995-97 of FSD application and involved 29 ARCs. The study conducted by the WB-ARCDP covered 55 ARCs and more beneficiaries in areas where the SARC-TSARRD Project applied its development approaches from 1996-98. Baseline information drawn from the ARC Plans were compared with the situation by end of 1999. Among many other performance indicators, the most prominent was the conclusion that the annual real net total household income has increased by an average of 61 percent in 42 ARCs (or 76 percent of 55 ARCs studied). Such significant result was attained during the same period when the growth in gross value added in agriculture was only 2.9 for 1996-97; -6.6 percent for 1997-98; and 3.8 percent for 1998-99.

In terms of support services, thousands of farming households now have access to infrastructure facilities such as roads and bridges that substantially reduced the cost of transporting agricultural products to market centers. Other support facilities afforded them

to grow a second crop with irrigation systems, gained better access to credit with lower interest rates to fund farm inputs, improved their farm technologies and practices through trainings and demo farms, acquired good seeds and planting materials, engaged in off-farm and in non-farm activities such as poultry and livestock production, and learnt to diversify into higher value crops – all of which addressed concerns for food security and increased income.

These experiences underscore the fact that projects which feature stakeholders' participation in the development process exhibit greater acceptability, viability and replicability, and they generate meaningful benefits and sustained impact.

B. Conduct of Post-FSD Training Courses

The conduct of post-FSD training courses in the ARCs is in line with the needs identified by the ARBs during the FSD process. These needs are also articulated in the ARC Development Plans. To prepare for the conduct of a post-FSD training, the collaboration of the respective LGU and other relevant local institutions in the ARC is obtained.

In several cases, small inputs were provided to facilitate the adoption of technologies or as start-up for the small-scale income-generating projects being promoted. This is to demonstrate the applicability, profitability and replicability of the farm improvements proposed in the ARC Development Plan. Farmers were also provided with training materials which they could, in turn, use when replicating the training.

A total of 383 training activities have been conducted and attended by 6,015 ARBs. Table 2 shows the number of trainings conducted nationwide including the participants in terms of gender disaggregation.

Table 2. Post-FSD Training Activities, 1998-2000

Funding Source and Location	No. of Training	No. of Participants			No. of ARCs	Training Activities with Small Input Assistance
		Male	Female	Total		
WB-ARCDP						
Luzon	44	732	602	1,334	36	44
Visayas	20	262	199	461	18	20
Mindanao	41	666	546	1,212	34	41
Sub-total	105	1,660	1,347	3,007	88	105
UNDP-SARDIC*	97	1,484	1,524	3,008	74	49
SARC-TSARRD/Net	181	3,117	2,878	5,995	99	74
Total	383	6,261	5,749	12,010	261	228

Note: * Support to Asset Reform Through CARP and Development of Indigenous Communities.

1. ***Objectives of the Training Courses***

The broad objectives of the training courses are to improve and/or initiate farm-level small-scale enterprises to increase the productivity and income of farm households. They also aim to promote self-reliance among the farmer participants and their cooperatives as one way to strengthen their organizations. The specific objectives are:

i. to identify and promote improved farm or non-farm livelihood technologies applicable in specific ARCs;
ii. to utilize the available time of the farm household members by engaging in additional non-farm related activities;
iii. to analyze the costs and returns as well as the projected incomes generated from these farm or non-farm activities/enterprises where these technologies will be applied;
iv. to satisfy local demand for specific goods and services;
v. to identify needs and provide access to training materials that will initiate the adoption of technologies being promoted;
vi. to evolve an appropriate farm plan and budget for the application of the technologies; and
vii. to enable farmer participants to apply in their own farms the appropriate and improved technologies they learned and to subsequently demonstrate them to other farmers for widespread adoption.

Coordination meetings were held between FAO/SARC-TSARRD and the relevant staff (i.e., UNDP-SARDIC and WB-ARCDP staff) to come out with detailed guidelines for the identification, preparation, conduct and eventual monitoring of the post-FSD training courses. Using the approved guidelines, the FSD Teams and the relevant foreign-assisted project (FAP) field staff identified specific training courses needed by their respective ARCs. In each case, a proposed training course using a standard format was prepared for approval. Care was taken to meet the anticipated project proposals generated by these training courses. Thus, cost-sharing arrangements with farmers' organizations, including the replication of the training materials that will be left behind were arranged. The collaboration with the respective LGUs and other relevant local institutions were very useful in these instances.

2. ***Type of Training Courses and Materials Provided***

Types of training courses are as follows:

On-farm	Non-farm	Organizational	Gender
Crops production	Food processing	Pre-membership training	
Livestock poultry	Garments	Accounting and bookkeeping	
Fisheries			
Diversified/integrated production		Collateral appraisal for cooperatives	
Agro-forestry/upland development			
Ornamental			

The training courses covered various on-farm and non-farm technologies that included livestock and poultry, fisheries, including upland development. Some organizational development courses also helped strengthen ARB farmers' organizations and enhanced the managerial skills of the ARC leaders.

The type of materials provided under on-farm courses as startup inputs were: certified seeds/seedlings, fertilizers, garden tools, improved animal stocks, feeds, veterinary medicines, fingerlings and planting materials. For non-farm, the following were provided: sewing machines, cloth, accessories, bottles, raw materials, utensils/tools, hand looms, filters, banana chipper and plastic sealer.

3. ***Training Methodology and Venues***

Most of the trainings adopted the season-long or cycle-long type of approach. This involved one to two-day classroom discussions followed by on-field problem-solving sessions performed by the farmer participants right on their farms. A resource person or the agricultural technicians assigned in the ARC were asked to facilitate. Training materials were distributed at the time when these were needed in specific farm tasks.

The classroom discussions were usually followed by workshops to simulate or actually practice the skills learned. In some courses, actual on-field demonstrations were conducted. Some courses included field trips to model farms. Most of the courses were conducted on-site, in *barangay* halls, in public school classrooms, and a few in training centers where facilities for certain technologies were available.

Although the post-FSD training courses were primarily intended for farmers, other participants attended the trainings. Most of these were agricultural technicians from the agricultural offices of municipalities where the ARCs were located. Their attendance was requested by their superiors in order to update their technical knowledge and to provide them the technical basis when monitoring the adoption of the technologies by the farmer participants.

The expertise of the academic and training institutions close to the ARCs were tapped in these post-FSD trainings, including the assistance of the LGUs, the NGOs, and the POs active in the area. The local government provided technical inputs through the technicians from the provincial and municipal agricultural offices. The national offices that provided technical support were the Department of Trade and Industry, and the DA-affiliated offices like PhilRice. Meanwhile, resource persons were tapped from universities such as Visayas State College of Agriculture and Central Mindanao University, among others.

As a result of these collaborations, new linkages were forged, networks were expanded, and limited resources were pooled and maximized. In all these activities, stakeholders' participation to the process of developing the ARCs was promoted.

4. ***Initial Results of the Post-FSD Activities***

To monitor the initial progress of the 97 post-FSD training courses which were conducted under the WB-ARCDP, 38 courses were selected as sample (39 percent of the total). The study covered the period 1998-99. The sample training courses were mostly subjects that were identified during the FSD activities by the respective ARCs. Since these were identified by the residents themselves, they therefore indicated the ARC situation which ARBs wanted to improve. Table 3 presents the summary of the findings.

In most cases, the post-FSD training courses which came after the FSD training activities revealed significant progress in terms of productivity and income. It may be noted that livestock, poultry and fishery training courses posted significant increases in household income among the adapters. Additional evidence also points to the effect that the number of adapters is increasing.

C. Conduct of Agribusiness Linkaging

Before the application of the agribusiness linkaging approach, most ARBs relied on traditional crops such as rice and corn, and on traditional markets defined by the presence of middlemen buying at very low prices. As a result of these conditions, ARBs obtained very little profit from their farming operations. ARBs also lacked relevant market information such as commodities in high demand, lucrative market outlets, and prices, and the necessary tools and mechanisms to embark on a market-oriented and demand-led production systems.

The agrarian reform program altered the structure of ownership and control over the agricultural lands. Prior to CARP, farmers relied on landowners to run the farms including mobilizing resources, financing production and marketing of products. With the transfer of land ownership, ARBs, in many ways, were practically left on their own to confront problems related to production and post-production.

Table 4. Summary of Findings:[a] Post-FSD Training Courses, Participants, Adapters, and Changes in Average Net Income per Adapter

Type of Post-FSD Training	No. of Training Courses	No. of ARCs	No. of Participants			No. of Adapters			Percent of Adaption	Changes in Average Net Income per Adapter (PhP[b])	
			Male	Female	Total	Male	Female	Total		Before	After
Rice	10	10	174	97	271	70	48	118	44	7,746	10,427
Vegetables	7	7	80	91	171	86	72	158	92	6,451	12,420
Banana	1	1	17	8	25	7		7	28	1,500	3,000
Sugarcane	1	1	10	5	15	10	5	15	100	10,521	9,011
Duck raising	4	4	20	60	80	19	31	50	63	none	4,848
Swine production	5	5	68	68	136	19	38	57	42	none	9,381
Native chicken	1	1	1	3	4	1	3	4	100	none	2,250
Food processing	5	5	36	108	144		50	50	35	none	1,426
Cut flowers	1	1	3	19	22		20	20	91	none	18,000
Inland fish culture	2	2	32	26	58	16		16	28	none	(3,580)
Crab fattening	1	1	19	13	32	60	20	80	250	none	68,400
Total	38	38	460	498	958	288	287	575	60		

Source: FAO/SARC-TSARRD in collaboration with UNDP-SARDIC (PHI/96/025).

Notes: [a] Results of 39 percent sample.

[b] Philippine peso.

On the other side, there was wariness on the part of the private sector, particularly the agribusiness enterprises and corporations, to deal with small farmers. They did not know how to conduct business transactions in areas covered by agrarian reform which they initially regarded as anathema to their business interests. Business arrangements under this new "land ownership regime" were not yet defined and businessmen were hesitant to invest in these areas. The "business rules" were unclear which prevented them from investing in ARCs. In short, there was little functional linkage between the ARBs and the agribusiness enterprises and corporations.

In addition, the DAR had yet no clear strategy and operational framework for linking ARBs with agribusiness enterprises and corporations. There was also no program to encourage investors and entrepreneurs to invest in agrarian reform areas and no DAR staff had yet been designated or trained for this purpose.

Related to this, one of the Project's major components is assisting the DAR in improving the linkages between ARBs (the producers) and the agribusiness firms and enterprises (buyers/processors/manufacturers) as a means to improve farmers' income. Along this line, the Project developed a three-pronged strategy consisting of:

a. a market matching mechanism between the farmers and agribusiness enterprises;
b. a network within DAR consisting of Investment and Marketing Assistance Officers (IMAOs) at the central, regional and provincial levels; and
c. market information dissemination including publication of agribusiness-related bulletins, brochures and other materials.

This strategy was found effective and practical by DAR. Consequently DAR institutionalized the strategy and launched the Investment and Marketing Assistance Program (IMAP) as one of its major programs, based mainly on the approaches developed by the Project.

Market-matching activities provided the forum where farmer leaders of ARB organizations on the one hand, and representatives of processing enterprises, other buyers, agribusiness entrepreneurs and investors on the other hand, discuss possibilities for establishing a buyer-seller relationship and doing business. Raw material requirements of processors and exporters were matched with the produce of ARBs willing to supply agricultural products under a buyer-seller agreement. Discussions are open and candid, and the resulting marketing agreements and subsequent actual transactions usually lead to a "win-win" situation where benefits are shared by both parties.

For the period 1997-2000, more than 75 marketing agreements have been forged, and involved more than 300 farmers' organizations and 176 agribusiness firms/buyers. More than 260 ARCs have also been covered and involved more than 35,000 ARBs nationwide.

In many of the established agribusiness tie-ups, the ARBs supply the agricultural products under an arrangement mutually beneficial to both parties. This ensures the farmers of a steady market for their produce, and enterprises of a reliable supply of their raw materials. In some cases, ARBs and agribusiness enterprises could enter into other types of business arrangements including partnerships and joint ventures.

The market linkages facilitated by the Project with leading agribusiness corporations (such as San Miguel, Epoch, Nestlé, and Jaka) have resulted in increased incomes among ARBs. As an example, corn farmers in the province of Isabela in Luzon who were linked to a buyer/processor were encouraged to produce peanut. As a result, their net incomes from peanut production increased from PhP10,000 to PhP28,000 per ha per season.

Similarly, coffee farmers in the Cordilleras who were linked directly with Nestlé realized more than a two-fold increase in incomes due to higher buying prices of about PhP45-60 per kg than if they relied on traditional buyers. Another example is the establishment of long-term market linkage for ARBs growing mango and other fruits in Davao Oriental. This was cited as a model for small farmer-agribusiness corporation tie-up in the presence of then President Fidel Ramos during an annual convention of the Philippine Chamber of Commerce and Industry (PCCI).

The effort to attract the private sector became even more crucial when the government began to encounter financial constraints which affected the flow of funds from the ARF. The ARF is the sole public fund allocated by the government to support development activities of ARBs. Involving the private sector in ARB development was not only a good strategy to augment government resources, it also made the private sector a key partner and an important stakeholder in the development of ARCs.

D. Conduct of Credit Facilitation

Despite the credit programs available to farmers' organizations and the several years of implementing such programs, loan utilization as well as program reach have been low. There are instances where ARB organizations in one region have not availed of a single credit project under these programs.

The most common reason cited was the stringent qualification and lending criteria of financial institutions. There is also the inability of the cooperatives to go through the accreditation process. This is primarily due to the low organizational maturity level of most organizations as seen in terms of required membership, capital build-up, internal controls and other criteria.

An assessment by SARC-TSARRD revealed that even those already qualified still find it difficult to avail of credit. The basic problem stems from the lack of understanding or appreciation of specific requirements in filling out loan application forms and the data or information required in a proposal. This was identified as the major reason why proposals or applications keep going back and forth between cooperatives and lending institutions like the Land Bank of the Philippines.

Even in the latest report from 801 BWCs conducted nationwide, one of the leading problems identified by community residents is still the lack or no access to credit facilities to finance farm production and other productive endeavors. To ease the problems on access to credit and to provide capital for viable projects and enterprises, the Project developed an approach by which ARB organizations/cooperatives with project ideas are matched with relevant financing institutions.

This matching approach and the process borrows heavily from the Project's experience in agribusiness matching whereby business enterprises and ARB organizations are matched and consequently enter into mutually beneficial business arrangements. In a similar manner, the Project provided the venue by which ARB cooperatives could meet with financing institutions and discuss credit proposals. This provides an opportunity for credit institutions to understand the ARBs' credit proposals and for cooperatives to learn and to appreciate the loan procedures so they could meet the requirements of the credit institutions. This is done through the following activities:

a. Identify farmers' organizations/cooperatives with project ideas which would require credit assistance;

b. Provide assistance to farmers' organizations/cooperatives so they could comply with the accreditation requirements such as registration with appropriate government office, updated financial statements, and other criteria for eligibility;
c. Collect the data necessary for the preparation of the ARB organization's draft project proposals, assisted by DAR provincial/regional offices who will also advise on the appropriate credit program based on the project type;
d. Organize and conduct a credit facilitation workshop where the ARB leaders/ proponents meet and discuss with the account officers of the concerned financing institution the technical, financial and marketing aspects of the project proposals. The draft project proposals are enhanced/revised/finalized based on the suggestions and recommendations of the bank's credit officers and other resource persons during the workshop;
e. Submit the project proposals by the ARB cooperatives to the appropriate institution;
f. Follow-up and monitor the status of proposal until final approval; and
g. Monitor the project implementation including loan repayment.

One other major obstacle faced by ARBs in relation to credit is the dearth of available information on prospective sources of financing. Thus, the Project produced and disseminated a revised *Primer on Credit Programs for ARBs and Small Farmers: A Guide to Accessing Credit*. The primer contains the following basic information: (a) purpose of the loan; (b) criteria for eligibility; (c) terms and conditions; (d) steps to follow; and (e) contact offices and numbers of relevant institutions and other relevant information. The primer had been useful and practical guide to farmers' organizations, as well as in the conduct of credit facilitation workshops. It has also been disseminated and in high demand among ARBs and DAR field officers tasked to assist in the delivery of support services to ARCs.

The Project's credit facilitation scheme works with the existing conditions and utilizes simple and practical approaches to rural development credit. This scheme has already shown promising results.

CONCLUSIONS/REFLECTIONS

Establishing an effective project to create an impact on rural development that focuses on enhancing stakeholders' participation takes considerable amount of time. The influencing factors include the need to put in place experienced staff, the learning process of understanding the local conditions, and the establishment of an effective and reliable network of field staff, LGU officials, NGO personnel and private sector representatives. In addition, the change in government administration and in the top management of DAR such as the secretary, the undersecretaries, and other key people normally requires some time for the assimilation and adoption of activities initiated by the previous administration. Thus, the time needed to attain this level of effectiveness is sometimes beyond the normal timeframe of a donor/government-supported project.

One of the basic principles that guided the Project from the very start was the clear identification of its stakeholders. After assessing their respective roles and their potentials as partners in the ARCs' development, the Project proceeded to establish a collaborative, long-term working relationship, assiduously avoiding to the extent possible special types of arrangements or *ad-hoc* structures that tended to collapse once the Project ended. Guided by this principle of working within the established system, the Project staff was able to build on, enhance and strengthen its linkages from the national down to the local levels.

Moreover, it was of paramount importance to establish positive working environment with DAR – from the top management to the field level staff.

By adapting to some culturally unique yet helpful way things are done in the Philippines, the Project was able to develop a second and informal line of communication which can be classified as a social capital that facilitated the way to get things done. The need to balance all these factors in a manner that will not create a dependency syndrome on Project activities requires certain methods that will not hamper nor dilute the participatory process.

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1. REPUBLIC OF CHINA

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INTRODUCTION

Taiwan's agricultural development can be divided into four stages. Each stage had its principal goals and objectives. The achievement of these goals is preconditioned by a set of policy actions or agrarian reforms. However, the underlying motivation behind such reforms may be political, economic, technological, social or environment-based depending on the needs of the times. In Taiwan, agricultural development began on social consideration, but later on technological and economic considerations became increasingly important. In the more recent years, conservation of environment has moved to the forefront despite its controversial affects on agricultural production.

In view of the foregoing statements, this paper looks at Taiwan's agricultural development experience to highlight the agricultural effects of various strategies, policies and practices on agricultural productivity and sustainability of agricultural production.

AGRICULTURAL DEVELOPMENT

Since 1946, the agricultural development of Taiwan can be divided into four periods as follows: (1) the first period 1946-53, known as recovery stage; (2) the second period 1954-68, called growth stage; (3) the third period 1969-73, named as stagnancy stage; and (4) the fourth period 1974 to date, maintenance stage.

The features of each stage with its farm policies and purposes are as follows:

The First Stage

This period involved the economic reconstruction of the war-torn national economy and agriculture sector. It was a difficult task as the value of total agricultural production had fallen to 50 percent of that just before war. However, recovery was fast as the value of agricultural production increased rapidly and represented 44percent of GNP during early 1950s. Meanwhile, the agriculture accounted for 95 percent of total exports and accommodated 65 percent of total population. Thus agriculture sector held an important position in promoting overall economic development of Taiwan.

However, the period was characterized by the predominance of tenants who were 69 percent of farmers, and surrendered 50 percent of the amount harvested in land rents. As tenants had no incentive in making long-term investments for land improvement, it was likely to hinder rapid development of agriculture. To cope with the bottleneck, and to use resources efficiently, the government began to embark upon a land reform program for redistribution

of farmland. Under this program most tenants were granted ownership rights which induced them to cultivate their land with full devotion. Also, the organization of Joint Commission on Rural Reconstruction (JCRR) had played a leading role in Taiwan's agricultural development, mainly by providing technical and financial assistance.

Besides, agricultural associations and cooperatives, comprising of 340 farmers' associations, six fruit marketing cooperatives, 78 fishermen's associations, and 27 irrigation associations carried out field programs. They employed over 12,000 people. Farmers' associations offered multiple services for farmers. They provided cooperative marketing and purchasing services and offered warehousing and processing facilities for farmers. In addition, most of the farmers' associations have set credit departments for farmers' financial help. They also have extension departments for adult education, home demonstration, and 4-H programs. Fruit marketing cooperatives, fishermen's association, and irrigation association also played an active role for serving the farmers. The six fruit marketing cooperatives coordinated marketing operation nationwide. One cooperative offered processing facilities for canning fruits and vegetables.

With coordination of land reform, finance and marketing programs, the agricultural production rapidly recovered and soon reached pre-World War II levels.

The achievements of this rapid agricultural development period can be summarized as follows:

(1) ***Change of Production Institution***: Most tenants became full-owner farmers. In 1947 tenants represented 41 percent of total farmers, which dropped to 21 percent in 1953. Meanwhile, full-owner farmers rose from 32 percent to 55 percent. As a consequence the bestowing of full-ownership rights on tenants raised their farm incomes by 107 percent in contrast to the increase of only 16 percent on farms still operated by tenants.

(2) ***Promotion of Willingness and Productivity***: The multiple-cropping index rose from 117 percent to 170 percent showing an annual growth rate of 5.5 percent. The labor force employment increased at 8.1 percent yearly. The annual rate of agricultural growth on average basis exceeded 12.5 percent.

(3) ***Acceleration of Capital Circulation***: It was estimated that a capital equivalent of 22 percent of agricultural output was contributed to non-agriculture sectors.

(4) ***Adoption of Modern Technology***: The applications of chemical fertilizers were increasingly substituted for natural fertilizers in crop production.

The Second Stage

Agricultural production continued to grow at 4.7 percent of growth rate. Farmers' families were responsible for agricultural production with intensive use of farmland and labor force. Simultaneously, cooperative marketing, food prices stability and food exports were managed with greater effectiveness. As a result a nearly 5 percent annual agricultural growth rate was not difficult to maintain.

The Third Stage

Agricultural growth rate dropped from 4.7 percent in the forgoing stage to 1.7 percent. The growth of crops showed a negative trend due to farm labor shortages as a result of enormous exodus of labors to industrial sector with a growth rate of 20.4 percent. In addition, introduction of hog hybrid changed fodder formulation to soybean and maize for

new fodder replacing the traditional crops like sweet potato, etc. Accordingly, food self-sufficiency rate dropped from 100 percent in 1968 to 73 percent in 1973.

The Fourth Stage

Since 1974, the most pressing task included the revival of agricultural growth and food self-sufficiency, and reduction of farm income disparity. In order to achieve these objectives, the government promulgated several measures. For example, the barter system of fertilizer purchases against rice was replaced by cash purchases. A program of price support for rice was put into effect. Steps were taken to ensure adequate and timely availability of various agricultural inputs such as chemical fertilizers, pesticides, farm machines and feeds and fodders for animals. An active program of funding farm mechanization was initiated. The processing of farm products, fruits and vegetables for value-addition was extended to new products.

As a result of above measures, the growth rate of agriculture picked up to 4.3 percent. The disparity between farm and non-farm incomes has been reduced as the ratio of their incomes has risen to 70 percent. As mechanized cultivation eased the labor constraint, the multiple-cropping intensity has risen to 180 percent.

EFFECTS OF AGRICULTURAL TECHNOLOGY

The effects of technology can be classified into two types: productivity and environment. Crop improvement, production and marketing belong to the former and biotechnology, plant pollution and sustainable farming to the latter.

Crop Improvement

Crop improvement in early years emphasized rice to reach self-sufficiency of food. Improvement of upland crops aimed at reducing imports was of secondary important. However, the research has been switched heavily on vegetable and fruit cultivars for satisfying consumers' desire.

Some more than 50 varieties of various crops including rice, upland crops, special crops, tropical and subtropical fruits and vegetables have been released to farmers. The new cultivars are summarized as follows:

1. ***Rice***

Quality instead of yield has been attached importance to the rice breeding programs. Most of the cultivars are resistant to disease and high quality. Recently a fragrant variety of rice (Tainung 71) with taro-smell has been developed. These sweet smells would promote Taiwan's competitiveness in the world market.

2. ***Upland Crops***

The new cultivar of peanuts (Tainung No. 6) released for commercial products is an ideal tasty product. New varieties of sweet potato are high in yield and quality and can be used as staple or vegetable.

3. ***Special Crops***

New cultivar of special crops like sesame is used for oil extracting. *Wasabia* is used for tasty hot sauce. Other varieties of special crops, such as *Mesona Chinensis Benth*, have been developed as a raw material for healthy drinks.

4. ***Fruit Trees***

The newly evolved peach varieties can be grown on hillside. Its fruit is fleshy, juicy and sweet. Pear cultivars are suitable for chilly and low-altitude areas. Pineapple cultivar has fleshy texture, low fiber and sweet smell.

5. ***Vegetables***

Sweet pea cultivars have features of early-ripening, high yield and quality. Strawberry with bright red and big fruit has high yield and quality. Cucumber is characterized by disease-resistance and lasting preservation or transport.

Production and Marketing

Forcing culture, controlling quality, and processing can add to the market value of crops.

1. ***Forcing Culture***

Forcing culture refers to adjusting harvest to market needs. Thus, right crop at right places might bring good prices. As for agronomic crops, adjusting planting dates can monitor the harvest time of tea and peanuts. As for horticultural crops, forcing culture techniques to grape, wax apple, sugar apple, and other fruit trees have been well established and the quality of the crops has also been improved at the same time.

2. ***Quality Production***

Agricultural production in recent years in Taiwan emphasizes labor-saving technology, high quality produce, balanced ecology, and the conservation of water and soil resources to attain the goal of low cost production and sustainable farming. Organic farming and high quality of rice are best examples. For fruit trees, the annual grafting technique has been successfully applied for the quality production of pear. Net culture of Indian jujuba and papaya has also enhanced fruit quality. The automatic production system of king oyster mushroom and snow jelly fungus has lowered the production cost of these new edible mushrooms.

3. ***Harvest Handling and Processing***

By improving the post-harvest handling techniques, it is possible to lengthen the shelf life as well as to maintain the freshness of the harvested products. For example, the controlled atmospheric treatments of green garlic, and the chemical treatments of various cut flowers such as orchids and cucumbers have become common practices in this regard.

Biotechnology

To upgrade agricultural development, biotechnology research of the molecular cells and organs in recent years has resulted in accomplishments as described in the following:

(1) Transfer of genes governing desirable characteristics, e.g., disease and insect pest resistance, from one plant to another by genetic engineering technology increased greatly the breeding efficiency. The capsid protein gene essential for the resistance of cucumber mosaic virus (CMV) has been successfully transferred to sponge gourd and melon. Efforts are being made to breed new cultivars resistant to virus.

(2) Gene mapping of melon is being constructed by Random Amplified Polymorphic DNA (RAPD) method for the purpose of genetic study and gene cloning.

(3) Tissue culture techniques have been applied for the production of haploid plants. By doubling the chromosomes of the haploid plant, inbred lines could be obtained in a

very short period of time. Haploid plants have been obtained in rice, asparagus, cabbage, broccoli, sweet potato, corn, tobacco, papaya, and bamboo. This technique has been used routinely in rice breeding program.

(4) Tissue culture has also been applied for the mass propagation of many crops such as garlic. This technique also helps in the production of virus-free seedlings of citrus, potato, passion fruit, strawberry, and garlic. Techniques of antiserum against viruses and nucleic probes for the detection of virus infection in orchids have been developed. On the basis of these results, five location centers have been set for detecting viruses in orchids.

Plant Protection and Pollution

1. ***Diseases***

Soil additive AR3-2 is effective to control southern blight in common bean. Spraying borax solution and bagging the fruits have been effective in preventing the incidence of boron deficiency and disease in fruits like mango.

2. ***Insect Pests***

The utilization of yellow sticky plate, the screening of effective insecticides, and the mass release of natural enemies have been applied for integrated pest management. Sex pheromone has been used in 1,525 ha of sweet potato fields for the control of weevil. The application of improved insecticide formulation and yellow sticky plate has control efficiency of the flies as high as 85 percent. Biological control of spider mites in papaya and strawberry is very successful and the amount of chemicals applied has been reduced greatly.

3. ***Pollution Problems***

The use of degradable plastic as the covering material in field has been studied for reducing pollution of environments. The farmers are instructed not to use water waste from shrimp culture for rice cultivation which may result in physiological disorders.

Sustainable Farming and Soil Management

Studies on soil management are aimed at the proper use of water and soil resources, the establishment of an ecology-oriented pattern of farm management, and the development of sustainable agriculture.

Regional centers of treating wastes for making compost are established and the farmers are guided to build their own small-scale composting facilities. By modifying the processing techniques, the produced compost can also be used as a mattress for seedling nursery and production of vegetables and pot flowers.

The development of microbial fertilizers is another important subject of study. Both the growth rate and fruit quality of the crops are improved with the use of microbial fertilizers as compared to control treatment.

The service system for the diagnosis of soil fertility and plant nutrition has been extended. Demonstration fields for proper soil management have been established to educate the farmers not to over-apply chemical fertilizers to their orchards. Various crops are included in this system such as citrus, mango, pear, grape and wax apple.

The cropping rotation system involving paddy rice and an upland crop results in a special soil environment, which is usually unfavorable for the growth of upland crops. The techniques of no-tillage cultivation of corn, deep-tillage cultivation of peanut, double-layer fertilization at sowing have been developed to meet the farmers' needs. Consequently, both

the yield and quality of a number of crops as well as the profit of the farmers have been improved.

EFFECTS OF WTO

In pursuit of supreme national interests, Taiwan has been an active member of World Trade Organization (WTO). Being a signatory of WTO, it must comply with the trade agreements approved at the WTO meetings. In anticipation of the emerging situation, Taiwan has already been moving and adjusting its agricultural production towards free trade. For example, it has increasingly resorted to latest technological breakthroughs, as pointed out in the previous section, to forge comparative advantage of various crops in its favor. The successful examples are increasing mashroom cultivation and fruit processing, and Taiwan's successful entry into export markets.

CONCLUSION

Agricultural reforms in Taiwan have taken place in stages to serve varied goals of agricultural development. At present, the major trend in agrarian reforms in Taiwan is to ensure sustainability of agricultural production with emphasis on conservation of environment as dictated by globalization of world economy. However, despite this emphasis, Taiwan has been able to pursue its supreme national interests of rapid agricultural development by banking heavily on the latest available technological advances.

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2. FIJI

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REVIEW OF AGRICULTURAL REFORMS

Agriculture contributes to the survival of Pacific Island Countries (PICs) such as Fiji. The most serious problems facing the country are the rapid soil fertility erosion and unsustainable population growth and urbanization resulting in a corresponding fall in agricultural productivity. This situation is often characterized by massive rural underemployment and the predominance of subsistence, small-scale agriculture. Improving and maintaining agricultural productivity in these areas has been a major and ongoing challenge which requires technologies on farming systems, high crop yields, high quality standards, and appropriate, sustainable land use practices. This paper outlines the current issues facing the agriculture sector and the recent efforts and measures identified and implemented through interventions at national, regional and international systems.

The main policy change in the agriculture sector over the last decade has been the general shift towards export-led growth and the phasing out of import substitution and self-sufficiency. The deregulation policy was introduced in some industries such as rice, dairy and poultry where licensing requirements were lifted, subsidies were removed and tariff rates were gradually reduced. Sugar continues to dominate as the largest foreign exchange earner which contributed 40 percent to total exports over the last three years and around 60 percent in 1986. The majority of land leases in the cane belt began to expire in 1997 and, due to uncertainties and insecurities of renewal, has led to a downturn of sugar production. The economic viability of coconut oil, which has traditionally been Fiji's second most important export commodity, has been constrained by the rapid decline in coconut production due mainly to unproductive aging palms. Cocoa has had a mixed success, mainly as a result of low world market prices. Despite government investment on rice over the last 30 years, self-sufficiency level was around 40 percent as domestic production was dominated by rainfed rice and was produced only for subsistence purposes. The production of irrigated rice using improved varieties, which served as the primary target for self-sufficiency policies, accounts for a little more than 10 percent of the total supply. Diversification into taro (*Colocasia esculenta*), kava (*Piper methysticum*) and ginger (*Zingiber officinale*) have already established niche markets and have potential to expand further. Developments are underway in the fresh fruits and vegetable industries for both local and export markets. A range of research and development projects have been undertaken by the government to identify suitable tropical fruits for the export markets and ways to improve the quality of these products. A significant constraint facing the exports of these products is the strict quarantine regulations imposed by some countries which could otherwise be our leading potential export

markets. Because of Fiji's favorable climate, it is possible for Fiji to supply the Northern hemisphere with off-season crops all the year round. There is, however, dire need for carrying out research in the area of fruits and vegetables to improve the quality of produce, find markets and improve the distribution channels for export. Air freight capacity is an important requirement. Subsistence crops are grown throughout Fiji contributing to around 40 percent of the total agricultural GDP which have remained unchanged over the last decade. Food security is dependent primarily on subsistence low productivity farming and its ongoing transformation to commercial scale provides a competitive advantage.

AGRICULTURAL PRODUCTIVITY

The two major economic factors influencing agricultural performance are the land and labor resources, although financial resource is equally important but is often provided from many sources. Land productivity can be indicated by the level of agricultural technology being applied or adopted and the production systems appropriate for each agricultural activity. Increasing the productivity of land can directly contribute to increasing production, alleviation of poverty, widening economic base, and improving the standard of living. Labor productivity is a major indicator of technology advancement and mechanization as contributing to economic efficiency in agriculture. The security of land tenure became a major issue when tenants sought greater security. In Fiji, two land tenure systems operate side by side: the customary land law that is based on community interest under the principles of reciprocity and respect; and the native land leasing system based on individualization of property and the alienation of land from customary tenure for leasing. This is the basic conflict which is inherent in the land tenure system in Fiji. Customary law has been the subject of much criticism. It has been argued that it does not provide security of tenure and is uncertain. It discourages conservation and the improvement of natural resources, hinders agricultural development, does not provide incentives for credit and investment necessary for development. It is a drag on efforts to improve farming methods. Customary land law, however, maintains the cohesion of the social group and provides a climate for development enterprises of a collective nature.

AGRICULTURAL DIVERSIFICATION PROGRAM

The Ministry of Agriculture, Fisheries and Forests (MAFF) has prepared a package of '**Agricultural Diversification Program**' (ADP) as an agricultural reform program of diversification into major priority economic commodities. The aim is to strengthen current enterprise development to a fully-fledged integrated agro-based industry. The essential components of policy and strategy in agriculture are:

- shift the industry away from import substitution and self-sufficiency towards export-led growth through deregulation and supporting measures;
- promote export development through market expansion, intensification and diversification of agricultural production;
- encourage market responses to changes in sugar prices;
- improve productivity and cost effectiveness in production;
- encourage private sector investment in agricultural development;
- improve quality standards of agricultural production; and

C provide essential quality services in the areas of extension, research, marketing, planning, deregulation and infrastructure development.

Deregulation allows the private sector (farmers, processors and exporters) to take the leading role in setting the course for the sector. The role of government would be a facilitative one in ensuring the involvement of the private sector and not by direct intervention in trading or production, but by the provision of technical advice, trade negotiations with importing countries, technology transfer, access to credit and maintenance of a stable economic environment. The sector has already responded to opportunities on taro, papaya (pawpaw), eggplant, ginger processing, coconut processing for supporting the dairy industry, kava exports to Europe for pharmaceutical purposes, organic foods to Europe, and the pork and poultry industries. Fiji faces the prospect of continuing erosion of preferential prices for sugar or may suffer complete loss of the European market. The future viability will depend on being able to produce sugar at a profit. Unlikely to survive are the low productivity farms unless costs can be reduced. However, in a more competitive environment they are more receptive to diversification possibilities. In the 1991 Landell Mills Report, it was recommended that sugarcane yields can be increased by 25 percent with better farming practices, appropriate mechanization, and more effective labor utilization. Hence, an appropriate policy emphasis should be on improving the efficiency of the existing industry and not on expansion of sugarcane into new land. The problem of accelerating loss of prime agricultural land to housing and industrialization, when poorer agricultural land could be utilized, needs to be addressed with some urgency. The Fiji sugar industry, while small, is not insignificant in the context of world sugar economy. It is relatively efficient, has a sound structure, a sufficient critical mass to realize economies of scale, and has a reputation for high quality sugar. If the industry can respond to the adjustment challenges, it now faces, it has a sustainable future.

INTEGRATED MANAGEMENT OF LAND RESOURCES

In 1996, the Pacific Islands Forum adopted an economic action plan promoting economic and public sector reforms. Reform strategies included the implementation of trade and investment policies for diversification of export markets and sources of investments and improvement of the management of capital assets with positive impacts on land and labor resources. Agrarian reforms in the region, however. are exposed to vulnerabilities influenced by the external environmental, political and economic factors and there is great concern about the impacts of these factors on the farming communities. Pacific leaders recognize the important links between environment and agricultural development and have stated clearly that technology development must be economically and ecologically appropriate and sound. This was recommended by the Forum Ministers in 1996 and is now being implemented at the national and regional levels through the Forum process. It was also intended that agrarian reforms would greatly involve mobilizing resources needed to enhance sustainable development. This transition, however, would require commitment and support of all stakeholders and the international community. At the regional level the Council of Regional Organizations Coordinating Committee (CROP) developed a sustainable framework incorporating all sectors including agriculture, forestry, mining, health and population, energy, and marine resources. This framework recognized the need for the development of sustainable information technology and communication systems to effectively monitor

progress and assist in management decisions. This is a key feature that has been providing inadequate services in unifying and transforming the agrarian sectors. It has been realized that the Geographic Information Systems (GIS) provide an invaluable tool. An increasing number of PICs have established GIS services and user groups. The GIS database incorporates and analyzes all agrarian data and assists in providing information necessary for making management and planning decisions. The South Pacific Applied Geoscience Commission (SOPAC) is the leading regional organization in GIS and remote sensing and has also been endorsed by the region as the official Secretariat of the Pacific Group of the Permanent Committee on GIS infrastructure for Asia and the Pacific. The maintenance and sharing of these agrarian databases between countries is best managed through the regional GIS Center already established at SOPAC. The national capacities, however though limited, are developing and need strengthening.

THE SUSTAINABILITY OF AGRICULTURAL DEVELOPMENT

The MAFF has established a Sustainable Agricultural Committee which, in consultation with other stakeholders submitted a Sustainable Development Bill to be enacted. At the same time the South Pacific Regional Environmental Program (SPREP) based in Samoa, Fiji has also developed the national environmental strategies that set guidelines for agricultural land use practices. Some of these strategies are discussed below:

Sustainable Sloping Land Management for Food Production

The development of agro-forestry technology in Fiji optimizes plant and land productivity on an integrated farming system while protecting the environment. Selected leguminous trees are used as contours on hill slopes and intercropped with root crops, vegetables and ginger. This approach promotes conservation and recycling of soil water and nutrients to sustain plant growth and productivity under unfavorable field conditions. In atolls, the use of soil bunding method and the application of organic matter for growing root crops and indigenous vegetables has been successful.

Improving Farm Production Systems

Research and extension programs of the MAFF develop and transfer appropriate crop production technologies which are cost-effective and sustainable. Modern practices include crop rotation as a shift away from the traditional shifting cultivation, optimal use of organic and inorganic fertilizers, reduction of post-harvest losses, integrated pest and weed management, conservation and utilization of plant genetic resources, flatland mechanization for consistency of production and intercropping systems and the development of high yielding cultivars with package of agronomic practices. Training of farmers to develop their knowledge and skills is an integral component of improving farm productivity.

Quality Assurance

The trade liberalization under the World Trade Organization (WTO) requires internationally accepted quality standards of export products in harmony with plant protection and quarantine procedures. This includes increasing awareness and education on quarantine requirements, effective measures on border protection, establishing an updated list of pests, up-skilling on pest risk analysis (PRA), and emergency preparedness to pest outbreaks.

Fiji's agricultural commodities are marketed to highly competitive markets such as Japan, Australia, New Zealand, U.S.A. and Europe. In this regard, the exports of high quality products becomes a crucial element in its marketing strategy. Therefore, under the circumstances of an international marketing environment, potential exporters and producers are required to be equipped with specialized knowledge and skills to negotiate and supply these products at the required quality. The development of standardized procedures to maintain and control such high quality products and services are crucial to the attainment of sustainable quality assurance.

Conservation and Utilization of Plant Genetic Resources

The National Germplasm Centre is linked to the Regional Germplasm Centre which is based at the Secretariat of the Pacific Community (SPC) in Fiji. It is responsible for the collection, conservation and utilization of plant genetic resources. This is to safeguard the erosion of plant genetic resources against natural disasters, biotic outbreaks, bio-protecting, and consumer preferences arising from increasing commercialization and trade. Major commodities collected and conserved at the National Centre include root crops such as taro, sweet potato, cassava (tapioca), yams, rice, banana, coconut, kava, vegetables, cereals, pulses, and pasture. There is still need to measure the genetic diversity for each of these commodities and also for other indigenous plant genetic resources under this conservation program.

Product Development

Value adding has significant market potential for developing commodities for exports and domestic consumption. This is seen to be the best approach in addressing inconsistency of production to meet the high market demand. The major factors influencing this inconsistency of supply are the uncertainty in market prices, consumer preferences, high transportation costs to the market centers, quality issues, quarantine restrictions, vulnerability to natural disasters, and the characteristic seasonality of these crops. Product development and downstream processing contribute significantly to the value of the industry. This enables Fiji to be more competitive, refine storage quality and longevity of shelf life of the products, ease quarantine requirements, and provide the progressive development of labor productivity through specialized skills and technologies, thus increasing employment and export earnings. Some of the processed exported products include corned beef, crystallized ginger, canned fruits, canned vegetables, milk products such as butter and cheese, coconut meal and coconut cake as livestock feeds, coconut oil as fuel for generating small-scale electricity, coconut timber, coconut soap and cosmetics, fruit juice, banana chips and many more.

Women in Agriculture

Women are involved in agriculture in many different ways. In the traditional subsistence agriculture, women are mostly involved in carrying out maintenance of the crop and in marketing in addition to the normal daily chores for the family well being. Some traditional crops which are becoming economically important such as pandanus, mulberry, and even floriculture are predominantly managed by women. The Fiji Government, in due recognition to the significant contributions made by women in agriculture and many other areas, has created the Ministry of Women, Culture and Multi-Ethnic Affairs to strengthen the role of women in the social and economic sectors of development, and also in the public service and the MAFF. In the agricultural education institutions, selection for recruitment

of agricultural students is heavily influenced by gender balance. This was not necessarily the case in the past decades.

Resources for Development

There has been limited attention to provision of funds for national agricultural development programs and small-scale farming enterprises in Fiji. In the early post-independence period, the Government of Fiji established the Fiji Development Bank to provide agricultural finance and the only acceptable and equitable form of collateral was the tenancy of lease document on the native land. This policy has resulted in unpaid loans and difficulties faced with the loan recovery from the collateral which is governed by the Native Land Tenancy Act. The Bank policy was reviewed and now could only provide finance to large-scale agricultural development. The subsistence farmers no longer have any form of credit services available to them to assist them in developing small-scale commercial enterprises. The agriculture sector review report recognized this major economic gap and recommended the establishment of credit services for small-scale enterprises with relative flexibility on collaterals. This resulted in the establishment of the National Micro-Finance Unit which is currently in operation and has been receiving increasing number of applications from small entrepreneurs. Networking with other government departments and international institutions has been developed to facilitate short- and long-term financing. In 1996, it was reported that 25 percent of Fiji's population lives below the poverty line and one of the objectives of micro-financing is to assist in reducing poverty. This will greatly consolidate the national capacity to strengthen its internal economic activities to enable it to sustain its economic base against vulnerabilities exerted from external trade pressures. There is great need to further institutionalize this micro-financing network and to provide assurance of quality services for financing the needs of small-scale agricultural enterprises.

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3. INDONESIA

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INTRODUCTION

Agriculture's contribution to the economy of Indonesia though significant at 16.7 percent of GDP, is diminishing and the sector employs about 44.95 percent of the population. Indonesia is the world's largest producer of coconuts, second largest producer of copra, palm kernels, palm oil and natural rubber, and third largest in case of rice. The country has 192 million ha of land that can be divided into 12 groups of land use types (Table 1). Most of this land resource has quite a high potential for developing agricultural farming system, even though, it faces problems of high slopeland, low fertility soil, and peat land.

The area of utilized land in Indonesia until 1997 was about 64 million ha (Table 2). Small-scale subsistence farms account for about 87 percent of total cultivated land, are labor intensive and grow predominantly food crops. Concentrated in Java, Sumatra and Sulawesi islands, these farms produce 90 percent of the country's rice and corn. Large state owned and private estates account for the remaining 13 percent of cultivated land. They use hired or contracted labor and engage in agribusiness and export-oriented crop production.

Abundant natural resources, rising domestic demand and new reforms in agricultural trade and investment are likely to generate many new opportunities for the agribusiness investor. In terms of agrarian reforms, governments need to anticipate globalization to promote national economic recovery (post-crisis period). Information packages and agrarian reforms should give assurances for a conductive business environment.

One issue, land should not be merely considered from an economic point of view. Agrarian reforms and regulations on land ownership, landholdings and land usage should be able to overcome problems which may occur between land-based developments and the needs of the society.

This report is aimed at reviewing the agrarian reforms implemented in Indonesia along with their role in promoting the adoption of modern agricultural technologies for improvements in agricultural productivity and environmental sustainability.

PROBLEMS OF AGRICULTURAL LAND MANAGEMENT

In future, changes in trade will be fundamentally characterized by attainable agreements on the liberalization of trade and investment regimes. The implications are that Indonesia should open up its markets, including its agriculture sector and gradually lead to a more open competitive market structure with a sustainable distribution of production.

Table 1. Total Area of Land Major Constraints and Its Allocation in Indonesia, 1992

No.	Land Type with Major Constraints	Area (000 ha)	Utilization
1.	Land with cool climate	407.	Natural preservation, mountain recreation
2.	Land with high slope		Protection forest and conservation
a)	Lower hill area with full of notches	21,785.8	Forest conservation/hydrology, crops, conservation farming
b)	Mountain areas with few notches	30,240.7	Forest conservation, estate crops, conservation farming
c)	Mountain areas full few notches	36,147.4	Protection forest/hydrology
3.	Land with shallow soil	2,834.4	Estate crops, forest, savanna
4.	Land with poor drainage	22,037.3	Wetland farming, swamp forest, natural preservation, fisheries
5.	Rigid land	1,837.9	Conservation forest, strong boarder
6.	Land with cracked clay	841.6	Wetland farming, dryland on flat area, forest/crops
7.	Land with less fertile soil	42,646.8	Dryland farming, estate crops, mixed farming
8.	Land with dangerous salinity	2,173.0	Farmers forest, brackish water fisheries
9.	Land with potency of acid sulfate	4,109.5	Wetland areas
10.	Peat land	16,082.6	Conservation forest, wetland farming, estate crops, horticulture
11.	Land with or without weak	9,394.7	Various farming with weak boarder
12.	Lakes, rivers, and others	1,405.1	Fisheries, irrigation, recreation, energy
	Total	191,943.8	

Source: Nasution, 1999.

Table 2. Land Area by Utilization in Indonesia, 1995-97

(Unit: ha)

No.	Land Type	1995	1996	1997
1.	Wetland	8,484,687	8,519,110	8,490,044
2.	House compounds and surrounding	5,155,422	5,291,375	5,331,489
3.	Dryland/garden	8,244,882	8,383,599	8,382,311
4.	Shifting cultivation	3,123,625	3,179,213	3,225,883
5.	Meadows	1,889,399	1,953,085	2,056,332
6.	Swamps	3,883,089	4,172,930	4,270,515
7.	Dyke	422,564	438,500	467,265
8.	Water pond	182,156	183,860	168,716
9.	Temporary fallow land	6,967,938	7,335,586	7,577,909
10.	Woodland	9,555,010	9,446,070	9,133,621
11.	Estates	13,835,746	14,448,415	15,016,014
	Total	61,744,518	63,351,743	64,120,099

Source: Nasution, 1999.

These changes will significantly influence Indonesia's national development particularly the development of agriculture sector and its agricultural land management policy. Although Indonesia, like any other country, is quite capable of adjusting to new situation, it is likely to face many problems which follow:

Less Attention to the Agriculture Sector in Indonesia's National Economic Development

The agriculture sector, which employs 40 percent of the population has been relatively behind in modern development. This has been so because agriculture sector is predominantly occupied by small-scale subsistence farmers with limited landholdings, low technology adoption and generally low competitive position.

Low Bargaining Position of the agriculture Sector

Competition for land acquisition for various uses has been intense in Indonesia and the best land in general fall into the hands of highest tillers belonging to non-agriculture sector that also is characterized by highest returns. Agriculture, being a low return sector, is generally left with poor and low productivity land that adversely affects its ability to generate rapid productivity increases.

Uncontrollable Agricultural Land Conversion

The conversion of agricultural land into non-agricultural land is mostly occurring in Java Island. Until now Java was one of the most important production centers for rice and other food crops. The reason behind this conversion is that Java has a relatively high level of infrastructure that is highly conducive for industrial and tertiary activities.

Distribution of Agricultural Landholdings

Being a basic productive resource, land ownership and its distribution would generally be associated with social, economic and political powers and ensure human safety. It is also true that high concentration of land would lead to considerable accentuation of these problems. As Indonesia is primarily an agrarian economy, it can be no exception. The land distribution and associated problems can be discussed under two heads:

1. ***Unbalanced Structure of Farm Distribution***

The trend within 10 years shows that the percentage of farms with less than 0.5 ha in landholdings increased from 40.8 percent in 1983 to 48.5 percent in 1993. Furthermore, the average size of the landholding decreased from 0.26 ha to 0.17 ha. By contrast, farms greater than 5.0 ha were only 2.4 percent of the total in 1983 but fell to 1.3 percent in 1993. However their farm size increased from 8.11 ha to 11.9 ha over the same period (Table 3).

2. ***Skewed Distribution of Landholdings***

Data in 1993 show that households with less than a 0.5-ha landholding were 70 percent of total rural households and accounted for only 13 percent of total farm land. By contrast 69 percent of the total agricultural land was held by only 16 percent of the total rural households (Table 4).

Limited Availability of Potential Land for Agriculture

The availability of suitable agricultural land compared with the number of agriculture-based population is small. Only in some islands such as Kalimantan, Maluku, and Papua (Irian Jaya), is the availability of suitable agricultural land exceeds 1.0 ha. While in Java, less

than 0.25 ha; Sulawesi, less than 0.5 ha; Nusa Tenggara, slightly above 0.5 ha; and Sumatra, less than 1.0 ha are available. This suitable land is still being reduced by new residential developments, public infrastructure, and other uses by non-agriculture sectors. Furthermore, most of the potential and existing land suitable for agriculture is held and/or owned by persons or organizations/companies with different types of legal ownership.

Table 3. Farm Distribution in Indonesia (1983-93)

No.	Size Groups of Farm Landholding (ha)	1983		1993	
		Percent Farms	Average Landholding (ha)	Percent Farms	Average Landholding (ha)
1.	< 0.5	40.8	0.26	48.5	0.17
2.	0.5-1.99	44.9	0.94	39.6	0.90
3.	2.0-4.99	11.9	2.72	10.6	3.23
4.	> 5.0	2.4	8.11	1.3	11.90
No. of farms (million)		15.9		17.9	
No. of area (million ha)		16.7		15.4	
Average landholding (ha)		1.05		0.86	

Source: Agricultural Census 1983, and 1993.

Table 4. Structure of Agricultural Landholding in Indonesia, 1993

No.	Agricultural Landholding (ha)	No. of Rural Household (percent)	Landholding Area (percent)
1.	< 0.49*	70	13
2.	0.5-0.99	14	18
3.	> 1.0	16	69

Source: Agricultural Census, 1993.
Note: * Including 43 percent tenant and homeless.

Land Fragmentation

Agricultural land ownership is categorized into two different sections: (1) farmland – land which is owned/or held by farmers as an individual or household; and (2) agricultural organizations – agricultural land which is owned/held by organizations and or businesses. Farmland has been fragmenting rapidly in terms of ownership, as shown in Table 5.

Table 5. Evolving of Landholding/Ownership in Indonesia, 1983-93

Region	Average Agricultural Land-holding per Farmer Household (ha)		No. of Tenant (000 persons)		Farmland Area (000 ha)	
	1983	1993	1983	1993	1983	1993
Indonesia	0.98	0.83	9,532	10,937	18,350	17,665
Java	0.58	0.47	7,403	8,097	5,716	5,248
Outer Java	1.58	1.27	2,129	2,840	12,634	12,417

Source: Agricultural Census, 1983 and 1993.
Note: Farmers that only hold landless than 0.5 ha.

The number of tenants in outer Java from 1983-93 was 33.4 percent while Java Island, 9.37 percent. The outer Java region has been a favorable location for companies to open up big plantations.

The above problems highlight and demand proper land planning and management. A system that can regulate the allocation of land resources for sustainable development, balance the needs of society and consider various regional aspects. Therefore, a set of policies is needed to regulate ownership, land usage, and address natural resources and environmental concerns.

EVOLVING AGRARIAN REFORMS

The basic orientation of agrarian reforms in Indonesia should be based on **Law No. 5**, 1960, which could be summarized into 10 principle rules:

1. Permanent relationship between the unity of the Indonesian country and its people;
2. Right of land control by state;
3. The National Land Law is custom law;
4. Equal opportunity and accessibility for citizens;
5. Social function of land tenure rights;
6. Restrictive ownership and landholding;
7. Non-monopolization by private institutions, and concerns for small operators;
8. Intensification of agricultural land utilization and the prevention of extortion;
9. Enforce environmental protection and sustainable development norms; and
10. The needs of land reforms.

Data on the distribution of land ownership/holding previously mentioned and the concentration of land ownership, indicate deviations from the principle rules laid out in Law No. 5, 1960. The deviations are mainly caused by:

- economic growth as the main priority of macro-economic policy;
- a political government which sides with the big investor rather than small people;
- non-transparent land management;
- lack of government regulations restricting the size of land ownership/holding for large-scale estates, residential plots, industrial undertakings and other non-agricultural uses;
- *ad hoc* and unclear government policy on traditional land rights; and
- *ad hoc* implementation of land reform policy.

However, the Law No. 5, 1960 was based on the agrarian practices which were in vogue during three and half centuries of colonialism, under Dutch Government and may not be relevant for addressing the current situation. This would certainly be true in view of Indonesian Government's strong commitment to put the people's welfare, as the basis for national development programs during the last three decades. The land reforms policy, put forward in 1998 therefore, may be more relevant and can be spelled out as follows:

- Improving and simplifying land management system;
- Protecting the rights of land ownership;

- Improving the location permit policy by way of including restrictions on what could be owned by a company;
- Providing a fair solution to land disputes by considering people's needs;
- Delegating operational authority to provincial and district governments; and
- Opening up a special mail address and facsimile to receiving complaints 24 hours per day.

RECENT POLICY REFORMS FOR AGRICULTURAL LAND OWNERSHIP AND LANDHOLDING

In line with the various needs and demands of increasing land productivity and maintaining environmental protection, the government has recently imposed policies concerning land ownership and landholdings. These policies are designed to enhance people's welfare and prosperity. The policies are as follows:

Regulating and Utilizing Idle Land

This policy was issued by government regulation No. 36, 1996 and comprised of the following:

a. A social function to land tenure has to be well implemented. Every individual, organization, or institution must use, maintain and prevent his or her land from being destroyed.
b. The regulation for unproductive land utilization includes formal definitions, procedures, and actions regarding idle land utilization.
c. The land tenure rights of low economic groups, which could not afford to utilize their land, should not be categorized as unproductive land.

Land Resource Allocation

The national government through a Ministerial Decree No. 2, 1999 of Agrarian State Minister gave the authority to district/town governments to allocating land for development, by issuing a **location permit** to any appropriate applicant under the following conditions:

a. Every company which already has an official agreement or investment letter, must have a location permit to obtain its required land.
b. The location permit is basically a directive concerning spatial planning in the agreement letter which were to be issued by municipal/mayor.
c. Before issuing the location permit, the municipality should coordinate with the surrounding society of the intended location.
d. Restrict landholding for a group/company by type of activity and business region, to avoid a monopoly of landholding.

Problem-solving of Traditional Right of Custom Law Society

In line with the increasing awareness of transparency in government in Indonesia, various land dispute cases concerning societal custom law have emerged. These should be solved judiciously, otherwise, the impact might threaten the unity of the nation. The Law No. 5, 1960 admits the existence of traditional rights. To overcome this, the government has released a Ministerial Decree No. 5, 1999 of Agrarian State Minister to clarify the traditional

rights of custom law societies. It decrees that the recognition of the existence or non-existence of traditional land rights are fully delegated to the local government. There is to be field investigation involving experts, scientists and public figures, and whenever necessary NGOs.

Temporary Utilization of Fallow Land for Agricultural Practices

Based on observed data of mid-1999 of 10.3 million ha allocated to investors/ developers by location permits, only 18 percent or 1.9 million ha were used in line with the specified purpose in the permits. In order to optimize land utilization, the government has released a Ministerial Decree No. 3, 1998 of Agrarian State Minister on utilization of fallow land for food crops. The landowner which is temporarily not utilizing land for its designated purposes, must utilized the land to grow food crops and not sit empty. The main purpose of this policy is to give benefit to society, and increase national food security.

Protection of Civil Laws and Need of Landowner

Government through Memorandum of Agrarian State Minister No. 462-2083, 1998 gives protection to the landowners within the area of their permitted location, as agreed by local government. The content of this policy is:

a. right of landowner remains the same and not decreased although the land is within the area stated in location permit.
b. before the land is released (compensated) by the investor/developer, the landowner has the right to hold, utilize and convert rights to other party based on the existing rules.
c. the local government remains the giver of services to the landowner, such as land title services.
d. the landowner has similar position in the process of giving compensation, to the investor/developer.

Restrictive Landholding Area

To avoid excessive landholdings by organization/company, which could lead to the unproductive use of land, monopolies and restricted opportunities for other economic sectors, the government has released Ministerial Decree No. 2, 1999 of Agrarian State Minister on location permits.

Evolving socio-economic systems and politics encourage us to find out various policies on regulating landholding-ownership, which can accommodate rapid development.

RELATED POLICY REFORMS

Recent policy reforms in agricultural trade and foreign investment regimes promise more rapid and efficient growth of Indonesia agriculture sectors. The principle direction of the policy reforms is market mechanism, to increase efficiency and competitive edge in world market.

Agricultural Trade Reforms

Post crisis reforms have lifted most restrictions on domestic and international trade in agriculture. In 1998, tariffs on most food items fell to a maximum of 5 percent, and tariff rates on non-food agricultural products fell by 5 percentage points, as shown in Table 6.

However, the 70-percent depreciation of the Rupiah in 1997/98 offset the removal of many of these trade barriers, making many Indonesian producers competitive at world prices. The government's removal of BULOG (National Logistic Agency)'s monopoly on a range of imports allowed importers to compete in all commodities, in some cases replacing import bans with transitional tariffs.

Table 6. Tariff Rates of Selected Agricultural Commodities, 1995 and 1998

(Unit: Percent)

No.	Commodity	1995	1995
1.	Meat from cattle, sheep, goats, poultry and pigs	40-70	5
2.	Fish, crustacean (fresh, frozen, chilled)	100	5
3.	Dairy products	50-238	5
4.	Edible vegetables and certain roots, and tubers	60- 90	5
5.	Edible fruits and nuts, citrus peel or melon peel	60- 90	5
6.	Coffee, tea and spices	100	5
7.	Wheat/meslin	30	0.5
8.	Rye	70	5
9.	Barley	70	0
10.	Oats	70	5
11.	Maize	70	0
12.	Rice	180	0
13.	Grain sorghum	70	0
14.	Other cereals	70	5
15.	Wheat/meslin flour	30	5
16.	Rye and corn flour	10	5
17.	Rice and other flour	10	0
18.	Other milling industry products, malt, starches, inulin and wheat	70	5
19.	Soybeans	30	20
20.	Sugar	n.a.	25
21.	Groundnuts	45	5
22.	Copra and palm kernels	45	5
23.	Tobacco and tobacco substitutes	45-130	15
24.	Break, pastry, cakes and biscuits	80-100	5
25.	Cotton, carded, and combed	60	15
26.	Hides	50-60	0
27.	Natural rubber	50	15

Source: Nasution, 2001.

Rural Credit Scheme Reforms

Before the crisis, a network of state-owned regional development banks, village banks and cooperatives, and people's credit banks distributed subsidized credit, primarily, for rice production. With post-crisis reforms, the government has released Law No. 23, 1999, advising the Central Bank of Indonesia to see that only commercial banks meet farmers' credit requirements. They bear all risks of non-repayment of principal and are fully

autonomous in credit decision-making. The government also eliminated all lending quotes and targets for these institutions.

Foreign Investment Reforms

Reforms in mid-1998 liberalized foreign investment in plantations, including those producing palm oil and sugar and finished rattan products and eliminated restrictions on foreign investment in the wholesale and retail trade including distribution of agricultural products. Foreign firms now can operate retail outlets in major urban areas although restrictions remain in the provinces.

In August 2000, the government opened the freshwater fishery sector to foreign investment, including freshwater turtles, tilapia, nilotica, anguilia, bullfrogs, freshwater giant shrimp, and milk fish. Foreigners now can fish for demersal fish such as grouper, snapper, and other varieties, except in the Malacca Strait and Arafura Sea exclusive economic zones. The government also liberalized milk processing, in addition to repackaging powdered and sweetened condensed milk. Agriculture sectors totally closed to any form of investment include exploiting natural forests, lumbering, collecting and exploiting sponges, and producing alcoholic beverages such as spirits, wine and beer.

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4. ISLAMIC REPUBLIC OF IRAN

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INTRODUCTION

The Iranian agriculture has always been an important sector while facing problems in securing sufficient staple food for the population. Its contribution to GDP is approximately 27 percent, its share in employment is 23 percent and in non-oil exports, 24 percent. The sector produces 80 percent of country's food (Haji-Ghavami, 2001). Figure 1 and Tables 1-3 and 5 present some more insight on the conditions of agriculture of the country.

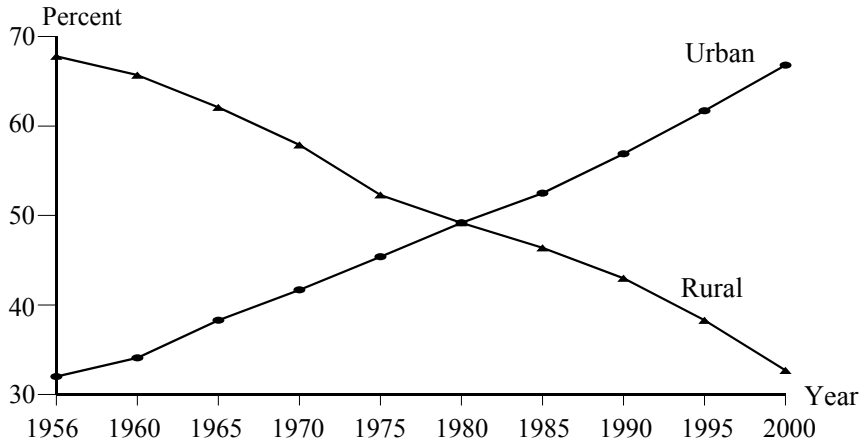

Figure 1. Changes of the Rural-Urban Population, 1956-2000

Source: Statistical Center of Iran (SCI), 1998.

Two important changes occurred in the sector during recent decades: pre-Revolution land reform by Shah regime since 1962; and agricultural development measures after the Islamic Revolution (1979).

AN OVERVIEW OF THE PAST EXPERIENCE

Shah's land reform had two main objectives of "increasing production" and "extending social justice" (Taleb, 1993).

Table 1. Farm Size and Distribution Among Peasants

Size of Holdings (ha)	Percent of Total Rural Population	Average Size of Holdings (ha)	Number (000)	Percent of Total
Less than 1	11.75	0.4	494	19.0
1-2	8.85	1.2	373	14.4
2-5	16.03	3.0	674	26.0
5-10	11.70	4.6	492	19.0
10-25	10.80	14.7	454	17.5
25-50	1.78	32.7	75	2.9
50-100	0.54	64.1	23	0.9
Over 100	0.19	194.8	8	0.3
Total ratio of rural population who hold lands	61.64	6.6*	2,593	

Source: Azkia, 2001.
Note: * Including all types of lands (irrigated, drylands, and fallow) (Kashani).

Table 2. Cropping Pattern and Production in Irrigated and Rainfed Areas of the Iranian Agriculture, 1998

Crop	Cultivated Area (000 ha)	Yield* (mt/ha)	Production (000 mt)
Cereals (wheat, barley, paddy and maize)	8,775	2.16	18,967
Beans (peas, beans, lentil, others)	959	0.58	557
Industrial crops (cotton, tobacco, sugar beet, oil crops, sugarcane)	722	10.76	7,769
Vegetables (potato, onion, tomato, others)	459	22.13	10,158
Summer crops (melons, watermelon, cucumber, others)	335	16.70	5,593
Fodder crops (alfalfa, others)	938	10.75	10,079
Perennial crops (tree fruits)	1,966	5.93	11,660
Total	14,154		64,783

Source: Agricultural Yearbook, 1998: 7-16.
Note: * Yields of irrigated and rainfed crops are significantly different and depend on annual precipitation.

Multiple Roles of Landlords

In the traditional farming system landlords had the following functions.

1-General functions including: a) supervision of the ownership order within the village boundary; b) supervision of the utilization of lands excluded from *nasagh* (the unwritten right of the farmer, without ownership rights to farm on the owners' land while sharing the product) within the village boundary; and c) support of the village as a socio-political unit.

2-Productive functions including: a) provision of irrigation water; b) provision of agricultural credits and giving loans to farmers to prepare necessary inputs, implements, livestock, etc.; c) determination of cropping pattern, technologies, practices, and even tools for utilization; and d) supervision of the management of *nasagh* in the village and marketing the product.

3-Functions for the government including: a) collecting and paying of taxes to the government; b) assistance and supervision in the execution of the government's sovereignty; and c) informal representation of the government at village level (Malek, 1978).

Modernization of Agriculture

Two means were used in pursuit of modernization of the Iranian agriculture during land reform: a) changes in human relations and production organization; and b) using new technologies (Malek, 1978) and practices. In total 1.7 million ha of land or approximately 57 percent of all rural households were affected.

By abolition of landlordism, the supporting umbrella was taken away from the farmers. The indigenous and traditional farming institutions were also dispersed. Some institutions were devised for filling the gap.

The Alternatives to Landlords

a) Rural Cooperative Societies (RCSs) were devised for providing farmers with inputs, short-term loans, daily necessities and services for purchasing farm products;
b) Agricultural Cooperative Bank (ACB) for giving loans to small farmers.
c) Agricultural Development Fund (ADF) for giving loans to large farmers;
d) Education Corps, Health Corps and Extension and Development Corps.

The land reform institutions did not work as expected. The Corps' members also had little experience, were often discouraged by being left isolated from their home and suffered from insufficient requirements. Villagers also looked, in general, at the outsiders as strangers and, at best, treated them temporary service providers. In short, the government's initiations were external, top-down, imperative, bureaucratic and non-participatory. The institutions were operating ineffectively until the Islamic Revolution in 1979. They dispersed the traditional farming organization without a capable alternative. They could not satisfy people.

Typology of Land Utilization in 1979

On the eve of the Islamic Revolution (early 1979) the land utilization types were as follows:

– Peasantry units including small and middle farms;
– Cooperative units including traditional cooperatives and informal peasantry societies;
– Production cooperative societies (PCSs); and
– Commercial units including private, informal companies, farm corporation (FCs) and agro-industries (AIs).

AIs and FCs could introduce modern agriculture to the local people with intensified cropping and high yield varieties. They failed because they were seen as the symbols of inequality, hence, dissatisfaction was widespread among the people. Then local people, whose lands were bought by the AIs, could only work in the new farming units as low-wage laborers if the companies needed.

In the PCSs farmers kept their holdings but they placed it at the disposal of PCSs. Each year the management would divide the consolidated estate among the members in proportion to the size of their holdings. The members would then organize themselves into groups of 5-20 for tilling their allocated land. Every group would elect a leader to direct and represent it. The management would pass the available loans on to the groups and provide

them with machinery and services. Members' share of the harvest, which is brought in collectively, is calculated on the basis of the size of his holding, the amount of work he has done, and the quantity of other inputs he has provided. The cost of PCSs' services he has used is deducted. The managers were appointed and paid by the government. The PCSs were subsidized with soft loans, grants, equity participation, and various infrastructural services. However, government interfered in management affairs to some extent (Schirazi, 1993). These PCSs not only survived but also increased after the revolution (Ministry of Agriculture, 1992). These were said to be successful:

- ***economically*** – because of better productivity and returns of production factors especially labor, per capita benefit, decreased cost and increased production and income;
- ***socially*** – due to improved villagers' welfare, attraction of people's participation and their satisfaction, and extension of their cooperation;
- ***culturally*** – as a result of enhanced awareness and capacity to work collectively;
- ***technically*** – because of maintained integration of lands necessary for use of machinery, inputs and practices and preventing fragmentation; and
- ***environmentally*** – due to conservation with optimal use of the resources, prevention of wastewater and sound use of inputs (Abdollahi, *et al*., 1998).

Dissatisfaction was on both sides, villagers resented poverty and lack of access to necessary services and outsiders disliked the lack of facilities, corruption, nepotism and lack of motivation. High food imports were the natural result of the process. This led to the Islamic Revolution in early 1979.

POST-REVOLUTION (1979) AGRICULTURAL DEVELOPMENT

Various measures were taken to decrease the gap between the poor representing majority of the small and landless farmers and the rich. Among others, two main measures for development of agriculture included institutional support and encouraging policies. Since the pre-revolution organizations such as the Ministry of Agriculture were unable to serve the poor farmers at the desired level, some institutions were established as complementary. The institutions related to agricultural development included Jahad-e Sazandegi (JS, Crusade for Reconstruction), Islamic Village Councils (IVCs), and Land Transfer Board (LTB).

The post-revolution era can be divided into two periods: 1979-89 and 1990-99. In the first period the country was mainly engaged in dealing with the Iraq-Iran war imposed by President Saddam Hossain. Defense, therefore, was the highest priority. Although agricultural development did not have a written plan as desired, various rural and agricultural development attempts were undertaken during the period. The focus was on increasing production, self-sufficiency in staple foods, social justice, and uplift of poorest villagers. The revolutionary institutions provided necessary development services to the villagers as complementary to those given by the ministries such as MA. During the second period, two Five-Year Development Plans (FYP of 90-94 and 95-99) were devised and implemented.

Institutional Support

JS was established by the decree of Ayatollah Khomaini for reconstruction of the rural areas. It focused on giving infrastructural, agricultural, and sociocultural services to villagers.

JS later became the Ministry of JS and has recently been merged with the MA and became the Ministry of Jahad-e Keshavarzi (MJK, Crusade for Agriculture) by Act. It gives its services through more than 600 JS bureaus at village-cluster level (Table 3). JS had a key role in establishing IVCs and implementing LTB's duties.

Table 3. Some Infrastructural Services Given by JS to Villages, 1979-98*

Services	Beneficiaries	1979	1998
Electrification	Villages	4,327	27,974
	Households	559,218	2,180,171
	Population	2,907,935	12,221,413
Drinking water	Villages	12,000	21,274
	Households	n.d.	977,868
	Population	n.d.,	6,241,064
Rehabilitation of villages	Villages	-	1,157
	Households	-	335,656
	Population	-	2,527,043
Construction of roads	km	8,000	68,463
Improved and asphalt roads	km	0	23,712

Source: Raw data from Ministry of Jahad-e Sazandegi (MJS), 1997b and 1999.
Note: * Numerous other services have been given in agriculture and rural development sectors; n.d. = no data.

The LTB was established with the responsibility of distributing land among the landless and small farmers. The main assignment of LTB was land distribution. It was also responsible for supporting the new land receivers, organizing them into groups of, on average, 10 members, and provision of necessary inputs, credit, and machinery services (Mirikhoozani, 1993). In total, the LTB has distributed approximately 1,315,000 ha among 233,000 landless and small farmers (Mirikhoozani, 1993). According to LTB (1990), some 12,000 collective groups namely *mosha* (or shared, the cooperative unit which was established after revolution) accommodating 97,000 farm families were active throughout the country. All members of *mosha* have to work personally to cultivate the group's land (Mirikhoozani, 1993).

IVCs replaced the pre-revolution village headmen for decision-making and dealing with the villagers' own problems. IVCs were elected by villagers. They were liaisons between them and local government authorities for dealing with rural public and social affairs. Their effectiveness varied and depended on different factors such as local socio-political conditions, influence of the members, support of the villagers, their access to resources, and coordination among the district's socio-political actors. In general, IVCs could not realize their potential. The constraints which led to their ineffectiveness included: 1) lack of legitimacy; 2) members' lack of time to hunt villagers' problems; 3) lack of budget for their missions; 4) low level of literacy of the members; 5) getting tired of long-time membership and lack of renewal of election; 6) migration of some members to cities (MJS, 1997a). In total approximately 30,000 IVCs, covering almost 60 percent of the villages, were formed.

Agricultural service centers (ASCs) were established at the village level in the early 1980. The centers were to give technological, extension and training, operational and other necessary supportive services to the villagers to facilitate agricultural productivity

(Mirikhoozani, 1993). ASCs have given all the needed services to villagers to facilitate agricultural productivity (Mirikhoozani, 1993).

Encouraging Policies

Agriculture was considered the axis of development after the revolution. Self-sufficiency in the main staple foods has been the main objective in development plans. For this reason agriculture received priority in the country's development plans. Setting suitable policies was necessary but this did not insure execution. Apart from execution, the attainment of objectives also depended on different factors.

NEW TECHNOLOGIES FOR AGRICULTURAL DEVELOPMENT

Introduction and use of modern technologies has been the main means for development of agriculture during pre- and post-revolution reforms. Adoption and non-adoption of these technologies depends on complex factors. Positivists believe that the modern technology would work everywhere because it had worked in the research stations where it was generated. Accordingly, modern technologies have often been considered better than traditional ones. Such an attitude often ignores the farmers' real conditions or the context that "modern is what is appropriate for the time and place" (Röling, 1992). Observations and some case studies indicate that the poor farmers adopt later than the rich. It is now believed that dissimilarity of poor farmers' socio-economic and agro-ecological conditions with those of research stations can explain non-adoption of the poor. In the same way, the similarity of rich farmers' conditions with those of research stations explains their adoption. There is no comprehensive study on the Iranian farmers' responses concerning adoption/non-adoption of the modern technologies. Rather, separate studies show that the majority of the poor have problems in responding to modern technology.

The question is whether the technologies are equally available and appropriate to the rich and poor. The availability and appropriateness of technologies have been analyzed in the context of Green Revolution. The same problems are seen in the modernization process of the Iranian agriculture, where many farmers especially the poor do not have access to suitable technologies for adoption. Various farm level observations indicate that the lack of information on physical, and economic availability of technologies hinder farmers' adoption of the recommended technologies. Moreover, irrelevance of the technologies to the target farmers' specific conditions is one of the main barriers for their adoption. A case study composed of qualitative and quantitative data gives empirical evidence in support of the effect of the problems on adoption.

The availability can be operationalized in terms of awareness, skills, farm-town distance and affordability of farmers to take the technology in hand. Appropriateness is judged on the basis of farmers' adoption of the technologies. In practice many poor farmers did not adopt the technologies either because they were not available or appropriate. Besides, a case study on factors responsible for adoption/rejection of dairy farmers of new technologies revealed the reasons for their responses. The reasons tell us why the measures for development of agriculture succeeded or failed. The technologies under study are artificial insemination (AI), treating straw with urea (TSU), and reconstruction and renovation of cattle houses (RRCH). The rate of adoption of the technologies, according to definition of adoption are 44 percent, 18 percent, and 2 percent, respectively. None adopted all the technologies. Accordingly, the majority of the poor farmers under study did not adopt

the technologies. The adoption decreased significantly when the subsidies were removed from the technologies during structural adjustment. Farmers' main reason for non-adoption of the three technologies were their high cost. Some reasons were also given for non-adoption of each specific technology. For example, ineffective insemination resulting in non-pregnant cows, concerns about dystocia, and lack of physical access to the AI technician are the main reasons for failure of AI project. TSU was not adopted mainly because of lack of awareness and skills, lack of labor, water and plastic sheets and suitable place. Reasons for non-adoption of RRCH were difficulties in taking loan from the banks with limited number of cattle as collateral (Kashani, 1999).

Some policy issues may be responsible for lack of success of the development of agricultural programs. A key factor is lack of the government commitment to improve the sector practically. One evidence can be the government's low actual expenditure on agriculture and natural resources sectors (Table 4).

Table 4. Percent of Government Payments on Agriculture and Natural Resources Sectors to the Total Payments*

Year	1986	1991	1995	1996	1997	1998	1999
Percent of total payments	18.3	16.0	10.7	11.2	15.5	11.4	8.5

Source: SCI, 2000.

Note: * The percentages excluded payments for water sector and the bank facilities.

The ratio of development budget of agriculture to the country's total development budget has decreased gradually from 11.3 percent to 5.1 percent during March 1989-March 1997, a decrease of 55 percent. A decrease of 75 percent is seen in the period of 1993-95 in bank facilities given to the sub-sector of animal husbandry (Kashani, 1999).

A similar trend is seen in agricultural prices. An example is that the annual wholesale price index of barley has been gradually increased from Rl.12.03 to Rl.578.68 per kg during March 1974-March 1997. The average annual wholesale price index of milk has increased from Rl.14.62 to Rl.406.8 per kg during the same period. Accordingly, the price of barley (the main input in animal feed) has increased 1.7 times the price of milk. The trend confirms the dairy farmers' claims that the prices are not encouraging.

Increased Productivity

Productivity is increased if the resources are used more effectively. Among others, irrigation water is the most limiting resource in Iran. Despite much efforts and various services that have been supplied to rural areas, there has been little success in increasing irrigated lands and other fundamental services. For example, land consolidation has been done only in 37,700 ha during the two FYPs (Sharif, 1999). It implies that the total irrigated area has not increased significantly during the period. The main reason is financial limitations. An increase only in drip or sprinkler irrigation to save water for new agricultural lands takes approximately US$1,000 per ha. This sum of money is beyond the affordability of most of the farmers and the government. On the other hand, inputs such as water, chemicals, fertilizers, and labor have not increased adjacently. Water has not increased, use of fertilizers in long-term trend has increased 1.5 times, and chemicals have decreased during recent years (MA, 2000). The labor input is unlikely to increase significantly. Farmers' information, knowledge, and skills and the quality of seeds presumably have improved.

The increase in irrigated lands has been little, while the population has almost doubled during the same period. Although the country suffers from the shortage of staple foods especially in recent years as a result of extensive droughts, yet, the productivity of most crops has increased. It is especially so in case of rice on the southern coast of Caspian Sea, vegetables, and fruits. The total agricultural produce has increased from 20 million mt to 60 million mt during 1979-2000 (Table 5).

Table 5. Yields of the Main Crops during the Past Decades

(Unit: kg/ha)

Crops	1960	1973	1988
Wheat (irrigated and dry farming)	715	718	1,091
Barley (irrigated and dry farming)	678	699	1,145
Paddy	2,158	2,770	2,828
Sugar beet	15,042	24,556	25,420
Potato	4,667	7,220	11,073
Fodder crops (dried)	2,567	3,977	3,332

Source: MA, 1992.

Despite the production growth, wastes are also extremely high amounting to approximately 30 percent of the total production. In some crops such as onions the rate is even higher. The wastes occur during different stages of production, harvesting, transfer, marketing, storing and retailing. One way in increasing the productivity is to decrease the rate of wastage. Another issue is to investigate the externalities of production with respect to the environment and losses due to the sustainability of basic resources.

Sustainability of Agriculture

Increased productivity has costs. Incorrect use of the agricultural basic resources, technologies and practices impose extra costs. These are the costs of land degradation and deterioration of natural resources. Beside deforestation, pastures are overgrazed, chemicals and pesticides overused, local seeds replaced by high-yielding varieties (HYVs) without adapting to the local conditions, desertification and soil erosion are going on. It is so despite the attempts that are also going on but much slower than the degradation. On the other hand, the new technologies are often more expensive, sometimes unacceptable to farmers and harmful to the environment and human. In the past decades the amount of land degradation has been more rapid than land reclamation. Despite urgent need for water, a sudden rainfall results in extremely large amount of runoff and floods which destroy down stream lands. Doing sound agriculture has little cost, compared with the losses, and can be beneficial. As Pretty (1995) puts it: "*in the diverse, complex and 'resource-poor' lands of the Third World, farmers adopting regenerative technologies have doubled or trebled crop yields, often with little or no use of external inputs; – in the high input and generally irrigated lands, farmers adopting regenerative technologies have maintained yields while substantially reducing inputs; – in the industrialized agricultural system, a transition to sustainable agriculture could mean a fall in per ha yields of 10-20 percent in the short term, but with better levels of financial returns to farmers*". As one can see in any type of agriculture it is possible to grow profitable crops with little harm to the environment.

CONCLUSION AND SUGGESTIONS

So far agricultural development organizations have taught and worked for farmers. It is time to learn from and about farmers and work with them.

At the farm level, it is necessary to motivate farmers for collective action and mobilize them for active participation in the development process. Farmers have to be enabled to give their suggestions, ideas, participate in designing, implementing, utilization, maintenance, monitoring and evaluation of projects. To do this, farmers need to be organized into their own self-reliant organizations in order to share in decision-making and the power structure. Optimal use of chemicals and fertilizers are the other necessary measures that need research, extension and training.

At the institutional level, the main measure is to coordinate the institutions that are individually responsible for one or more tasks for the development of agriculture. They include knowledge institutions such as research, extension and training and those responsible for providing farmers with access to technologies, credit and marketing. The context has to be taken into account. Farmers' need assessment is a preliminary step for creating relevant technologies. To set an incentive structure for rewarding successful performance may encourage the responsible officials to be more productive. Lack of accountability in the development process from local to the headquarters level is a constraint. An effective monitoring and evaluation system should work as a mirror and reflect the real constraints rather than threaten the personnel at lower levels.

At the policy level government commitment has the key role in development. Two measures that government have to take include: a) allocate sufficient infrastructural investment to set the scene for active involvement of the private sector; and b) set economic support, specially, incentive prices to motivate farmers to produce more and better. The focus of the policies has to be to support small and poor farmers.

Research, extension and training have to be problem-oriented rather than preparing reports and materials that decorate the shelves. Setting suitable rules and regulations for sound agriculture and preventing pollution, degradation of water and soil resources and managing and undertaking land consolidation are priorities in dealing with agricultural productivity in Iran.

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5. MALAYSIA

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INTRODUCTION

The agriculture sector in almost every country around the globe has undergone significant changes in terms of physical structure, pricing policies, methods of production, output, export values and productivity level. At any rate, the increase in agricultural productivity has always been emphasized. It becomes even more pertinent in light of the rapid increase in population especially within the Asian nations. The current world population has surpassed six billion of which about 80 percent is concentrated in the developing countries. Against this population pressure, failure to increase agricultural productivity level may put Asia in serious economic, social and political problems. And as far as food security is concerned, productivity increases should be made part and parcel of the national agricultural policy since an increase in population would lead to higher demand for food. In view of this situation, significant productivity increases in agriculture have been recorded in the developed and developing countries as a result of the adoption of a series of agrarian reforms.

Basically, agrarian reforms involve changes made in agriculture to raise productivity, farm incomes and farmers' welfare. These may be achieved through changes in agricultural policies, development programs and adoption of new technologies. Eicher and Witt (1964) concluded that the main tenets of the Agrarian Doctrine are: (i) because of their geographical situation some communities will always rely on agriculture as a main economic activity and since agriculture is an intrinsically different activity from industry, such communities cannot develop along identical lines with the industrial economies; and (ii) for the countries with an agricultural overpopulation, individual peasant holdings and cottage industry constitute the best economic policy.

This paper highlights the agrarian reforms undertaken in Malaysia that enabled the restructuring of the entire agriculture sector. Significant productivity increases have been achieved as a result, but the agriculture sector continues to face challenges and threats for future development.

MALAYSIAN AGRICULTURE SECTOR

Malaysia has been an agriculture state prior to the independence in 1957. About two decades later, the agriculture sector still contributed a significant share to the GDP, employment and export earnings (Tables 1 and 2). However, this scenario began to change as the country transformed into a more industrialized state after the implementation of the

Overall Perspective Plans (OPP1 and OPP2) consisting of the New Economic Policy (NEP), 1971-90, and followed by the National Development Policy (NDP), 1991-2000. Malaysia is expected to become a fully industrialized economy by year 2020 following the full implementation of the Third OPP3, 2001-20.

Table 1. Sectoral Shares in GDP, 1965-2000

(Unit: Percent)

	1965	1970	1980	1990	1995	2000[a]
Agriculture	31.5	33.6	22.2	18.7	13.6	10.5
Mining and quarrying	9.0	7.2	9.2	9.7	7.4	5.7
Manufacturing	10.4	12.8	20.2	26.9	33.1	37.5
Construction	4.1	3.8	4.5	3.5	4.4	4.8
Wholesale and retail trade, hotels and restaurants	15.3	13.7	12.6	11.1	12.1	12.7
Finance, insurance, real estate and business services	6.0	6.0	8.2	9.8	10.7	11.9
Government services	19.1	19.3	13.0	10.8	9.7	8.1
Other services[b]	4.6	3.6	10.1	9.5	9.0	8.8
Total GDP (at factor cost)	100.0	100.0	100.0	100.0	100.0	100.0
Primary sector	40.5	40.8	31.4	28.4	21.0	16.2
Secondary sector	14.5	16.6	24.6	30.4	37.5	42.3
Tertiary sector	45.0	42.6	44.0	41.2	41.5	41.5

Source: Government of Malaysia, Seventh Malaysia Plan (7MP), 1996-2000.
Notes: [a] Forecast; and [b] includes transport, electricity, gas and water services.

Table 2. Percentage Share of Agriculture Sector in GDP, Employment and Exports, 1970-2001

	1970	NAP1	1990	NAP2	1999	2000	2001*
GDP	33.6	22.2	18.7	13.6	9.4	8.8	8.3
Employment	53.5	31.3	27.8	18.0	16.0	15.8	16.0
Export	40.0	24.0	11.5	10.4	9.7	9.6	8.5

Source: Government of Malaysia, various series.
Note: * Estimates by Ministry of Finance, Malaysia.

The agriculture sector in the country is still characterized by a dualistic system, with the estate or plantation sector (farm holdings of at least 100 acres or 40 ha) and the smallholdings sector. The estates, generally specializing in the cultivation of rubber and oil palm, are normally owned by large (local and foreign) companies with relatively higher productivity. For instance, the average productivity of the rubber estates in the country is almost double that of the smallholdings. Systematic and good farm management practices have been cited as the key factors in higher farm productivity of the estate sector.

The smallholdings, on the other hand, are owned and operated by the local agrarian communities. This system still exists despite the adoption of various agrarian reforms during the last three decades. Similar to many other developing countries, the Malaysian agriculture sector particularly the smallholdings, is characterized by relatively small and uneconomic

farms, high incidence of poverty, adoption of traditional farming practices, and low income level. For example, about 70 percent of the rice farmers in the country owned farms less than 2 ha (5 acres) contributing to farm income of about RM300-350 per acre per month. In the rubber sector, the same size of farm will generate an income of about RM450.

During the last three decades, several programs were designed and implemented aimed at increasing the viability of the agriculture sector. Hence, the agriculture sector showed significant improvement in terms of increases in farm productivity and farm incomes, commercialization of specific crops, and the reduction of poverty among rural dwellers. However, the development of the agriculture sector has been relatively slow to effectively compete with modern industrial and services sectors. As a result, the share of the agriculture sector to GDP, employment and export earnings continued to decline over the years.

AGRARIAN REFORMS

Malaysia has undertaken the agrarian reforms quite differently from those of other countries in Asia, Europe and Latin America. While many countries implemented land reform as part of the agrarian reforms, Malaysia instead resorted to specific programs aimed at enhancing farm productivity, farm incomes and employment opportunities. Land reform was not included in Malaysian agenda for the fear that it would lead to serious political repercussions. However, agrarian reforms in Malaysia are conducted through land development, regional development, research and development (R&D); and agricultural policies. Together, these programs have benefited farmers through an increase in farm productivity and farmer's income level.

Land Development Programs

One of the major strategies pursued under the Malaysian agrarian reform has been land development program. It began with the launching of the First Malaysia Plan, 1966-70, upon recommendations made by the World Bank, and continued aggressively throughout the entire period of the NEP, 1971-90. These land development programs were financed by the Federal Government (Table 3).

The land development programs were aimed at creating diversification and movement away from sole dependence on the export earnings of rubber and tin. The diversification, apart from industrialization, also encouraged production of oil palm, cocoa, rubber, rice, vegetables, fruits, fish and livestock.

The land development program was made possible through the opening of new land schemes and *in-situ* programs. While opening of new land schemes is self-evident, the *in-situ* land development programs were undertaken through: (i) land rehabilitation and consolidation; (ii) replanting schemes for rubber on smallholdings; (iii) regional development; (iv) modern irrigation schemes for rice cultivation; (v) integrated agricultural projects; and (vi) forest conservation and management.

Table 3. Development Allocation and Expenditure for Agriculture and Rural Development Programs, 1986-2000

(Unit: RM million)

Program	5MP Expenditure	6MP Expenditure	7MP Allocation
In-situ Development:	2,708.5	3,019.6	1,736.0
Integrated agricultural development projects	1,021.8	-	-
Drainage and irrigation	200.3	-	-
Rural flood mitigation and coastal protection	77.2	844.6	1,500.0
Replanting	581.2	-	-
Rehabilitation	828.0	-	-
Land and Regional Development:	3,026.3	2,963.8	2,667.7
New land development	1,853.1	1,315.5	590.0
Regional development	657.1	930.5	1,054.2
Forestry	120.8	156.4	171.8
Fishery	264.4	370.0	609.7
Livestock	130.9	191.4	242.0
Support Services:	1,011.8	1,282.5	1,221.3
Input subsidies for paddy	396.8	-	-
Agricultural credit, processing and marketing	586.1	-	-
Extension and other services	28.9	-	-
Other programs of Ministry of Agriculture	329.3	236.2	441.3
Total	7,075.9	7,502.1	6,066.3

Source: Government of Malaysia, 5MP (1986-90); 6MP (1991-95); and 7MP (1996-2000).

1. ***New Land Development Schemes***

The opening of virgin jungles into new land schemes through the Federal Land Development Authority (FELDA) began as early as 1966. The settlers for the land schemes were selected from various categories of people within the rural sector comprising of landless farmers, artisan workers, pensioners, ex-security officers, and even fishermen who wished to start a new way of life. Under these land schemes, priority was given to the cultivation of rubber and oil palm, with the only exception for the planting of sugarcane in one of the land schemes. One of the main objectives of FELDA was to increase farm size for more economic land use and thus each FELDA settler was either allocated 8-10 acres for rubber or 10-12 acres for oil palm cultivation.

In addition, a number of state agencies also undertook joint-ventures with the private sector in new land development schemes. These included the State Economic Development Corporation, State Agriculture Development Corporations, Sabah Land Development Board, Sarawak Land Development Authority, and Private Companies (Table 4).

2. ***Land Consolidation and Rehabilitation***

Small and fragmented farms were rehabilitated and consolidated through the Federal Land Consolidation and Rehabilitation Authority (FELCRA). Operating on an *in-situ* basis, this effort has led to the conversion of small uneconomic farms into larger entities for increasing farm productivity and value-added. It was understood that land consolidation and rehabilitation would lead to more viable farms, cost-efficient production and better farm

management practices. The type of crops cultivated in FELCRA projects are rubber, oil palm, cocoa, coconut, pepper and fruits.

Table 4. Progress in New Land Development, 1971-2000

(Unit: ha)

Agency	1971-75	1976-80	1981-85	1986-90	1991-95	1996-2000
Federal:	264,373	202,429	212,493	513,115	350,000	-
FELDA	163,158	141,700	161,581	175,745	-	-
FELCRA	40,486	20,243	41,142	175,500	150,000	-
RISDA[a]	60,729	40,486	9,770	161,870	200,000	-
State Programs:	136,558	97,166	217,152	159,550	38,740	83,320
West Malaysia	35,425	40,486	143,873	89,000		
Sabah	39,271	28,340	56,680	45,500	11,500	
Sarawak	61,862	28,340	16,599	25,050	27,240[b]	37,090[b]
Joint-venture and Private Sector	90,081	105,263	99,999	17,551	149,900	97,430
Total	491,012	404,858	529,644	690,216	538,640	180,750

Source: Government of Malaysia: 5MP (1986-90); 6MP (1991-95); and 7MP (1996-2000).
Notes: [a] Rubber Industry for Smallholders Development Authority; and [b] figures for both Sabah and Sawarak.

3. ***Replanting Schemes for Rubber***

Increasing farm productivity can be best done through the introduction of high-yield varieties (HYVs). This was undertaken by the RISDA. Normally smallholdings under the RISDA are small and uneconomic units. In its effort to increase the welfare of rubber smallholders, old rubber trees were replaced with new clones capable of increasing productivity. As a form of encouragement, the activity was financed through replanting grants based on the cultivated areas.

4. ***Irrigation Schemes for Rice Cultivation***

In tandem with the country's effort to secure self-sufficiency in rice production, a number of irrigation schemes were set up in the rice-bowl areas. The major irrigation scheme of Muda, the biggest rice bowl of the country, came into operation in 1964. Other irrigation projects followed suit which were located in Kemubu, Krian, Sungai Manik, Seberang Prai, Sabak Bernam, and Besut. These irrigation and drainage projects gave way to multiple cropping and replaced mono-crop system practiced in Malaysia. New clones of IRRI (International Rice Research Institute) rice were brought to Malaysia for adoption. In addition, modern technique of direct seeding has replaced the traditional method of transplanting rice. This method of direct seeding has been widely practiced in the country as it offsets negative impacts of labor shortages.

5. ***Integrated Agricultural Development Projects***

Another major development in the rice growing areas is the introduction of integrated agricultural projects. With the exception of Muda and Kemubu irrigation schemes, other rice growing areas are classified under the Integrated Agricultural Development Project (IADP). The major thrust of IADPs is to increase community welfare level and standard of living of the farming communities through the integration of various economic activities under one umbrella. Besides rice farming, farmers are encouraged to be involved in multiple economic

activities such as horticulture, aquaculture, livestock breeding, poultry farming, food processing, and marketing of farm produce.

6. ***Forest Conservation and Management***

Nearly 58 percent of the area in Malaysia is covered with tropical forests. Export earnings from timber, sawn logs and other tropical products have been significant. To ensure sustainability of forest resources, agricultural policies and programs have been aimed at forest conservation and management. This responsibility is placed under the Forest Research Institute of Malaysia (FRIM) which adopted various techniques for timber extraction and re-forestation.

Regional Development

Regional development means balanced development of various regions, provinces, districts or even urban and rural areas. One of the basic approaches of regional development is to locate small-scale industries along with the modernization of agriculture sector for striking development balance. This program is placed under the control of the Regional Development Authority (RDA). Currently, there are seven RDAs throughout the country which are basically involved in the reorganization of existing land areas into higher productive uses.

National Agricultural Policy

Malaysia launched the first National Agricultural Policy in 1984 (NAP1) covering the period of 1984-91, followed by NAP2 (1991-98), and NAP3 (1998-2010). In general, all the NAPs focused on several key objectives which can be summarized as follows:

- To achieve at least 80 percent self-sufficiency in food production;
- To maximize income from agriculture through productivity increase;
- To create efficient utilization of resources;
- To revitalize the agriculture sector;
- To achieve balanced development between the agriculture and manufacturing sectors;
- To achieve a higher and greater depth of food industry development;
- To enhance food security;
- To increase productivity and competitiveness of the sector;
- To deepen linkages with other sectors;
- To create new sources of growth for the sector; and
- To conserve and utilize natural resources on a sustainable basis.

Research and Development (R&D)

In the quest for the enhancement and advancement of agriculture sector through the transfer of new technology, Malaysia invested a sizeable sum of money on continuing R&D. Of particular importance is the involvement of several agencies at the national level such as the Malaysian Agricultural Research and Development (MARDI), Rubber Research Institute of Malaysia (RRIM), and Palm Oil Research Institute of Malaysia (PORIM). These agencies are not only involved in the research activities but also in disseminating the new findings to the farming communities though their farm extension and support services.

In addition, local universities and government bodies are allocated certain amount of research funds under the Integrated Research in Priority Areas (IRPA) to enable researchers

to conduct applied research for increasing productivity of the national economy including agriculture.

IMPACT ON AGRICULTURE

The agrarian reforms have brought about significant changes in agriculture sector. The major successes are associated with crop diversification, increase in productivity, and decrease in the incidence of rural poverty.

Crop Diversification

While Malaysia depended solely on rubber for export earnings in the 1970s, significant crop diversification has occurred since then. Palm oil, cocoa, timber, and pepper have now evolved as additional sources of export earnings (Table 5). This, to some extent, provides a cushion against adverse price movements in the world market. Hence, the danger of having to gamble on the performance of one particular commodity can be easily overcome. For instance, had it not been for the favorable export price of palm oil, the Malaysian economy would have suffered a setback as a result of low rubber prices and worldwide recent economic and financial crisis that struck most Asian countries.

Increase in Productivity

One of the major successes of agrarian reforms has been an increase in farm productivity. Several factors such as adoption of HYVs, the introduction of farm mechanization, and the application of modern farm management practices have been responsible. For instance, the productivity of rice is 5-6 mt per ha as against 2-3 mt per ha before the adoption of HYVs. Ongoing experiments in the Muda irrigation scheme have shown further improvement in rice productivity to 8-9 mt per ha.

Decrease in Rural Poverty

Poverty in Malaysia is defined on the basis of poverty line which involves minimum income required by the household to purchase the basic necessities of life like food, clothing, shelter, health, education and security. For instance, the poverty line was set at RM250 per month for the period 1971-75, and RM460 per month for 1996-2000. A household with monthly income of less than half of the poverty line income of 1996-2000, was placed in hard-core poverty and needed special attention.

The incidence of poverty in both the urban and rural areas has been reduced. But more effective poverty eradication programs are still needed in rural areas especially with regards to poverty among the smallholders.

AGRICULTURE – THE CHALLENGE AHEAD

Many countries around the globe have made substantial economic progress at national as well as in agriculture. But as these economies progress, the agriculture sector begins to loose its shares in GDP, employment and export revenues. In general, many basic problems continued to act as stumbling blocks in the future progress of agriculture sector. Among others, price fluctuation, farm labor shortages due to rural-urban migration, inter-sectoral productivity differences, and globalization and trade liberalization under the World Trade Organization (WTO) are of critical importance.

Table 5. Land Use for Major Commodities, 1990-2000

(Unit: 000 ha)

Sector	1990		1995		2000		Annual Average Growth Rate (percent)	
	Amount	Percent	Amount	Percent	Amount	Percent	6MP	7MP
Commercial Commodity	10,900	73.5	11,241	68.5	11,958	64.8		
Rubber	2,043	13.8	1,745	10.6	1,601	8.7	-3.1	-1.7
Oil palm	5,312	35.8	6,801	41.5	7,948	43.1	5.1	3.2
Timber	2,315	15.6	1,876	11.4	1,569	8.5	-4.1	-3.5
Cocoa	1,230	8.3	819	5.0	840	4.6	-7.8	0.5
Food Commodity	2,738	18.5	3,502	21.4	4,004	21.7		
Paddy	600	4.0	666	4.1	599	3.2	2.1	-2.1
Livestock	604	4.1	838	5.1	1,011	5.5	6.8	3.8
Fishery	1,534	10.3	1,998	12.2	2,394	13.0	5.4	3.7
Others	1,189	8.0	1,663	10.1	2,498	13.5		
Total	14,827	100.0	16,406	100.0	18,460	100.0	2.1	2.4

Source: Government of Malaysia, 6MP (1991-95); and 7MP (1996-2000).

Price Fluctuation

Similar to many Asian counterparts, the Malaysian agricultural commodities continue to face uncertainties due to price fluctuations. In particular, the world prices of rubber and palm oil, the main exports of the country, have often witnessed serious price declines. Records show that the export earnings of major primary agricultural commodities for the year 2000 are expected to decline to RM19,965 million from 1999 level of RM24,463 million or by 18.4 percent.

In the case of rubber, continuous declines in its price have forced smallholders and the estate owners to switch to the cultivation of oil palm. This phenomenon has been going on since the last decade. Hence, Malaysia has ceased to be the major world producer of rubber and is now trailing in third place behind Indonesia and Thailand. But again, things have not changed for the better. The average price of crude palm oil (CPO) has also declined sharply from RM2,200 per mt in1997 and 1998 to merely RM1,539 per mt during January-September 1999 and to RM1,087 per mt during January-September 2000.

Farm Labor Shortage

The rapid rate of growth and development of the modern sectors (manufacturing and services) and the availability of jobs has caused large exodus of rural youths to the major cities. This rural-urban migration has made serious impact on the agriculture sector such that the farms have to be operated under acute constraints of labor shortage. Under such circumstances, farmers have little choice but to abandon their farms. Currently, there are about 800,000 ha of abandoned lands scattered across the country.

Inter-sectoral Productivity Differences

Despite the introduction of new technologies in agriculture the productivity gap between the smallholdings and estates continues to widen. This is clearly proven in both the oil palm and rubber sub-sectors. In the case of rubber, the yield per ha of estates is almost twice that of the smallholdings. Proper management and the adoption of new high-yielding clones have been cited for the major difference in productivity level (Table 6).

World Trade Organization

The multilateral trade negotiations at Uruguay Round in 1995 led to the creation of World Trade Organization to replace the General Agreements on Tariffs and Trade (GATT). But one of the major developments of WTO is the acceptance of the Agreement on Agriculture (AoA). The inclusion of AoA is considered the greatest achievement of the Uruguay Round considering the fact that the issues on agriculture have the most long-standing and unresolved arguments throughout the decades and have been the area most resistant to reform under the GATT (Lal Das, 1999).

Generally, the AoA provides for:

a. increased market access and greater transparency through:
   * the binding of tariffs;
   * the reduction of tariffs by 24 percent over the next 10 years for developing countries and by 36 percent over the next six years for developed countries; and
   * the conversion of all quantitative restrictions into tariffs, which will be eventually phased down.

b. the withdrawal of production support measures by 20 percent over the next 10 years for developed countries and 13 percent over 10 years for developing countries;

Table 6. Rubber Area, Yield and Production of Smallholdings and Estates, 1957-2000
(Unit: Area = 000 ha; production (000 mt); and yield = kg/ha)

Year	Smallholdings			Estates		
	Area	Production	Yield	Area	Production	Yield
1957	607	272	448	814	374	459
1958	607	276	455	801	396	494
1959	607	293	483	786	414	527
1960	765	299	391	783	420	536
1961	824	311	377	784	435	555
1962	900	281	312	779	445	571
1963	943	299	317	777	468	602
1964	976	319	327	766	485	633
1965	1,255	409	326	789	508	644
1966	1,281	442	345	770	531	690
1967	1,300	448	345	745	543	729
1968	1,307	518	396	715	582	814
1969	1,327	656	494	696	612	879
1970	1,342	638	475	677	631	932
1971	1,357	647	477	660	672	1,018
1972	1,362	634	465	644	670	1,040
1973	1,379	858	622	617	685	1,110
1974	1,392	856	615	596	669	1,122
1975	1,408	867	616	583	592	1,015
1976	1,425	955	670	573	658	1,148
1977	1,441	954	662	559	634	1,134
1978	1,455	958	658	543	625	1,151
1979	1,428	958	671	525	612	1,166
1980	1,494	938	628	506	592	1,170
1981	1,509	932	618	493	578	1,172
1982	1,510	932	617	482	562	1,166
1983	1,496	1,016	679	478	548	1,146
1984	1,512	1,013	670	455	518	1,138
1985	1,520	965	635	429	505	1,177
1986	1,511	1,041	689	399	498	1,248
1987	1,509	1,083	718	388	498	1,284
1988	1,496	1,186	793	361	497	1,377
1989	1,481	981	662	357	438	1,227
1990	1,480	892	603	352	397	1,128
1991	1,478	890	602	340	367	1,079
1992	1,470	880	599	331	350	1,057
1993	1,465	864	590	322	336	1,043
1994	1,463	731	500	293	284	969
1995	1,440	829	576	282	271	961
1996	1,425	934	655	271	266	982
1997	1,417	755	532	218	216	991
1998	1,405	702	500	216	198	917
1999	1,207	586	486	258	183	709
2000*	1,171	557	476	260	163	627

Source: Fovernment of Malaysia, *Rubber Statistics Year Book*, Department of Statistics, 1957-2000.

Note: * Estimates.

c. the reduction of budgetary outlays for export subsidies by 36 percent over six years for developed countries and 24 percent over 10 years for developing countries and the reduction of the quantity of exports covered by export subsidy by 21 percent for developed countries and 14 percent for developing countries; and
d. the harmonization of sanitary and phyto-sanitary measures based on the internationally accepted and scientifically justifiable standards.

In Malaysia, the agriculture sector still remains as one of the major sectors. Hence, the impact of full implementation of AoA, alongside the ASEAN Free Trade Area (AFTA), is expected to affect the Malaysian agriculture sector in many ways, principally, domestic competition with cheap imports, priority for export crops, food security issues, conglomeration of transnational corporations, and social hindrance to poverty eradication programs for the rural poor farmers.

1. ***Competition from Cheap Imports***

The trade liberalization which amounts to free trade among trading nations, is likely to result in large amounts of cheap agricultural produce from various competing countries. Initially, cheap imports should reduce outflow of foreign exchange and benefit the consumers. However, the cheap imports in the long run would discourage domestic production and result in higher unsustainable food deficits.

But more importantly, the growing competition among exporters to dispose of surpluses can lead to dumping and sales below the cost of production. Records showed that the number of antidumping actions taken by member countries in the GATT and WTO for the period, 1987-97, are quite alarming (World Bank, 2000). This high tendency for member countries pointed to the serious violation of the terms and conditions of the agreements. Hence, in the long run, competition for exports and the existence of dumping of agricultural products was likely to put domestic producers in jeopardy and subsequently place them out of business. This can only be avoided if the domestic producers can efficiently and effectively compete in the domestic and international markets. But based on the current setup, it would be very unlikely, if not totally impossible, for Malaysian farm producers to compete with those of the advanced countries.

2. ***Priority for Export Crops***

Trade liberalization calls for stiff competition among efficient producers. Based on this premise, the export crops sector (oil palm and rubber), which proved to be more efficient, would probably survive. In contrast, the domestic food sector which is still massed by tradition and small-scale operations will eventually disappear. Hence, a structural reform in the allocation of resources, particularly land, labor and capital, would be highly desirable. Pending such reforms, development of the export sector could only be achieved at the expense of the smallholdings.

3. ***Food Security***

Food security is defined as "access by all people at all times to the food needed for a healthy life" (FAO, 1983:9). In this connection, food security has three dimensions, namely: (i) availability of nutritionally adequate food both at the national level and at the household level; (ii) a reasonable degree of stability in the supply of food at any one time; and (iii) the need to ensure that each household has physical, social and economic access to sufficient food to meet its needs.

Maintaining food security is the main responsibility of any country. Such an effort would be even more important for a country with a continuously growing population. Depending on the available but limited resources, a country can possibly achieve food security through: (a) sole dependence on domestic production as is the case of 100 percent self-sufficiency in food; (b) a combination of domestic production and imports; and (c) 100 percent dependence on imports. In this respect, Malaysia has undertaken all the three options depending on the type of food items and degree of self-sufficiency level as shown by data in Table 7 for various crops.

Currently, most of the Malaysian farmers have survived because of the existence of various subsidies (input and price subsidies). But in compliance with the AoA and AFTA, the subsidies have to be reduced and eventually phased out. This would most likely promote disincentives in agriculture, lead to falling domestic food production and increase food imports. The rice sector, in particular, would be seriously affected since this sector operates on heavy subsidies. This would be contrary to Malaysian dream to emerge as the world's greatest food producer and exporter (Government of Malaysia, 1996).

4. ***Conglomerations of Transnational Corporations***

Trade liberalization proves to be more beneficial to larger entities such as the transnational corporations (TNCs) or multinational corporations (MNCs) simply because of the tendencies for greater market access into the developing countries. But more importantly, these TNCs may be able to grab the benefits at the expense of the poor. A study of cotton production in India during the first year of the implementation of WTO showed how trade liberalization has benefited the TNCs at the expense of Indian farmers (FAO, 1995). The study also noted that the process was leading to the concentration of farms "in a wide cross-section of countries" and to the marginalization of small farmers, and hence leading to the increase of unemployment and incidence of poverty.

Similar results can be expected to develop in Malaysia given the current state of affairs in Malaysian agriculture. For instance, records showed that the rubber estates which are managed by the large companies (e.g., Sime Darby and Boustead) have almost twice the productivity of those of the smallholdings. Various efforts undertaken by the government have so far failed to bridge the gap. Coupled with the declining rubber prices in the world market, it would be a serious blow to the future development of the smallholdings sector.

5. ***Social Hindrance to Poverty Eradication Program***

One of the major challenges facing the rural-agriculture sector is the relatively high incidence of poverty among the agriculture producers. Despite heavy subsidies, a large number of farm operators are still unable to increase their incomes and move beyond the poverty line. For instance, the last reported incidence of poverty in the agriculture sector in 1985 amounted to: rice farmers (58.3 percent), other agriculture (47.5 percent), fishermen (43.5 percent), rubber smallholders (39.2 percent), estate workers (39.0 percent) and coconut smallholders (31.1 percent). On average, the incidence of poverty within the entire agriculture sector stood at 42.6 percent compared to the national level of 24.1 percent (Table 8). The poverty situation in agriculture is likely to worsen with removal of subsidies under implementation of AoA and AFTA. A study on Malaysian padi farmers in the Muda area (Ikmal, 1989) concluded that the removal of subsidy has increased the number of poor farmers for all categories (owner, tenant and owner-tenant). This was supported later by Firdausy (1997) who gave evidence that the removal of fertilizer subsidy has increased the incidence of rural poverty.

Table 7. Production and Self-sufficiency Level (SSL) of Selected Commodities, 1990-2010

(Unit: SSL = percent; and output = mt)

Food Item	1990		1995		2000		2010	
	SSL	Output	SSL	Output	SSL	Output	SSL	Output
Rice	73	1,138,000	62	1,120,000	65	1,102,000	65	1,200,000
Vegetables	73	566,469	105	1,066,420	115	1,383,697	125	2,739,179
Eggs (000 units)	109	4,829,000	115	6,834,674	120	8,518,327	125	17,083,841
Fish	139	1,003,702	150	1,357,568	160	1,685,730	170	2,940,869
Meat:								
Beef	30	15,000	28	21,375	30	27,750	14	27,750
Mutton	10	550	30	2,250	43	3,950	21	3,950
Poultry	115	464,182	124	700,000	139	950,000	139	2,000,000
Pork	117	168,285	76	126,214	45	84,143	2	5,000
Fruits	99	716,366	105	992,019	115	1,286,230	120	2,446,151
Milk (000 liter)	4.3	26.02	4.5	40.76	3.5	48.349	10	183.533

Source: Ministry of Agriculture, 1991.

Note: Figures for rice (1990 and 1995) refer to production from both major granary and non-granary rice growing areas and based on cultivated areas.

Table 8. West Malaysia: Incidence of Poverty in Agriculture Sector, 1970-85

(Unit: Percent)

Sub-sector	1970	1975	1980	1985
Rubber smallholders	64.7	59.0	41.3	39.2
Oil palm smallholders	30.3	9.1	7.7	5.7
Coconut smallholders	52.8	50.9	38.9	31.1
Paddy farmers	88.1	77.0	52.7	58.3
Other agriculture*	91.8	78.8	64.2	47.5
Fishermen	73.2	63.0	45.3	43.5
Estate workers	40.0	47.0	35.1	39.0
Agriculture	63.8	63.0	45.7	42.6
National	49.3	43.9	29.2	24.1
Paddy farmers/National ratio	1.79	1.75	1.89	2.42

Source: Government of Malaysia, 4MP (1981-85); and 5MP (1986-90).

Note: * Includes tobacco growers, miscellaneous agriculture, vegetable and fruit growers, pepper smallholders, pineapple smallholders and livestock and poultry farmers.

SUMMARY AND RECOMMENDATION

The agrarian reforms have become part and parcel of the long-term development efforts in many countries. The main objective of the agrarian reforms has been targeted to promote greater equity and agricultural modernization. Some successes have been recorded but the same may not be expected in future without stepped up efforts at mitigating the effects of globalization and trade liberalization.

The smallholdings sector constitutes a significant proportion of the Malaysian agriculture. Either due to adverse price movements or new policies, the smallholders would be directly affected. Hence, the future agrarian reforms should give special focus to enhancing the productivity of the smallholdings. Probably the small uneconomic holdings should be operated under group farming or cooperatives. Special emphasis should also be directed towards eradicating acute poverty among the rural dwellers.

As the situation is likely to worsen with implementation of AoA, special mechanisms should be devised by the government to safeguard the interests of farming community. To be more specific, Malaysia needs to take following steps to protect its agriculture from any adverse effects of full implementation of WTO agreement on agriculture.

- Plan and design agrarian reforms that suit the changing needs of the future development;
- Beef up competition among producers of agricultural commodities;
- Establish support networks that create trusting relationships between urban businesses and peri-urban and rural producers;
- Build infrastructure;
- Improve channels for agricultural and industrial research and extension services to bring new technology to the rural economy; and
- Exploit the advantages of global business and intellectual linkages.

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6. MONGOLIA

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The agriculture sector in Mongolia witnessed no substantial development change since ancient times. Beginning with 1959 it started to bring new land under the plough with the technical and economic assistance of the former USSR. The purpose was to produce enough food to meet domestic requirement. Thanks to this development, the total area sown to food crops rose to 500 thousand ha.

Mongolia has a wide range of possibilities to develop agricultural production, especially farming as it has a changing continental climate. However, doing so requires high skills and knowledge as the country has extremely cold climate, with only few warm days, strong winds in spring, low precipitation and higher temperature fluctuations. Moreover the difference of vertical (longitude, latitude) encircling is large; because of depression and protuberant ground surface changing within a small distance. These features necessitate division of agriculture within the particular zone into several sub-zones to chose and plant specific crops in each of the sub-zones.

To bring virgin lands under cultivation Mongolian mechanization company was set up which developed a lot of state farms, fodder farms, mechanized dairy farms, sites to fatten animals and water supply systems. These developments were instrumental in evolving a highly organized agriculture sector as an independent branch of Mongolian society and economy. In order to operationalize the system modern settlements with electricity, communication networks hospitals and schools were also established. Thus the first sedentary civilization began to prosper from traditional nomadic animal husbandry life.

Soil digging and loosening is a sin – an old thinking – was hard to change but bringing virgin lands under cultivation opened new avenues for developing agriculture. It solved vital issue of raising technical skills of Mongolian population. It imparted new farming knowledge on people for working out appropriate agro-technology for farming in Mongolia and adhering to it indefinitely. More than that, the approach introduced vitamin-rich vegetables and fruits into Mongolian diets and food structure by emphasizing vegetable production and fruit tree plantations. The development of commercial fodder farms instead of pasture grazing brightened the possibilities of intensified animal husbandry practices.

At the final end it was quite a meritorious deed for our successors to have gained mastery over a method of development of humanity through land cultivation which has improved the living standard of the country especially that of central, northern and west-northern parts of Mongolia classified as a farming region covering 75 percent of Mongolia's total farm area.

The number of frost-free days in this region is 86-110 days. Annual precipitation is 260-330 mm and nearly 85-90 percent of this rainfalls in May-September period. This region

contains white brown and meadow soil with 20-35 cm gummosis horizon containing 2.5-4.0 percent gummosis.

Because of the short vegetation period, the most commonly grown crops include summer cereals, early and medium maturity potatoes and vegetables, mainly cabbage, carrot, onion and turnip. More than 86.9 percent of the farming area is occupied by cereals and 91.3 percent of it falls to summer wheat. Also 93.5 percent of the cereal harvest comes from summer wheat. Fodder crops occupy 11.4 percent of the farming area and oats and barley account for 76 percent of total area under fodder. Another 18.4 percent falls to sunflower and corn. In absolute terms and on the basis of last five-year average wheat was sown on 382.8 thousand ha, potatoes on 3 thousand ha, vegetables on 3.1 thousand ha and fodder on 14.7 thousand ha. The corresponding production figures were 287.5 thousand mt, 53.1 thousand mt, 23.3 thousand mt and 63.9 thousand mt, respectively for wheat, potatoes, vegetables and fodder. Average yields exceeded 780 kg for potatoes and vegetables and 4,330 kg for fodder. (Table 1).

Table 1. Area, Production and Yield of Crops Grown in Mongolia During 1996-2000

(Unit: Area = 000 ha; production = 000 mt; and yield = kg/ha)

	1996	1997	1998	1999	2000	Average
Wheat:						
Sown area	494.4	430.9	349.3	324.3	310.3	382.8
Production	448.7	323.6	256.2	220.3	238.5	297.5
Yield	907.6	751.0	733.5	679.3	768.6	777.2
Potato:						
Sown area	2.9	2.8	3.2	3.2	3.4	3.1
Production	58.4	55.2	52.6	46.4	53.1	53.1
Yield	20,137.9	19,714.3	16,437.5	14,500.0	15,617.6	17,129.0
Vegetable:						
Sown area	2.9	2.8	3.2	3.2	3.4	3.1
Production	21.8	22.8	20.4	24.7	26.8	23.3
Yield	7,517.2	8,142.9	6,375.0	7,718.8	7,882.3	7,516.1
Fodder Plants:						
Sown area	26.8	15.7	7.9	12.8	10.3	14.7
Production	100.0	56.0	48.4	52.7	62.4	63.9
Yield	3,731.3	3,566.9	6,126.6	4,117.2	6,058.3	4,346.9

Looking at production trends, the picture at best is mixed. In spite of rising yields, production seems to have been stagnating or even falling between 1996 and 2000. The cereal production especially that of wheat fails to meet even 30 percent of domestic requirements.

There should be many reasons for the dismal performance of agriculture. The major ones may be listed as follows:

- There is only half-hearted encouragement of the private farm sector and agriculture sector continues to suffer from lack of incentives for higher production and investment.
- Entities engaged in agriculture lack financial resources, are under constant threat of bankruptcy and get no financial support from the government.

- Agricultural policy-making is in the hands of unprofessional administration which does a poor job of production and dissemination of appropriate technology.
- Finally there is a total lack of private marketing system. High-yielding crop varieties are totally nonexistent. The use of fertilizers and pesticides is yet new and inadequate. These factors coupled with rising crop intensity lead to falling soil fertility and agricultural productivity.

The Appropriate Agrarian Reforms for Mongolia in the 21st Century

There is need to define plantation law along with fiscal or tax incentives at the earliest possible time.

In order to ensure proper incentives and rapid production increase, the establishment of private family farms with complete autonomy seems to be essential.

There is a general dearth of tillage equipment and farmers, hiring tractor and combine services are hard pressed to incur excessive costs. To save these costs, it seems appropriate if the government begins to establish service centers to meet the needs of interested farmers.

The government should promote crop rotation that restores soil fertility. For example, wheat harvest should be followed by cultivation of peas, alfalfa or green manuring.

The quality seeds are a need of the day and basis for Green Revolution. They must be prepared under the utmost care of professionals in scientific institutions.

In as far as possible, the country must produce its own mineral on chemical fertilizers and pesticides. To make a beginning and to ensure transfer of technology, joint ventures with foreign firms may be highly desirable.

Taking global warming into consideration, development of irrigation infrastructure may be a promising and rewarding investment for rapid growth of agricultural production.

7. NEPAL (1)

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INTRODUCTION

Agriculture is a major sector of Nepalese economy contributing 40 percent to GDP (1999) and providing employment to 81 percent of economically active labor force. Agriculture has played the leading role in Nepal's social, economic and political life through the centuries. The history of modern land reform started as early as 1951 and some notable efforts have been made since then to solve agrarian problems as follows:

- The act providing tenancy rights to the tenants of Kathmandu valley came into force in 1951.
- The Royal Commission was formed to examine the problem of tenancy, rural indebtedness and agricultural financing in 1952.
- A 13-point agrarian reform program was proclaimed.
- An act was legislated with the objective of preparing a complete list of ownership and holders.
- The Land Act of 1957 came into force.
- In 1959, the Birta Abolition Act was legislated.
- The Land Act of 1964 was a revolutionary step towards land ownership ceiling of 16.6 ha in Terai, 2.6 ha in Kathmandu valley and 4.2 ha in Hilly areas. An additional exemption was made to the land for housing purpose. Rent was also fixed at one-half of the output of the main crop. It also protected the interest of those tenants who were officially registered as tenants.

EXISTING PATTERN OF LAND DISTRIBUTION IN NEPAL

The bottom 40 percent of the agricultural households operate only 9 percent of the total agricultural land area while the top 6 percent occupy more than 33 percent. The concentration index for agricultural land is 0.54 reflecting a highly uneven distribution of land resource in Nepal.

Nepal living standard survey (Central Bureau of Statistics [CBS], 1997) indicates 40 percent of the agricultural households own farms with less than 0.5 ha size and only 13 percent have a size more than 2 ha. The proportion of households with less than 0.5 ha size is as high as 46 percent in the Hills, 42 percent in the Mountains, and 33 percent in Terai. By contrast holding of more than 2 ha were 14.1 percent in Mountains, 6.6 percent in the Hills and 20 percent in Terai. This indicates relatively small size of landholding in the Hills

compared to that in Mountains and Terai. The smaller size of landholdings in the Hills is also manifest in the higher incidence of poverty in the region (Table 1).

Table 1. Land Ownership by Size of Holdings and Region

(Unit: Percent)

Region/Holding	< 0.5 ha	0.5-2.0 ha	> 2.0 ha
Mountains	41.6	44.3	14.1
Hills	45.6	47.6	6.6
Terai	33.2	47.1	19.7
Nepal	40.1	47.0	12.8

Source: CBS, 1997.

LAND OWNERSHIP PATTERN

Only about 17 percent of the total land area of Nepal comprised of agricultural land. The per capita landholding is 0.14 ha. Land ownership is highly fragmented. About 69 percent of landholding is less than 1 ha and 9 percent are less than 2 ha. The dominant type of land entitlement in Nepal is owner-tiller. About 85 percent of the operated land is owner-operated and 15 percent is rented.

Table 2. Distribution of Land Ownership by Tenure and Region

Region/ Operation	Percent of Total Operated Land		Percent of Total Owned Land	
	Owner-operated	Rented In	Owner-operated	Rented In
Mountains	89.4	10.6	97.0	3.0
Hills	89.1	10.9	95.9	4.1
Terai	80.1	19.9	90.0	10.1
Nepal	84.7	15.3	93.2	6.8

Source: CBS, 1997.

IRRIGATION

Irrigation is considered a key input in achieving potential production and productivity. Irrigation alone contributes 14-17 percent to agricultural production. The market value of land is determined by productivity and location of land and depends mainly on existing irrigation facilities. Nepal has surplus water in relation to available cultivated land. The scope of expansion of cultivated land is very low so there is need of optimum use of available cultivable land. The diversion of Nepal's surplus water resources for irrigation can play a pivotal role in this regard by significantly raising the existing low cropping intensities.

PRODUCTIVITY

In one study it is found that land productivity in Terai ranges from Nepalese Rupee (NRs.)22,000-358,000 per ha for major cereals and cash crops (Table 3). Cropping intensity is 125.2 percent. It means that most of the area is planted only once in a year. It also depends on the irrigation facilities and population density.

Table 3. Productivity of Major Crops in the Ecological Regions

Crop	Terai			Hills			Mountains		
	Productivity (qtl[a]/ha)	Price (NRs./qtl)	Gross (NRs./ha)	Productivity (qtl/ha)	Price (NRs./qtl)	Gross (NRs./ha)	Productivity (qtl/ha)	Price (NRs./qtl)	Gross (NRs./ha)
Paddy	31	700	21,700	40	1,360	54,400			
Wheat	27	900	24,300						
Barley							40	3,000	120,000
Maize				42	500	20,100	30	3,330	99,900
Sugarcane	313	80	24,040						
Bitter gourd			149,200						
Tomato			358,200			320,000			
Vegetable			298,500			240,000			
Cardamon				2	12,500	25,000			
Garlic							32	5,500	176,000
Potato				80	1,000	80,000	100	1,600	160,000
Apple							30	1,000	30,000
Tea leaves (fresh)	43	1,700	73,100	400	3,100	1,240,000*			
Average (NRs./ha)			135,577			123,250			117,180

Source: CEDA, 2000.

Notes: [a] = 100 kg; and [b] excluded from the mean to avoid intolerable skewness.

In Nepal following problems are causing low productivity:

a) Huge amount of human and financial resources is drained out of the rural areas which leads to impoverishment of agriculture in terms of human and physical capital.
b) Youth are interested more to work in foreign countries than to be engaged in agriculture. This is causing shortage of agricultural labor mostly in the Hills and Mountains of Nepal.
c) Agriculture in Nepal is still characterized by primitive and outmoded cultivation practices that continue to undermine potential increases in productivity.
d) There is a strong tradition not to do the farm work but to give the land to the sharecroppers for cultivation. Traditional families of landlords and kulaks do not like to involve in cultivation. The owners do not have interest in the development of land and prefer to act as a rent earning class.

LAND REFORMS

Land reform is an essential instrument of development. Its proper implementation would help to accelerate the pace of development. In Nepal there is political consensus on the need for a new land reform program. A High Level Land Reform Commission was formed in 1995 which has prepared a comprehensive program of land reform and submitted it to the government. However the report has not yet been made public. Despite the realization of the importance of the need of new land reform program, the decision-makers are reluctant to initiate it. Some of the benefits of land reform in Nepal are:

a) land reform is the most essential instrument to restructure the rural economy of Nepal.
b) it is likely to transform agriculture thereby increasing its productivity.
c) it can prove to be powerful tool to reduce poverty and increase access of the poor to a source of income.
d) a good land reform program would help to improve the environment.
e) the status of women can also be improved with the adoption of good land reform program.

The existing land ceiling system has certainly discouraged the accumulation of land but could not reduce the interest of the people in land. It leads neither to productivity nor to efficiency increases. The land relation is still in the life of some ethnic and social groups in the country. Land is either inherited or acquired by purchasing or reclaiming. In most of the cases the inherited land is less efficiently used than the acquired land. The shift of land from the absentee agriculturists to the real farmers can be made possible in two ways – by lowering land ceiling or by imposing progressive tax on land.

MEASURES FOR IMPROVING AGRICULTURE SECTOR IN NEPAL

a. Land revenue for equity and efficiency (not for revenue only)
b. Consolidation of land records
c. Discouraging large landholding
d. Facilitating the land leasing and contract farming
e. Provision of institutional credit

f. Discouraging fallow land
g. Undertaking land consolidation
h. Discouraging land sub-division and land fragmentation
i. Institution building
j. Legislative provisions for capital market

NINTH PLAN (1997-2002)

The Ninth Plan set many objectives and targets for agriculture which can be listed as follows:

a) To alleviate poverty by increasing the productivity of resources and inputs and by generating opportunities of employment through speeding up of the economic growth of the agriculture sector.
b) To minimize impact on environment by amalgamating the utilization of external production inputs and the natural resources in agriculture sector.
c) To strengthen the foundation of agro-based industry and industrialization through diversification and commercialization of agriculture.
d) To develop leadership of women in the production program by involving them in agricultural development and by increasing their participation.
e) To improve food security and nutrition of the people by increasing the production of the food grains and nutritious food.

These objectives and targets are to be achieved by greater dependence on improved technology like Green Revolution, exploitation of comparative advantage, fuller utilization of infrastructure and mass participation of people and women in agriculture.

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8. NEPAL (2)

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The state shall create conditions for economic progress of the majority of the people, who are dependent on agriculture, by introducing measures which will help in raising productivity in the agriculture sector and develop the agriculture sector on the principles of industrial growth by launching land reform programs (Constitution of the Kingdom of Nepal 1990, Directive Principles and Policies of the State, Part 4, Clause 26 (5).

INTRODUCTION

Nepal is an agricultural country and it has remained that way for centuries. Hence availability and entitlement to this crucial productive resource has largely determined the livelihood and economic status of the people. Given the agrarian characteristics of the economy, the political posture of the ruling parties and corresponding regulatory, institutional and administrative provisions made by the state with regard to land ownership, distribution, ceilings and tenure arrangements are important determinants of land utilization, productivity and growth in the agriculture sector.

Evidences from Nepal's neighboring and other Asian countries demonstrate that effective land reform can play a decisive role in the overall economic transformation of an agrarian economy in the initial stages of growth. Certain states of India, Japan, Republic of Korea and Taiwan bear a testimony to this. As will be argued later in this paper, attempts at reforms in land relationships in Nepal have been inadequate, and whatever reforms, that were made, lacked strong commitment and hence their implementation was ineffectual and sometimes counterproductive. Further complacency in implementing a comprehensive land reform would only delay the process of economic transformation and welfare of the people.

Much is heard about the unsatisfactory performance of the agriculture sector of Nepal. In fact, the sector seems to have been pushed to a spiral of low growth for the past nearly three decades (Agriculture Projects Services Centre [APROSC] and John Mellor Associates [JMA], 1985, Chapter 1). Among others, the country's policy related to land ownership, distribution and tenure arrangements are regarded the main contributing factors to this stagnation. Agriculture is the predominant sector of the economy, but it is still overwhelmingly subsistence-oriented, highly diversified at the farm level (an antithesis of specialization and commercialization), and grossly ill-served with access to modern productive inputs and technology delivery services. This paper begins with a brief description of the current land use pattern in the country, followed by a historical account of land reform and its current status. It argues that reform in land distribution and tenure could lead to improved land productivity and accelerated growth in the overall economy. Finally,

some key issues are identified for further investigation. The term land tenure is used in a broad sense encompassing land ownership, distribution, and tenancy pattern and rental arrangements.

LAND USE

The Land Resources Mapping Project (LRMP) has divided the country into five physiographic regions, namely; High Himal, High Mountains, Middle Mountains, Siwaliks, and Terai, and this does not correspond with the conventional division into three regions, namely; Mountains, Hills and Terai. The major land uses according to the LRMP classification are given in Table 1. Accordingly, the proportion of agricultural land over the total area is the lowest (0.26 percent) in the High Himal region, obviously due to high proportion of the area covered with snow and rangelands. Nearly a quarter (26.0 percent) of the area in this region is grazing land and two-thirds of the area falls under the "other" categories. The High Mountain region has 13 percent of the total land under agriculture. The Siwaliks region has a slightly higher proportion (16.6 percent). The Terai is the most important region in terms of its high proportion (64.0 percent) of the land area under agriculture, followed by the Middle Mountains (42.5 percent).

The distribution of the country's total culturable land in the three main geographic regions is shown in Table 2. According to this Table the Mountains account for less than 7 percent of the total agricultural land, with much of the region being covered under snow and rangeland. The Terai serves as the food basket of the country and this region has the largest share (about 53 percent) of the total agricultural land. The Hill region has about 40 percent of the total agricultural land.

HISTORICAL BACKGROUND

Over generations, land has remained the principal resource for the sustenance of the subsistence-bound rural communities, as well as for generating revenues for the rulers. As Stiller (1993) states: "*Land was the central value in these communities. The whole of society was organized around land, not money. Land was productive money was not. To own or control land gave far greater status within the community than money – wealth. This explains the Nepalese hunger for land. It also explains in part the emergence of small principalities or mini-states*". Land and what it can offer in terms of food and revenue has been of central importance all throughout history. Economic historians of Nepal explain that, before the unification of Nepal around the mid-18th century, there were numerous tiny principalities whose viability and survival was determined mainly by the area and quality of land they could command against their competing neighbors. The surplus generated by severely squeezing the peasants went to pay for the military campaigns for the unification of the country that began in the mid-18th century and ended with the signing of the Sugauli Treaty with the British in 1815 (Regmi, 1971, 1978; and Stiller, 1993). Later during much of the Rana Rule (1846-1951), land became the principal means of enriching the ruling elites and their collaborators, while the peasantry generally languished in poverty and deprivation.

Land and land-based resources have thus been the principal source of economic surplus generated by the ruling classes, concentration of land in the hands of a few elite classes and severe exploitation of the peasantry through the excessive expropriation of labor and land revenue have been the principal policies adopted by the rulers through much of the nation's history.

Table 1. Major Land Uses in Nepal

(Unit: 000 ha)

Physiographic Regions	Agriculture			Grazing	Forest	Other	Total
	Cultivated	Non-cultivated*	Total				
High Himal	8 (0.2)	2 (0.05)	10 (0.26)	884 (26.0)	221 (6.6)	2,234 (67.0)	3,349
High Mountains	245 (8.1)	147 (5.0)	392 (13.1)	510 (17.2)	1,813 (61.2)	245 (8.3)	2,960
Middle Mountains	1,222 (27.5)	665 (15.0)	1,887 (42.5)	293 (6.6)	2,202 (49.6)	61 (1.4)	4,443
Siwaliks	259 (13.7)	55 (2.9)	314 (16.6)	21 (1.1)	1,477 (78.3)	74 (3.9)	1,886
Terai	1,234 (58.5)	117 (5.5)	1,351 (64.0)	50 (2.4)	593 (28.1)	116 (5.5)	2,110
Total	2,968 (20.1)	986 (6.7)	3,954 (26.8)	1,758 (11.9)	6,306 (42.8)	2,730 (18.5)	14,748

Source: LRMP Economic Report (1986) quoted in Sharma, 1995.

Note: * These are non-cultivated inclusions within the mapped agricultural land. Figures in parentheses represent percentages.

Table 2. Distribution of Agricultural Land by Region, 1991/92

(Unit: 000 ha)

Region	Arable	Non-arable	Total
Mountains	162	15	177 (6.8)
Hills	872	175	1,047 (40.3)
Terai	1,290	85	1,375 (52.9)
Nepal	2,324	275	2,599 (100.0)

Source of basic data: Ministry of Finance (MOF), HMG/N, Economic Survey (1996/97).

Note: These are annual average growth rates computed by fitting least-squares log-linear regression lines.

The country was under an iron-fisted family rule of the Rana for over a century. This period witnessed extreme pauperization of the peasantry through excessive expropriation of economic surplus from farmland. Following the overthrow of the Rana Regime in 1951, a number of interventions were initiated by the state to reform land tenure. Significant among those are:

- formation of the Land Reform Commission in 1953;
- promulgation of the 13-point Program in 1956;
- preparation of Land and Cultivators' Records Act 1954;
- Lands Act 1955;
- abolition of Birta Land Act 1957; and
- Agriculture (New Provisions) Act 1960.

All these measures were largely ineffective since the government was not serious about genuine reform. The overwhelming concern was to perpetuate the status quo, which was to safeguard the interests of the high caste privileged classes.

The Lands Act of 1962 was the most comprehensive of all the past measures.

- It fixed ceilings on landholdings 25 *bight* (16.93 ha) in the Terai and inner Terai, 80 *ropani* (4.07 ha) in the Hills and Mountains, and 50 *ropani* (2.54 ha) in the Kathmandu valley;
- Protected the rights of the tenant;
- Fixed rents at 50 percent of the principal crop grown in a year;
- Abolished the Birta system; and
- Introduced a compulsory savings scheme to generate invisible capital in the rural areas.

The Act, initially implemented in 16 districts covered the entire country by 1964. Landowners were informed well ahead of time when the Act would be effective. Such prior information and phase-wise implementation of the Act allowed ample time for the large landowners to redistribute surplus land above the ceiling among their near and distant relatives or otherwise conceal their actual possessions. In retrospect it could be said that the state allowed this in order to protect the interests of the landed gentry, while at the same time trying to project a populist image of a regime concerned about the welfare of the majority of the poor masses comprising landless households, smallholders and tenants who depended on the large landowners.

The objective to redistribute land among the landless and smallholder peasants appeared noble on the surface. However, due to the above-mentioned reasons, the state could identify and redistribute only 1.5 percent (29,124 ha) of the total agricultural land. This appears to be an insignificant achievement in view of the fact that about one-fourth of the farmers at that time were pure or mixed tenants.

Sefeguarding the right of the tenant was ensured through the provisions of protection against eviction, entitlement of one-fourth of the rented land area, or equivalent money value, to the legally registered tenant and redressal of grievances at the court of law. Rent fixation at 50 percent of the principal crop was also done for this very purpose. However, the Act created a situation of "dual ownership" of land, in that both the landowner and the tenant could now lay claim on the same piece of land, *albeit* in varying proportions.

One of the distinguishing characteristics of the Lands Act 1962 was the compulsory savings scheme. The scheme required all farmers to deposit a portion of their produce in kind as savings in the local ward committee. Later, depositing cash equivalents was allowed instead of in-kind payment. The resources thus generated were to be utilized in granting loans to the participating members to undertake various income generating activities. The scheme was to mature in five years after which the farmers were promised full return for their deposits along with an annual 5 percent interest. However, massive irregularities and misappropriations soon began to emerge in the scheme, and the then government tacitly condoned these malpractices because staunch supporters of the political system were themselves involved in the scam. Thus a scheme which could have gone a long way in transforming the traditional rural economy of Nepal through internal resource mobilization was massively abused, and it collapsed prematurely.

Land constitutes the principal productive asset owned by the people of Nepal, and access to it determines the income status and well-being of the households. Besides distributional implications, an analysis of land distribution helps also to throw light on the farm size productivity relationship under which smaller farms are regarded as being more intensive and productive.

CURRENT STATUS OF LAND REFORMS IN NEPAL

Historically, tenure arrangements on land assumed various forms. These were *raikar, birta, jagir, rakam, guthi* and *kipar*. The Lands Act retained the *raikar* and *guthi* systems and abolished the other tenure forms. Irrespective of tenure types, all lands were regarded as an integral part of the sovereign state, and hence the state was the ultimate owner. Landowners only had the use right and this right – regulate differently depending on the tenure type. Currently prevailing tenure types are *raikar* and *guthi* and the government has initiated the process of converting *guthi* lands into *raikar*, except certain types of guthi such as *raja guthi*.

OWNERSHIP AND DISTRIBUTION

In Nepal, more than two-thirds of the total holdings have less than 1 ha of land and they own only 30 percent of the total farm area. On the other hand, 1.5 percent of the holdings in the more then 5 ha holding class possess 14 percent of the total farm area (Table 3).

Table 3. Land Distribution by Farm Size in Nepal, 1991

Size of Holdings	Holdings		Total Area	
	Number	Percent	Area (ha)	Percent
No land	32,109	1.2	11,571	0.1
Holding with land:	2,703,941	98.8	2,597,400	99.9
Below 1 ha	1,877,702	68.6	791,883	30.5
1-2 ha	529,467	19.4	716,533	27.6
2-3 ha	168,449	6.2	400,227	15.4
3-5 ha	88,165	3.2	328,089	12.6
5 ha and above	40,158	1.5	360,669	13.9

Source: Central Bureau of Statistics (CBS), 1994.

A regional analysis of land distribution indicates that the proportion of landless holdings is higher in the Terai as compared to the Hills and Mountains. Three-fifths of the holdings in the Hills and Mountains own less than half of the total land whereas 41 percent of the holdings in the Terai own little more than half of the total land (Table 4).

Table 4. Percent Distribution of Farm Holdings and Area by Ecological Regions, 1991

Size of Holdings	Ecological Regions					
	Mountains		Hills		Terai	
Landless	0.30	-	0.2	0.04	0.9	-
Below 1 ha	7.80	3.5	37.8	17.00	23.0	10.0
1-2 ha	1.30	1.8	8.6	12.20	9.4	13.5
2-3 ha	0.20	0.6	1.9	4.80	4.0	10.0
3-5 ha	0.10	0.4	0.8	3.10	2.3	9.1
5 ha and above	0.05	0.5	0.3	3.10	1.2	10.3
Total	9.75	6.8	49.6	40.24	40.8	52.9

Source: Central Bureau of Statistics (CBS), 1994.

Interventions to facilitate access to land are one of the options available to address the equity issue. Indeed, land redistribution and regulation of tenancy contracts are favored both on equity and efficiency grounds. Analysis of the 1991 Sample Census of Agriculture data reveals that cropping intensity, a proxy for agricultural productivity, decreases with increase in the size of holding per household (Table 5). Thus, redistribution of land has the potential to increase output and equity, hence the case for more equal distribution of land.

Table 5. Relationship of Cropping Intensity with Landholding Size and Fragmentation

Regions	Number of Districts	R-squared	Estimated Coefficient Value		
			Total Holding (ha)	No. of Parcels per HH	Intercept
Mountains	15	0.45	-0.26 (1.89)	-0.30 (2.64)	2.33
Hills	39	0.15	-0.08 (2.34)	0.02 (0.36)	2.22
Terai	20	0.44	-0.24 (2.61)	-0.10 (2.46)	2.31

Note: Figures in parentheses indicate t-values (cropping intensity = a (intercept) + in size of holding (ha) + in number of parcels per household.

TENANCY

Table 6 presents information regarding land tenancy situation in Nepal. Details are provided for three holding categories: (a) holdings of cultivated rented land only; (b) holdings engaged in more than one tenure arrangement (mixed tenure); and (c) rented area as percentage of total area of holding. About 2 percent of the total farm holdings are pure tenants who do not have their own land. The proportion of such holdings varies across the ecological belts. In the Terai 2.7 percent of the holdings are of such type.

The bulk of holdings operate under mixed tenurial arrangements supplementing their own holdings with land obtained through tenancy arrangements (Table 6). About 15 percent

of the total holdings are under mixed tenancy. Again, the incidence is much higher in the Terai where almost one-fifth of the total landholders is mixed tenants. In terms of area, land under tenancy (both pure and mixed) constitutes about 10 percent of the total farmland in Nepal. Across the ecological belts, 13 percent of the land in the Terai, and about 5 percent of it in the Hills and Mountains is under tenancy.

Table 6. Structure of Tenancy, 1991

Regions	Pure Tenants as Percent of Total Holdings	Mixed Tenants as Percent of Total Holdings	Area Rented as Percent of Total Land
Mountains	1.1	12.0	5.8
Hills	1.2	11.8	4.6
Terai	2.7	18.8	12.9
Nepal	1.9	14.9	9.3

Source: CBS, 1994.

However, the actual incidence of tenancy is widely believed to be much higher due to the presence of informal and non-registered tenants. Because of slackness in the implementation of the existing legislative provisions, landowners have managed to continue engaging tenants on an informal basis in order to maintain their full claim on the land owned by them. The situation is made more complex with the easy access of cultivators from across the country's southern border. Since land can not be legally owned nor rented by non-citizens, landowners, particularly in the Terai region, find it more convenient to engage the easily available Indian wage laborers and cultivators.

DUAL OWNERSHIP

Tenancy relations are entitlements legally accruing to the various stakeholders. These entitlements in turn determine ownership claims on the land as a productive asset and on its products. The kinds of claims vested on either the owner or the tiller, and the level of assurance in realizing such claims, are important in guiding the behavior of either party with respect to quality improving and productivity enhancing investments on land and adoption of production technologies for higher returns.

By way of protecting the interest of the tenants, the Lands Act of 1964 authorized registered tenants to lay claim on one-fourth of the area or equivalent value of land from the owner. This was widely regarded as an unsound provision since the resultant "dual ownership" discouraged both the owner and the tenant from making investments for land improvement and from adopting productivity enhancing technologies. This realization led to the amendment of the Act in 1998 doing away with the dual ownership and allowing land registration in the name of one party (owner or tenant) only. However, the expected impact of this amendment is likely to take effect only in the long run, after its effective implementation.

Hence the current tenure arrangements are not favorable for either the owner or the tenant cultivator to make long-term investments on land improvement because of the uncertainty associated with dual ownership. Besides, ineffectual implementation of land ceilings has resulted into widespread absentee landlordism, although there are no authentic data to quantify it.

FRAGMENTATION

Land fragmentation is considered to be one of the structural problems inhibiting agricultural modernization. Because of the scattered nature of farm parcels, and in many instances, due to their economically non-viable size, farmers are hindered from adopting productivity enhancing technologies that are otherwise available and beneficial for them. The case of shallow tube-wells is one example. If a farmer has a piece of land just enough for irrigation with a shallow tube-well, he will be attracted to install such a tube-well. However, if that land is fragmented into four parcels and situated in four different places, that attraction will not hold anymore. This is exactly the situation at present land fragmentation has its roots in the traditional Hindu law of succession whereby all the male off springs are entitled to the parental property, including land.

Information on the extent of land fragmentation by ecological regions is presented in Table 7.

Table 7. Land Fragmentation, 1991

Regions	Average Parcels per Farm	No. of Parcels (per ha)
Mountains	4.63	6.8
Hills	3.92	5.1
Terai	3.85	3.1
Nepal	3.96	4.2

Source: CBS, 1994.

The combination of the existing legal provisions concerning inheritance and the present land ceilings would imply an increasing fragmentation and sub-division of landholdings as the society moves from one generation to the other. Experiences from other countries need to be shared in this respect.

In a nutshell, opportunities exist for a thorough review, from tire policy perspective, of the implications of existing legal instrument vis-à-vis the present policies and then to introduce consistent amendments to these laws, rules and regulations.

In the year 1995, the government formed a "High Level Land Reform Commission" in order to study thoroughly the land issues and suggest corrective measures to the government. This Commission completed the study and the report is believed to be a useful document. This was submitted to the government but it is not available to the public.

LANDLESSNESS AND FOREST ENCROACHMENT

There is an ongoing argument between the Departments of Agriculture and Forestry regarding what constitutes forest and agricultural areas. Encroachment of forests for crop production was in fact encouraged in the past with a view to raising land revenue. This resulted in the migration of land-scarce Hill dwellers to Terai and settle there by clearing patches of forestland. Thus the Terai forest acted as a new frontier for the Hill people. However, this frontier closed somewhere around the 1970s, but the problem of the landless encroaching on the forest continues to this day, *albeit* on a reduced scale. *The policy related to illegal encroachment is not strong*. Quite often, the squatters are moved and driven away by the government authorities. But some other time, they are encouraged by the politicians

of that particular area to break the law and stay in the forest area. They are also promised land ownership rights. This has long lasting socio-economic and political implications. Such illegal settlements encourage other local residents to illegally occupy land and get registered later. If these families are provided some assistance from the government on humanitarian grounds, the neighborhood gets dissatisfied with the government, as they would also claim for all unmet demands. There may be inter-ethnic/community conflict and clash. Even politicians were found to be motivated to lure such settlers and enhance deforestation. This has been quite common, particularly, during election periods. Needless to say, such practices have serious environmental consequences.

IMPLICATIONS

Agriculture is by far the largest sector of the Nepalese economy contributing 40.5 percent to the total GDP in 1995/96 (MOF, 1998), and 81.2 percent to the employment of the "economically active" population (CBS, 1994). About 20 years ago, these proportions were 71.6 percent in GDP (1974/75), 94.4 percent in employment (1971), and 82.5 percent in export earnings (1974/75).

In the early 1960s, the per ha yields of Nepal's major crops such as paddy, wheat and sugarcane were significantly higher as compared to those of other South Asian countries. Presently, Nepal's yield rates of these crops fall far short of those realized by other countries (APROSC and JMA, 1985). In other words, with the successful introduction of the Green Revolution technologies during the late 1960s, Nepal's neighboring countries have made long strides in raising their agricultural productivity while Nepal has largely been bypassed by these changes. Consequently, with the initial impetus provided by a rapid agricultural growth, those countries have been able to sustain a respectable overall economic growth.

In recent years (1984/85-1996/97), Nepal's GDP in real terms has grown at an annual rate of slightly above 5 percent (Table 8). In contrast, *agricultural GDP during the same period grew only by 3 percent*. These growth rates were still lower during the period 1974/75-1983/84. However, these differences are mainly due to the official revision of agricultural and national GDP series from 1984/85 onwards, rather than due to a perceptible shift in the overall structure of the economy and on the technological frontier. In any case, *these trends, when compared to the annual population growth of about 2.5 percent, present quite a disturbing picture*.

Table 8. Growth of Real GDP in Nepal

(Unit: Percent)

Items	1974/75-1983/84	1984/85-1996/97
Total GDP	2.95	5.11
Agricultural GDP	1.73	3.00
Non-agricultural GDP	5.23	6.93

Source of Basic Data: MOF, Economic Survey (1996/97), HMG/N.

Note: These are annual average growth rates computed by fitting least-squares log-linear regression lines.

The production of the two principal food crops (paddy and maize) over the period 1974/75-1996/97 grew nationally by less than 0.5 percent per year, with negative to near zero

growth in the Mountains and Hills. These alarming trends for paddy and maize were to some extent compensated by the rather encouraging growth rates in wheat and potato (Table 9).

Table 9. Average Annual Growth Rates in the Production of Four Major Crops, 1974/75-1996/97

(Unit: Percent)

Regions	Paddy	Maize	Wheat	Potato
Mountains	-0.32	-0.35	5.36	3.43
Hills	-0.02	0.13	2.99	3.33
Terai	1.68	1.88	4.16	5.62
Nepal	0.37	0.47	3.78	4.01

Source of Basic Data: MOF, Economic Survey (1997/98), HMG/N.
Note: Calculated the same way as Table 8.

The rather insignificant 3 percent growth in the country's predominant economic sector-employing more than 80 percent of the economically active population and contributing more than two-fifths (42 percent) to the GDP is quite inadequate to meet the country's growing food demand, and to trigger a process of overall economic transformation.

It is also noteworthy that the proportion of the economically active population depending on agriculture has fallen by about 13 percentage points in the past two decades, from 94 percent in 1971 to 81 percent in 1991. On the other hand, the share of this sector in the GDP has dropped more sharply, from around 72 percent in 1974/75 to 41 percent in 1995/96. *These disproportionate drops in the sector's share in the total employment and income indicate a declining, productivity within agriculture*.

GOVERNMENT POLICIES AND PROGRAMS

Government policy with regard to land reforms has been lukewarm, if not outright inimical. For instance, the Eighth Plan (1992-97) argued that a land reform program can not be self-contained in itself, and that experience across the globe makes it doubtful whether imposition of a land ceiling through land reforms and the automatic guarantee of tenancy rights to the tillers will support the deprived sections (NPC, 1992, p. 255). The current Ninth Plan (1997-2002) essentially reiterates this view (NPC, 1998, Chapter 9, Section 9.2.2), while putting more emphasis on the elimination of dual ownership of land. All periodic plans since the Seventh Plan (1985-90) have emphasized increased production and productivity through discouraging the tendency of absentee landholding and diverting investment to the non-agriculture sectors.

DONOR SUPPORT FOR LAND REFORM

Perhaps, due to the non-committal posture taken by the government, the donor community has not shown much interest in getting involved in the politically sensitive area of land reform. There are no donor-supported projects directly addressing this issue, although there are a number of projects being implemented in areas that may have some indirect relationship with land tenure (Table 10).

Table 10. List of Ongoing Land Reform Supporting Projects

Project Title	Duration	Country/ Donor	Total Commitment (US$ 000)	Terms	Project Objectives (Beneficiary Institution)
Eastern Nepal Topographic Mapping	1992-97	Finland	6,419	Grant	To produce maps covering the Terai, Siwaliks and Middle Mountain areas of Eastern Nepal and Middle and High Mountain (Ministry of Land Reforms and Management [MOLRM]/Department of Survey)
Western Nepal Topographic Mapping	1996-99	Finland	4,366	Gant	To assist the Department of Survey in carrying out the mapping of Western Nepal
Nepal Multiple Indicators Surveillance	1997-2001	UNICEF	810	Grant	National Planning Commission (NPC)/CBS
Production Credit for Rural Women	1988-98	IFAD*	6,142	Loan	To improve economic conditions and social status of poor rural women through a combination of credit for income-generating activities, training and community development work (Ministry of Local Development)
Small Farmers Development Project	1987-2000	Germany	6,282	Grant	To improve access to production services and credit facilities for the small farmer groups (Ministry of Agriculture)
TA to the Hills leasehold Forestry, Forage and Livestock Development	1992-98 & 1999-2002	Netherlands/ FAO	3,380	Grant	To support forestry, forage and livestock development in the Hills, and to improve the ecology of the land (Ministry of Forest and Soil Conservation [MFSC]/Department of Forests/NARC*/DLS*)
Hill Community Forestry Project (Phase III)	1990-98	IDA*	13,498	Loan	To help HMG/N establish a forest management system to conserve and expand forest resources in the Hills (MFSC/Department of Forests)
Hill Leasehold Forestry and Forage Development Project	1991-2000	IFAD	7,819	Loan	Regeneration of degraded forest lands, improvement of trails and bridges and development of fuel-wood and fodder.
Community Forestry	1989-2000	U.S.A./ PCV*	715	Grant	To establish and train village level “user” group committees to manage and use community forests and to develop and implement community forest management plans, also to establish nurseries to produce and distribute tree seedlings (MFSC/Department of Forests)

... To be continued

Continuation

Project Title	Duration	Country/ Donor	Total Commitment (US$ 000)	Terms	Project Objectives (Beneficiary Institution)
Community Forestry	1990-98	Denmark	5,235	Grant	Tree planting agency (NGO)
Dolakha Ramechhap Community Forestry Development Project	1991-98	Switzerland	5,543	Grant	Community Forestry Development
Nepal-Australia Forestry Project	1991-98	Australia	13,352	Grant	To increase community welfare through the adoption of participatory forest management systems.
Community Forestry Project	1992-98	U.K.	9,915	Grant	To support community forestry development involving management of forests by local user groups in four districts in the Eastern region (Dhankuta, Bhojpur, Sankhuwasabha and Terhathum) and three districts in the Western region (Baglung, Parbat and Myagdi) (MFSC)

Notes: IFAD = International Fund for Agricultural Development; and PCV = Peace Core Volunteer.

CONCLUSION AND MAIN ISSUES

In view of the review done so far, an attempt is made in this final section to draw some conclusions and bring together the main issues that need further investigation and action in the area of land tenure. These are listed below:

- It has been well demonstrated by experience from other countries that land reforms with the objective of providing access to land to the majority of the poor households (landless, near landless and smallholders) for improvement in tenure relationships, can act as an engine of growth in the initial stages of economic transformation. Due to the predominance of feudalistic influence in the governance system, Nepal has been unable to initiate genuine steps in this direction for a long time, even after it did away with the autocratic regime of the Ranas in 1951, and now after nearly a decade of restoration of multi-party democracy. *Although the Lands Act of l962 bore promises for a genuine reform, those promises were thwarted almost immediately by the ruling power elite. It is ironical that democratic governments that came to power after the people's movement of 1990 have also tended to embrace the status quo and avoid any serious action on this front.*
- The Constitution of the Kingdom of Nepal 1990 clearly enshrines conditions of a welfare state and seeks to "transform the national economy into an independent and self-reliant system by preventing the available resources and means of the country from being concentrated within a limited section of the society ...", and advocating equitable distribution of economic gains on the basis of social justice (Part 4, Clause 25) it specifically prescribes institution of land reform. All major political parties have also supported land reform measures in their respective manifestos. Yet ironically, these considerations are not reflected in the two periodic development plans since the political change of 1990, nor have the successive governments taken this issue seriously. On the other hand, it can be concluded that favorable conditions exist to carry out a carefully designed land reform program in the country with the objective of realizing a widespread and equitable economic growth.
- Available indications are that redistribution of land could enhance agricultural productivity, although this issue needs to be further investigated. We know that smaller farms are more productive in terms of cropping intensity, but may not be necessarily so in terms of yields. The latter situation may be due to the lack of access of the smaller farms to productivity raising inputs and technology. But it is an empirical issue that needs to be evaluated. We know as much that smaller farms are endowed with poorer quality of land, and they are constrained by lack of capital and credit to adopt better yielding purchased inputs.
- Tenure-related issues are very important and these need to be analyzed and implications of various options clearly understood. The tendency thus far has been to avoid the issues altogether. This has only contributed to perpetuating the uncertainty, discouraging investment on land and hampering adoption of productivity raising measures on a wide scale. The donors can play a role here by promoting further analytical work and healthy debate. The main issues related to land ownership and tenancy are ceiling on land holdings, dual ownership of land, fragmentation of holdings, and landlessness among the rural households.

C The power elites in Nepal have only paid a lip service to genuine land and tenancy reforms. The existing legislation has created confusion regarding land ownership, such that both the landowner and the tenant are discouraged from making investments on land for quality improvement and productivity enhancement. The result has been the lack of long-term investment on land improvement and inadequate replenishment of nutrients. These constraints have prevented wide-scale adoption of the available technologies that promise higher returns and improved economic status of the farmers.

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9. PHILIPPINES

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HISTORY OF AGRARIAN REFORM IMPLEMENTATION

As we look at the history of Philippine agrarian reforms, much of our land problems today were sown during the Spanish regime. Lands were divided and the Encomienda system prevailed where lands were granted to encourage Spanish settlers or reward soldiers who have served the Crown. As early as 1880 and 1884, royal decrees were issued urging landholders to secure titles, but due to ignorance of the law, only few took advantage of the offer. As a result, the actual tillers were gradually driven out of their lands.

In 1898 the Philippine Revolution inspired by Rizal and other Filipino revolutionaries came about and paved the way to freedom. The Malolos Constitution declared that everything taken by the invaders is restored to the Filipino state. After 366 years, the Filipinos were freed from the shackles of the Spaniards, only to be besieged again by foreigners – the Japanese, German and Americans at the turn of the century.

The Americans planted the pole of authority on the lands in 1901. The new colonizers sought to settle landownership of some 400,000 Filipino farmers and introduced the Torrens system of land registration to replace the Spanish system.

Again, this system hardly solved the land ownership problems. Many of the farmers were either ignorant of the law or found the process tedious and unaffordable. And so the reactive tenants rose in protest.

When the Americans gave the Filipinos the chance to run the government with Manuel Quezon as President (1935-44), his main concern was to ease the growing unrest of tenants. He implemented a program of social justice which was provided for in the 1935 Constitution. He also signed into the "Rice Tenancy Law" (RA 4054) which provided for 50:50 sharing arrangement between landowners and tenants. The Law was hardly enforced because of the strong opposition by the landlords for its implementation.

During the administration of President Roxas (1946-49) RA No. 34 was enacted which established a 70:30-sharing arrangement between tenant and landowner. In 1950, President Quirino created the Land Settlement Development Corporation (LASEDECO) to accelerate the resettlement program which was launched shortly before WW II. These measures, however, were not fully implemented. And peasant rebellion continued.

President Magsaysay (1953-57) realized the urgency of implementing a more vigorous land reform program and persuaded congress to pass two agrarian legislations: The Agricultural Tenancy Act of 1954 and the Land Reform Act of 1955. The Agricultural Tenancy Act provided security of tenure for tenants while the Land Reform Act provided for

the acquisition of large tenanted rice and corn lands over 200 ha if owned by individuals and 600 ha if owned by corporations.

President Magsaysay also pursued the resettlement program with vigor. RA 1166 – The National Resettlement and Rehabilitation Administration (NARRA) was established to hasten the distribution of agricultural lands of public domain to landless tenants and farm workers. This program, however, hardly accommodated 1 percent of the total number of landless peasants at that time.

When President Macapagal (1961-65) pushed his Land Reform Code for the Philippines (RA 3844) in 1963, through the congress, both legislative and executive branches of government exerted major impact on the reform process. Although the Law was considered an honest-to-goodness agrarian reform program, congress did not provide for its funding. Thus, no significant accomplishment was noted under this legislation.

Under the regime of President Ferdinand Marcos (1965-86), the Department of Agrarian Reform (DAR) was created in response to the clamor of peasant groups and student organizations for an administrative agency for land reform. Through Presidential Decree No. 2, he placed the country under agrarian reform. He also enacted Presidential Decree No. 27 which stipulated that share tenants who worked on a landholding of over 7 ha could purchase the lands they tilled, while share tenants on lands less than 7 ha would become leaseholders.

However, the major defect of the land reform program was the lack of support services to new landholders coupled with the rising prices of agricultural inputs which compelled the new landholders to sell their lands. Again, the agrarian reform program of the Marcos administration proved to be ineffective. Hence, unrest among the peasants intensified.

The year 1986 marked an important milestone in the effort to redistribute wealth in Philippine society. The Aquino administration (1986-92), again upheld agrarian reform as the centerpiece program of the government. The 1987 Philippine Constitution which was overwhelmingly ratified by at least 90 percent of the Filipino people, contained a number of provisions calling for the implementation of a genuine agrarian reform program.

In 1988, the Comprehensive Agrarian Reform Law or RA 6657 was enacted and was deemed a milestone legislation. This Law covered all agricultural lands regardless of crops grown and tenurial arrangements. What made it comprehensive was the provision of support services that were necessary for productivity improvement. Table 1 shows the Comprehensive Agrarian Reform Program (CARP) components and implementing agencies.

It can be rightly said that Philippine agrarian reform only took off with the passage of this legislation. Since then, to make CARP more meaningful to the Filipino farmers and complete the promise of agrarian reform, various program policies and strategies have been instituted which were sustained and enhanced in the succeeding administrations.

THE ROLE OF AGRARIAN REFORM IN THE ADOPTION OF MODERN AGRICULTURAL TECHNOLOGIES

Land distribution is not enough to lift the farmers from poverty. Concomitant with land distribution is the responsibility of helping agrarian reform beneficiaries (ARBs) to make their lands productive for ever rising incomes. Since 1993, DAR adopted the strategy of developing Agrarian Reform Communities (ARCs) as a key strategy for sustainable rural development. The DAR and other government agencies as well as program partners from the civil society synchronized their efforts to provide the necessary support services, such as

organization building and strengthening of ARBs, farmers organizations, infrastructure facilities, appropriate farming technologies, credit and marketing assistance.

Table 1. CARP Implementing Agencies per CARP Program Component

Program Components	Concerned CARP Implementing Agencies
A. Land transfer	
˜ Land survey	Department of Agrarian Reform/Department of Environment and Natural Resources
˜ Land valuation and compensation	Land Bank of the Philippines/
˜ Land titling and registration	Land Registration Authority
˜ Land distribution	Department of Agrarian Reform/Department of Environment and Natural Resources
B. Non-land transfer	
˜ Leasehold operation	Department of Agrarian Reform
˜ Production and profit sharing	Department of Agrarian Reform
˜ Stock distribution option	Department of Agrarian Reform
C. Beneficiaries development	
˜ Extension services	Department of Agrarian Reform/
% Training	Department of Trade and Industry/
% Technical assistance	Department of Labor and Employment/
% Institutional development	National Irrigation Authority
˜ Credit assistance	Land Bank of the Philippines
˜ Infrastructure support	
% Rural roads/bridges/MPPs	Department of Public Works and Highways
% Communal irrigation projects	National Irrigation Authority
% Common service facilities/ agro-industrial projects	Department of Agrarian Reform
˜ Livelihood projects	Department of Trade and Industry Department of Agrarian Reform
D. Delivery of agrarian justice	Department of Agrarian Reform

Annual reports of DAR and ARCs and National Situationer Reports would show that agrarian reform, contrary to claims by its detractors, did not depress productivity. For the last five years of ARC development program implementation, the levels of production by farmer-beneficiaries for rice, corn and coconut significantly exceeded the respective national averages. Coconut production, however, was below the national average for the last three years largely because of inadequate government support to the industry (Table 2). This finding reinforces DAR's position that agrarian reform program is a positive contributor to agricultural productivity and can benefit agriculture sector in the long run provided support services for farmer-beneficiaries are actively pursued.

A DAR-commissioned survey[1] by the Institute of Agrarian Studies of the University of the Philippines in Los Baños, involving a nationally representative sample of 3,411 farmer-beneficiaries reveals that three of every four respondents perceived their lives to have

[1] University of the Philippines-Institute of Agrarian Studies, 1996.

improved after they became CARP beneficiaries, with 77 percent of them attributing this to CARP, particularly the program's abolition of share tenancy.

Table 2. Production Level of Major Crops in Agrarian Reform Communities, 1996-2000

Crops	Rice (cavan*/ha)	Corn (cavan/ha)	Coconut (mt/ha)
1996	62	30	2.3
1997	66	41	1.4
1998	66	42	0.82
1999	67	43	0.88
2000	73	50	0.88
National average	65	30	0.92

Note: * 1 cavan = 50 kg.

The survey found that 93 percent of the ARBs owned houses while 53 percent owned home-lots. Eighty-five percent have access to basic social services such as health, day care, primary education, electricity, potable water system and public transport. Ninety-four percent owned either television sets, transistor radios, refrigerators, jeepneys, tricycles or motorcycles.

Recent studies on the impact of agrarian reforms in Philippines also point to their positive impact in terms of the intergenerational transmission of human capital, i.e., better education and capabilities and improved health conditions, and in terms of incomes and productivity at the household level. Profits grew by 80 percent and mean schooling years of beneficiaries doubled from three years to six years, with more significant effects on women. Women have also improved their access to land and livelihood opportunities.

MEASURES FOR ENHANCING THE ROLE OF AGRARIAN REFORM IN SUSTAINABLE AGRICULTURAL DEVELOPMENT

To concretize its vision of "*a nation where there is equitable land ownership with empowered agrarian reform beneficiaries who are effectively managing their economic and social development for a better quality of life*" coupled with the challenges of globalizing economy, the DAR issued Memorandum Circular No. 18 series of 1999 which provides the development framework for agribusiness interventions in agrarian reform areas.

The development intervention framework promotes agribusiness development based on the current state of ARBs, their organizations and communities. It emphasizes that agribusiness development interventions must respond to the two-pronged objectives of increasing income and productivity in the agrarian reform communities and the need to affect the smooth transfer of management and control of productive lands to the ARBs to be able to maintain its viable and profitable operations. Existing opportunities and emerging developments in the environment must be considered as complements of these interventions. On the whole, interventions are implemented in a holistic and integrated manner to achieve the desired results.

Under the program, interventions are focused on the provision of or access to capital, appropriate technology, production and marketing assistance and enterprise development and investment generation through the promotion of alternative agribusiness schemes toward improving farm productivity and enterprise profitability. The program has the following components:

1. ***Production and Marketing Assistance***

This intervention focuses on the promotion of market-driven or demand-led production system with the end in view of improving the profitability of farming operations. The program facilitates the development or establishment of linkages between the ARB organizations and agribusiness firms. Other strategies to increase farm income such as the adoption of crop productivity enhancement, crop diversification, multiple cropping, inter-cropping, or crop rotation is encouraged under the program.

2. ***Credit Assistance and Micro-finance Development***

Under this program, interventions are geared toward multiplying income through the provision of or facilitation of access to adequate and affordable credit and micro-finance assistance to ARBs and their households, individually or in groups, to enhance their farming operations and/or undertake livelihood/income-generating activities. Assistance along this area is provided to respond to the farmers' funding requirements in relation to production, pre- and post-harvest facilities and fixed assets acquisition.

While these interventions focus on the provision of required capital, the importance of generating internal resources among cooperative members in the form of capital share and savings is emphasized. The establishment of community-based credit programs that will respond to providential and other needs of the ARBs and other ARC household is likewise encouraged.

3. ***Economic and Enterprise Development***

This program focuses on developing and establishing agribusiness development investment projects which are geared toward the development of agrarian reform areas as growth centers that will serve as support areas or building blocks for agro-industrialization. Different enterprise development modalities such as joint venture, integrated production, processing and marketing arrangements, build-operate and transfer, management contract and services contract are explored. This program is undertaken with the support and active participation of the private sector, particularly the business sector and civil society. Their participation will be enlisted in order to mobilize capital, technology, machinery and managerial and technical assistance.

To support this program component, DAR launched the Joint Economic Enterprise Program in Agrarian Reform Areas or the MAGKASAKA program to promote mutually beneficial joint ventures between the agrarian reform communities and the private sector. This program aims to help small farmers compete in the global market while giving the private sector incentives to invest in viable rural-based enterprises.

4. ***Appropriate Technology and Extension Services***

This program intervention underscores the importance of accessing and providing appropriate technologies that improve farm productivity and the production of new crops which have high market demand. Indigenous technologies, organic farming, tree farming in watershed areas and similar projects promoting ecologically sound agricultural practices aside from improving farm productivity, will form part of the intervention on agribusiness development. Conduct of trainings and cross-visits related to technology promotion and enhancement, establishment of demonstration farms and other similar activities form part of these interventions.

STATUS OF AGRARIAN REFORM IN PRESENT GOVERNMENT POLICIES

With the enactment of RA No. 8552 or "Act Strengthening Further the Comprehensive Agrarian Reform Program", PhP (Philippine peso) 50 billion were allocated for CARP

implementation for the next 10 years. The DAR is tasked to undertake the following beneficiaries empowerment processes:

a. Landownership and control of productive resources through distribution of the remaining 1.6 million ha of land to another 1.8 million farming families and maintenance of efficiency standard for resolution of agrarian cases;
b. Promoting and strengthening the social institutions at the community level and at different levels of governance by enhancing the capability of the program partners, intensifying ARBs development, consolidating existing ARCs and expanding the rural development interventions in non-ARCs; and
c. Increasing access to productive resources through working closely with the Department of Agriculture (DA), Department of Environment and Natural Resources (DENR), other line agencies and the local government units (LGUs) towards a convergence of services to meet the needs of the ARCs, better management and increased foreign-assisted projects, establishment of joint venture arrangements between farmers and agribusiness firms, meaningful partnership with autonomous societal actors in land reform and rural development undertakings and continued cleaning up of the DAR bureaucracy.

In the operationalization of the above-mentioned tasks, the DAR's major strategies are:

a. ***Land Tenure Improvement and Program Beneficiaries Development Integration***: This strategy integrates transfer of lands with program beneficiaries' development. This aims to deliver services both for agrarian reform and sustainable development in a demand-driven manner. Support services are delivered to communities simultaneously with land acquisition and distribution.
b. ***Differentiated and Disaggregated Strategy of Land Distribution***: A differentiated and demand-driven approach to land distribution shall also be adopted by DAR. Breaking from a tradition that did not take into consideration the concrete circumstances of specific types of lands, the DAR today adopts different strategies for different types of lands (e.g., along cropline and industry) and gives priority to lands with indigenous farming communities and strong peoples' organizations.
c. ***Agrarian Reform Communities Development Approach***: To attain the vision of CARP, the DAR adopts a development approach anchored on the strategy of developing viable ARCs.[2] The ARC is where land tenure is backed up by support services to ensure the sustainability of the farmer and the land. ARCs receive an integrated package of interventions and services: from meeting rural infrastructure, financing, production, processing and marketing needs to the delivery of basic services such as education, health and sanitation. The key components of ARC development are: 1) Land Tenure Improvement; 2) Social Infrastructure and Local Capability Building; 3) Sustainable Area-based Rural Enterprise Development; and 4) Basic Social Systems' Development.

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[2] ARCs are clusters of *barangays* where land distribution is almost completed and where there is a convergence of services from the different CARP implementing agencies, donor community, LGUs, and NGOs.

As of December 2000, the DAR has established 1,036 ARCs nationwide covering about 500,000 ARBs. The following program interventions are provided in the ARCs:

1. ***Land Tenure Improvement***

Land to the tiller is the essence of land reform. Through land distribution, the government promotes social equity and provides farmers a productive resource toward ensuring their economic viability and productivity. As of December 2000, overall, the DAR has distributed about 3.0 million ha to some 1.73 million farmers and farm workers while improving tenurial relations in 1.4 million ha of farmlands, benefiting 1.1 million farmers.

In the ARCs, the Land Acquisition and Distribution (LAD) accomplishment as of December 2000 is 89 percent of the total CARP scope of 1,108,168, benefiting a total of 489,793 ARBs. While under leasehold, 75,978 ARBs are holders of lease contracts covering 123,369 ha.

2. ***Social Infrastructure and Local Capability Building Programs***

By strengthening the ARCs' social infrastructure, the DAR builds the capacities of ARBs to assume responsibility for their own development. Currently, the DAR assists 3,141 ARB organizations with a total membership of 268,158. The cooperatives which are the dominant farmers' organizations (82 percent) in the ARCs have internally generated capital build up amounting to PhP432 million and savings mobilizations of PhP120 million to finance their various agricultural and livelihood projects.

About three million ARBs in these various organizations have been provided with different trainings on organizational development and management, entrepreneurial and agricultural development.

3. ***Sustainable Area-based Rural Enterprise Development Program Credit Assistance***

For credit facilities, about 7,000 ARBs through their organizations have benefited from the PhP103 million credit assistance for livelihood and agribusiness projects through the various lending windows. These credit facilities are available to the ARBs through government financial institutions such as QUEDANCOR, Land Bank of the Philippines, ERAP Trust Fund, Technology and Livelihood Resource Center, etc.

Investment and Marketing Assistance

Under the Investment and Marketing Assistance Program, forging of marketing tie-ups between ARBs organizations and partner agribusiness firms are facilitated. The program implements interventions to encourage the establishment of rural-based enterprises and drawing in investments in the ARCs from the private sector and agribusiness firms.

Physical Infrastructure Support

Vital physical infrastructure are provided and established in the ARCs to support the ARBs' agricultural and livelihood activities. As of December 2000, DAR facilitated the construction of 918 irrigation systems with service area of 90,132 ha; 1,454 farm-to-market roads; 7,938 post-harvest facilities, 366 common service facilities; and 475 bridges. Most of these physical infrastructures were provided and funded by foreign donors as well as other CARP implementing agencies, notably, the National Irrigation Authority and the Department of Public Works and Highways.

Agri-based Rural Industrialization

There has been a continuing increase in the number of projects in the ARCs in relation to agri-based rural industrialization. These are 1) milling industry;

2) processing industry; and 3) manufacturing industry. As of December 2000, a total of 1,025 projects were installed in the ARCs.

While these various interventions are aimed at improvement of farm productivity and household income of ARBs in the ARCs, the productivity in three major crops; rice, corn and coconut are above or slightly below the national averages. For the last five years, yields for rice and corn have been higher than the national average and rising, while that for coconut were lower than average and falling.

4. ***Social Services Delivery***

To address the concerns on basic social services, ARBs access resources and generate support from various government agencies, NGOs, civil society, business sector and other donor agencies.

The bottom line that the Department is looking at as a result of the various development interventions in the ARCs is the average household income of ARBs. The average household income of ARBs as of December 2000 which is PhP57,497 is still below the PhP60,000 target set by DAR, based on 1993 index.

Ultimately, the effectiveness and efficiency of these strategies is reflected in the overall performance of the DAR's ARCs. As revealed in some recent studies, agrarian reform in the Philippines has led to positive impact in terms of the intergenerational transmission of human capital, i.e., better education and capabilities and improved health conditions, and in terms of incomes and productivity at the household level. Profits grew by 80 percent and the mean schooling years of beneficiaries doubled from three years to six years, with more significant effects on women. Women have also improved their access to land and livelihood opportunities.

5. ***Convergence Strategy for Rural Development***

The Convergence Policy for Sustainable Rural Development of the DA, DAR and DENR which was signed by the then President Estrada in 1999. The strategy is a result of a consensus among these three front-line rural development agencies on a common approach and action to achieve broad-based and sustainable rural development.

Under this strategy, the DA, DAR and DENR have committed to pool their efforts, expertise and resources initially in nine convergence sites. DAR takes responsibility for human resource and community development, DA for productivity enhancement and market linkaging, and the DENR natural resource management. This area-based approach to rural development will facilitate the participation of various program stakeholders: LGUs, non-governmental and peoples' organizations, the corporate sector as well as the donor community.

6. ***Resource Mobilization***

To augment the limited Agrarian Reform Fund and in order to fund the needed support services, resource mobilization efforts through the Official Development Assistance (ODA) have been intensified. At present, there are 13 foreign-assisted projects being implemented by DAR amounting to PhP10.26 billion. These are irrigation facilities, farm-to-market roads, pre- and post-harvest facilities, organizational development and capability building, agricultural extension services and research. Foreign support to the program is provided by the governments of Japan, Sweden, Italy, Belgium, the Netherlands and the Federal Republic of Germany, the European Union, World Bank, UNDP, Canadian International Development Agency, Swedish International Development Agency, and the International Fund for Agricultural Development.

7. ***Building and Strengthening Partnerships***

Stronger collaboration and partnership with people's organizations, NGOs, LGUs and the state colleges and universities and review of policy issuances and the speedy delivery of agrarian justice are also high priorities under the new DAR administration.

8. ***Retooling the Bureaucracy***

To meet the demands on the thrusts of agrarian reform, the CARP bureaucracies will undergo a retooling process, focusing on building the capacities of their personnel to effect reforms and deliver services within a sustainable rural development frame. The CARP implementing agencies will also enhance accountability and transparency as well as promote participation ethics and efficient agrarian reform institutions.

TYPE OF AGRARIAN REFORM WHICH WOULD BE APPROPRIATE FOR THE PHILIPPINES IN THE 21st CENTURY

To realize the CARP's vision of development, agrarian reform implementation in the Philippines should continue to adopt a development framework anchored on sustainable rural development. To meet the challenges of the 21st century, the following action agenda are recommended.

1. Passage by Congress of an environment-friendly national land use policy;
2. Fast-track distribution of private agricultural lands where bulk of peasants are and where productivity is highest;
3. Development of working models of agricultural technologies that are highly productive yet sustainable and environment and gender-friendly;
4. Anchored on the agrarian reform community development strategy, partnership among concerned stakeholders (national government agencies, NGOs, peoples' organizations, LGUs, state colleges and universities) must be further enhanced to achieve better integration and synchronization of support service delivery; and
5. Provision of adequate funding for the CARP.

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10. SRI LANKA

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GENERAL INFORMATION

The Physical Environment

Sri Lanka is an island in the South Asian region located about 35 km south of India. The surface area of Sri Lanka is estimated at 65,660 km^2 which is about one-fourth of the size the United Kingdom. Sri Lanka has a coastline of 1,340 km which is ranked as the third longest in the South Asian region.

Conventionally, three distinct agro-climatic zones have been recognized in the island: the Wet Zone, Intermediate zone and the Dry Zone (Johnson and Scrivener, 1981). The Dry Zone comprise the South-Eastern, Eastern, North-Central and Northern parts of the island. The Wet Zone includes the central highlands and the lowlands in the South-Western regions. In between these two is the Intermediate or the Transitional Zone.

The relative humidity is high in the Wet Zone while it is low in the Dry Zone. The average diurnal temperature ranges between 24ºC and 32ºC. In the Hill areas, the temperature can fall below 10-12ºC during December and January.

Administration and Constitution

During the colonial period (1875-1948), the island was divided into nine provinces. In 1977 these provinces were subdivided into 22 administrative districts. From 1977 the division of the original districts created onwards three new districts. At present there are 25 districts with 250 divisional secretariats comprising 14,765 villages.

A new constitution was passed in 1978 and the island is governed by an Executive President and a Parliament. The President and members of the Parliament are elected once in six years on the basis of electoral districts.

Social and Economic Conditions

The estimated mid-year population in 1997 was 18.7 million and the per capita income was US$850 (Rs.49,286). Sinhalese, Tamils, Muslims and a small percentage of descendants

of the Europeans are the major ethnic groups in the island. Table. 1 shows the breakdown of population according to various ethnic groups.

Table 1. Percentage Breakdown of the Population

Ethnic Group	Percentage
Sinhalese	74.0
Tamils	18.2
Muslims	7.0
Others	0.8

Source: Department of Census and Statistics.

As regards religions a majority of Sri Lankans are Buddhists (69.3 percent). Adherent other religions are Hindus (15.4 percent); Muslims (7.6 percent) and Christians represent the balance 7.6 percent.

The total labor force in the island is estimated at around four million. One million and four thousand out of them are engaged in agriculture-related activities.

Table 2 shows the employed population classified by industry in the year 1981 and 1998.

Table 2. Employed Population in Sri Lanka

(Unit: Percent)

	1981	1988
Agriculture, forestry and fishing	45.8	38
Manufacturing	9.9	14
Construction	4.0	5
Wholesale and retail trade	12.0	15
Transport, storage and communication	4.8	6
Community, social and personal services	14.3	15
Others	9.2	7

Source: Department of Census and Statistics.

A majority of Sri Lankan population, estimated at over 70 percent, lives in rural areas. Agriculture is the dominant activity in the rural areas and agriculture plays a prime role in providing livelihood for a large section of the population.

Although Sri Lanka's per capita income is relatively lower than that of other developed countries its general living standards are remarkably high. For instance, in 1997 its GNP per capita income was only US$850, but it had the highest life expectancy at birth among the developing countries (72.5 years). The infant mortality rate was below five per 1,000. The adult literacy rate was 90 percent. The gross school enrollment rate was 66 percent. Based on these factors Sri Lanka was placed 90th in the UNDP's Human Development Index (HDI), with a HDI value of 0.716.

The services sector contributed the greatest share to the GDP. The service sector includes electricity, gas and water, transport, trade and communication, financial services and other services. Of the total services, transport, trade and other services had contributed the greatest share (65 percent).

Sri Lanka has a relatively small internal market. Clay, minerals, gems and graphite are the largest mineral deposits. The country lacks energy sources such as fossil fuel, but it has a large number of fast flowing rivers, which are suitable for producing hydroelectricity.

Until the late 1970s the economy was characterized largely by a dualistic structure. A well-organized productive plantation sector with a subsistence domestic agriculture sector and a small manufacturing sector were the main features of the economy. However, the trade liberalization, removal of exchange controls and fiscal incentives for the private sector changed the economic structure of the island.

AGRICULTURAL DEVELOPMENT EFFORTS MADE IN SRI LANKA THROUGH AGRARIAN REFORMS

Evolution of Land Policy (1931-48)

Basic preparations for a land policy in Sri Lanka were made by the final report of the First Land Commission published in June 1929. It covered. It covered a vast area in the land sector and recommended some policies to be adopted by the government. This included the appointment of a Commissioner of Lands and highlighted the need for constitutional provision for administration of state lands.

The main objectives were to secure the peasants, improve and develop the ways and means of distribution of state lands among peasants and middle class people, to make land available for agricultural development and housing construction, to obtain the optimum use of land and to avoid the multiple ownership for the lands already distributed.

Under these objectives, government agreed to implement restricted land tenurial systems and to prevent the lands peasants from leasing out, or selling their land.

It was accepted, as a policy that lands outside congested areas should be distributed among landless by way of establishing settlement schemes (colonies) furnished with all infrastructure facilities.

Agriculture Plan

Agriculture plan of 1958 prepared under the direction of Ministry of Agriculture and Lands has to be regarded as the earliest significant attempt in scientific agricultural development planning in Sri Lankan agriculture.

The cornerstone of the plan was the Paddy Lands Act, which sought to break the shackles, hitherto imposed on land cultivation by the feudal relationships between tenant-cultivator and the landlord. The incentives of permanent and heritable land tenure and limitation of landlord's rent envisaged in the Act were expected not only to stimulate production but also to raise the human stature of the cultivator. The Cultivation Committees under the Act were expected to promote collective effort in cultivation, inculcate self-government and act as the liaison between the cultivator and the administrator.

Food Drive (1965)

The continuing imbalance in the foreign exchange situation, coupled with the increase in the world market price for rice, generated a crisis situation in 1965 which highlighted the urgency of making a more determined effort at achieving self-sufficiency in rice and other principal subsidiary food crops. The new government in 1965 set about the task correctly from the beginning and directed its attention straight away towards formulation of a program to promote agricultural production especially in the rural sector.

The strengthening of the district coordinating machinery with links at divisional and village levels received careful consideration. An attempt was made for the first time, to decide on production targets and plan goals on a regional basis and this resulted in more weightage being given to the implementation aspects of the programs. Accordingly, after a survey of the current situation a five-year program for increase of productivity with a breakup of production targets by districts, divisions and villages was prepared covering the period 1966-70.

Five-Year Plan

In view of importance of agriculture in the national economic development agenda, the participation of organized small producers were clearly emphasized by the Five-Year Plan. It was to be a joint effort by people and government in all respects. An implementation strategy with a package of certain policy reforms was to be instituted to back up and facilitate the operationalization of the planned proposals.

As a first step land reforms program was initiated to facilitate the distribution of lands to peasants for residential purposes as well as for cultivation. The tenant farmers are given outright ownership of paddy lands, cultivated by them earlier. Under the settlement program of the Commission, rural youth organized themselves into cooperatives for optimum utilization of those lands. A substantial portion of lands belonging to the commission was made available for establishment of schools, industries, colonies, village expansion schemes, livestock farms and reforestation. Thus the available land was put to maximum productive use. Nevertheless, after 1990, Commission's most productive lands were increasingly allocated to private estate companies.

Accelerated Mahaweli Development Program (1978)

The second attempt to look at agricultural settlement schemes and manage them on a "Program Basis" with participation of settlers came in 1971-72 with the preparation of the feasibility report for Mahaweli. The Mahaweli Development Board, while assessing the conclusions of earlier studies, recommended a participatory/self-management system for rapid agricultural development.

There was a phenomenal increase in irrigation expenditure in 1980-85 as a result of the accelerated Mahaweli Development Project involving a major rive diversion. In 1986, irrigation and agricultural development accounted for 23.1 percent of total state expenditure and around 4 percent of the GDP. This investment was responsible for the expansion of irrigated area to some 106,720 ha and for the settlement of 60,000 new settler families. Apart from expanding irrigated area the new development also permitted adoption of high-yielding seed-fertilizer technology for lasting increases in land productivity. The combined effect of the two sectors has been considerable improvement in food production, food self-sufficiency and food security at affordable prices.

Integrated Management of Agriculture Settlement Programs

The surveys, studies and evaluations of major irrigation schemes undertaken generally fell under the head of Irrigation program review. Following three major recommendations followed from it: 1) rehabilitation of existing schemes should received priority consideration than the construction of new ones; (2) mono-crop paddy cultivation practice needs to be replaced by diversification into high value crops; and (3) beneficiary participation should be ensured in management, operation and maintenance activities.

Results and achievements both positive and negative of the above experimentations were recorded as significant landmarks in the recent history of agricultural and irrigation development in Sri Lanka. The lessons learned from their implementation inspired the Ministry of Lands and Land Development to design a program for "the Integrated Management of Agricultural Settlements" (IMAS) in 1984. The program was to be applicable only in the schemes known as major irrigation schemes and 34 of such schemes were taken up for a start. The program certainly has provided effective irrigation rehabilitation and a production.

New Economic Reforms and Industrialization (1989-94)

A new economic reform program was launched in 1989 with a focus on encouragement of the private sector through privatization and liberalization of trade and external payments. The real GDP increased by an average of 5 percent from 1989 to 1992. In 1993, GDP growth was closed to 7 percent mainly due to growth in manufacturing. In both 1994 and 1995 annual increase exceeded 5.5 percent. However, during this period agriculture did not keep pace with general economic growth. It grew at 1.9 percent in 1991, and a negative growth in 1992 and maintained a growth rate of nearly 3.3 percent since 1992.

It appears that under the new economic reforms agriculture performed poorly. The fertilizer subsidy withdrawal, at the end of 1989 and bad weather may be the other reasons. As result of varied growth difference between the two sectors, industrial sector's contribution (20.7) in 1995, for the first time in history, exceeded that of agriculture (20.3.)

CONSTRAINTS IDENTIFIED IN THE AGRICULTURE SECTOR

Technical Constraints

1. Declining rate of growth in the crop yields with agricultural pollution and declining soil fertility.
2. High sensitivity of high-yield varieties to the external factor.
3. Inadequacy of development agro-based industries.
4. Increasing cost of production per unit of output coupled with decreasing outputs in the small-scale agriculture sector.
5. Lack of effective transport facilities to move the necessary inputs to the farm as well as the produce to the market.
6. Lack of programming, absence of production scheduling, inability to estimate supply over space and time, lack of suitable machinery to allocate crop area on comparative advantage basis.
7. Inadequate access to technologies on crops, livestock, agro-industry and conservation and limited access to new findings.
8. Scarcity of water at the required time.
9. Divisions and fragmentation of infrastructure programs in the rural agriculture sector particularly irrigation access and storage.

Institutional Constraints

1. Lack of a consistent, coherent and continuous National Policy on Domestic Agriculture and towards fostering the Farming Community in particular.
2. Fragmentation of responsibility for food production and agricultural development at the national as well as field levels.

3. Excessive institutionalized programs and activities are prepared and implemented according to budgetary requirements as agency programs and not as sectoral plans.
4. Lack of coordination between the agencies of central government and the provincial councils, people's organizations and NGOs at the district and field levels.
5. Lack of coordination in investments in domestic agriculture sector leading to very low levels of resource efficiency.
6. Failure to manage inter- and intra-agency conflicts at implementation level.
7. Tendency for different ministries to approach the farming community on parallel lines of authority and direction, and the absence of an adequate environment to work towards common goals.
8. Lack of an effective mechanism for people's participation. Farmer communities have been ignored or bypassed by many agencies in implementing their programs.
9. Reluctance on the part of state officials to share powers of decision-making and resource utilization with the farmers.
10. Lack of transparency in government investments, contract procedures, etc.
11. Lack of a strong effective and acceptable political leadership at district level.

Economic Constraints

1. Lack of effective measures to minimize cost of production and to maximize productivity.
2. Inadequate support to strengthen small producer, uphold competition, set better prices and improve bargaining.
3. Lack of participation of small-scale producers in the open market and inadequate competition for farm products by the small farmers.
4. Lack of market information and producer-market links.
5. Difficulties to get credit facilities at low interest rates for agricultural programs.

Social Constraints

1. Lack of an effective mechanism for people's participation.
2. Farmer communities have been ignored or bypassed by many agencies implementing their programs.
3. Reluctance on the part of policy-makers to share powers of decision-making and resource utilization with the farmers.
4. Poor understanding of economic and other government policies and international trade agreements.
5. Difficulties to change the traditional farming styles to minimize the adverse effects of economic policies and trade agreements.
6. Reduced public recognition of the small and medium level farmers and enterprises.
7. Increasing population pressure on land and the consequent difficulties to fulfill basic family needs through the farm income.
8. Growing tendency towards part-time farming.
9. Unwilling youth to take up strenuous agricultural work.
10. Political influences and political biases in organizing.

AGRARIAN REFORMS SINCE 1995

With the introduction of free market policies and trade agreements, subsistence agriculture has become increasing vulnerable to changing economic environment. According

to the constraints identified in the organizational sector, it was found that recognizing, restructuring and coordinating activities are needed to overcome these constraints and to put agriculture sector back on track.

In confirmation with above requirement, the Ministry of Agriculture and Lands in 1995 prepared the National Policy for Agriculture Sector as follows:

The National Agricultural Policy Objectives

– Streamlining of the agricultural extension services including the provisions of supportive services and inputs.
– Integrated production through participatory management:
  1. Crop production, agriculture forestry, livestock, fisheries, homestead development, on-farm and off-farm, economic activities, etc.
  2. Production, supply of services and inputs, harvesting, collection, storage, processing, value addition, marketing, export, etc.
  3. Home economics, sanitation, health and nutrition, environmental consideration to be integrated.
  4. An effective integration of the physical and institutional aspects of agricultural development through an understanding of agriculture as a science and agricultural development as an instrument of socio-economic well-being.
  5. Institutional building including organizing of farmers and restructuring of agrarian service centers as production centers catering to all the needs and the supply of requisites for farming.
  6. Integrated approach by the state, private and NGOs.

PRESENT PROGRAMS AND STRUCTURAL TRANSFORMATION

In order to achieve some of the objectives of national policy for agriculture and to promote structural transformation, the following steps were considered essential:

Production

1. Paddy being the staple food of Sri Lankans, it considered a very important crop from the point of view of food security and also culturally.
2. Crop research and development activities are being directed towards increasing the national average yield with good quality and higher profitability by reducing the cost of production.
3. Development of integrated pest management practices for reducing the use of insecticides. These practices are environment-friendly and reduce the cost of production.
4. Expansion of crop production program through the demonstration packages.
5. Seed production programs are being implemented with the farmer organizations to ensure timely supply of planting materials.
6. It has been observed that the cheap imports of potatoes, chili and onion has induced a significant decrease in area under these crops. In order to reduce import dependence, the government has launched a program of high-yielding seed-fertilizer technology for effective reduction in the costs of production of these crops.

Technical

1. Tractors and other middle level agricultural equipments have been introduced with the relation of taxes.

2. Quality and price control system for agro-chemicals and fertilizers was established.
3. Arrangement has been made to ensure the timely availability of agro-chemicals and fertilizers.
4. Training programs are being conducted to introduce improved methods of land preparations, water management, chemical and fertilizer applications and harvesting.
5. Post-harvesting latest technologies have been introduced.
6. Measures have been taken to transfer appropriate research findings to the farmer.
7. Arrangements have been made with the Irrigation Department and other relevant agencies to rehabilitate existing irrigation systems in dry areas to ensure the supply of water at the required time.
8. Agro-wells program was found to be very useful and needed expansion. Therefore programs are being conducted to introduce agro-wells for the dry areas.
9. Provision has been made to improve agricultural roads.

Institutional

1. Four task forces, as working groups, have been established at the national level to develop production programs.
2. Arrangements have been made to review the implementation programs in the regular monthly meetings at the national level.
3. Provincial agricultural committee meetings are being conducted quarterly to review the provincial agricultural programs.
4. District agricultural committee meetings are being conducted monthly with the participation of all the district heads of the agriculture sector and representatives of farming community of the district.
5. Divisional agricultural committee meetings are being implemented monthly as the direct sub-committee for the district agricultural committee. Divisional level government officers (central/provincial) and representation of farming community of the division are the compulsory participants.

Agrarian Development Centers

With the implementation of Land Reform Act No. 01 of 1972, Agricultural Productivity Act No. 02 of 1972, and Agricultural Lands Act No. 42 of 1973, agrarian centers were constructed in the year 1973. With the implementation of National Agricultural Policy it was decided to restructure the agrarian centers in miscellaneous ways for the supreme interests of the farmers as follows:

1. Integration of all the development programs and investment resources of the departments, boards and corporations and the agencies of the ministry.
2. Expansion of the building, space and land area of the centers and along with provision of the water, electricity and other communication facilities.
3. Provision of new storage and other facilities for value addition and packaging and marketing of seeds, planting materials and other inputs.
4. Streamlining of functioning of the existing agrarian services' committee with regular meetings and proper keeping of books and accounts.
5. Opening of farmer bank branches in the agrarian centers.
6. Attachment of all the officers of the divisional level agriculture sector to these centers.

7. Attachment of all the under-irrigated state buildings in the vicinity of these centers with them.
8. Appointment of representatives of farmer organizations in the agrarian services committees.
9. Rotation of office hours among the affected state officers to keep up the center open throughout the year.
10. Maintenance of sufficient stocks of seed, planting materials, chemicals and carbonic fertilizer and spice products for effective delivery to farmers.
11. Maintenance of proper records of agricultural machinery and implements, and hire services along with mode of payment.
12. Publication of price lists of products for sale.
13. Five to 10 acre seed farms and planting nurseries to be established in the agrarian services center areas in their neighborhoods along with demonstration plots for integrated pest management, use of carbonic fertilizer, etc.

Agrarian Development Council

The agrarian centers which will function as the main transit – linkage between village level and the district level is considered to be an important link in the implementation strategy. In actual fact, all aspects and components of implementation strategy are expected to be converted in to practical operation by the agrarian centers. Hence the need to convert the agrarian services centers into hub of activities and also to convert the agrarian services committee which is responsible for the management of the agrarian services centers into the agrarian development council which will take over the management of the agrarian centers. It is obvious that the Agrarian Services Act needs to be amended to allow such a restructuring at the agrarian services center level.

Agrarian development council would be formed to take over the management of the agrarian centers from agrarian services committee. These councils will consist of representatives of all the farmer organizations in the area as well as of the state officers attached to the centers. The center will function as supply center for all the requisites and services of farming including community development and training, marketing of agricultural products and provision of other services. It will also monitor all the development programs undertaken in the area by state agencies, non-governmental agencies and farmer organization.

Other Services and Facilities

1. Arrangements have been made to release state lands for village expansion schemes in the rural areas.
2. Fertilizer subsidy program was restarted in 1994 involving reduction in the retail price of fertilizer. Government spends Rs.1,500 million annually on fertilizer subsidy alone.
3. A special attempt was made to strengthen the agricultural extension services, in order to plan, implement, monitor and evaluate the integrated agricultural extension programs.
4. Action was taken to right off 75 percent of all outstanding agricultural loans by the government provide the indebted farmers paid back 25 percent of the total loans.
5. Program was launched to establish farmer banks in the agrarian services centers, as the rural financial institutions to attend to the credit needs of farmers as well as to render a number of specialized services such as insurance including health insurance.
6. Crop insurance and farmer pension schemes have also been introduced. Under this program minimum monthly pension is Rs.1,000.

7. Attention has been paid to develop home gardens to conserve if for future generation and to ensure sustainable income from it.
8. Establishment of farming villages programs has been launched with basic infrastructure facilities to improve the productivity of the lands.

Marketing and Farmer Company Program

1. There are 33 peoples farmer companies established in Sri Lanka including three national level farmer companies.
2. Island-wide network has been established to collect production and market information.
3. Weekly meetings on food security are conducted at the national level to ensure the food availability and to maintain the price structure for agricultural products.
4. Farmer companies and cooperative societies have been strengthened by providing loan schemes, storage, transport and other necessary facilities to purchase paddy and other agricultural products to ensure better prices for the producers.
5. Agro-based industries have been introduced to value addition of farm products.
6. Farmer companies have been established with the real participation of the farmer organizations to get better prices for the agro-products and to minimize marketing constraints associated with the free economic policies and trade arrangements.
7. Several meetings and workshops were conducted to build partnerships among the government, farming community and private sector investors.
8. Plant Protection and Quarantine Act was revised and arrangements have been made for effective implementation of the regulation.

Introduction of New Agrarian Development Act No. 47 of 2000

The Law, which has been enacted and implemented since 1958, over the right of the tenant-cultivators to possess and cultivate paddy lands, has created numerous disputes among tenant-cultivators and landowners which has been regarded as one of the main causes for the low productivity of the lands cultivated by tenant-cultivators.

Legal provisions have been made to the Agrarian Development Act to transform the right of possession and cultivation of paddy lands ownership right. Since 18 August 2002, no citizen of Sri Lank would be entitled to exercise any tenancy right over paddy land. The tenant-cultivators should purchase the paddy lands which are cultivated by them from the owners of such lands at a compromised price or at the land value determined by the agrarian development council. If any tenant-cultivator does not agree to purchase the paddy land, he should transfer his tenancy right to the landowner, receiving compensation determined by the agrarian development council.

Either of the transactions must be completed before 18 August 2002 or else the tenant-cultivator ceased to prolong his rights to cultivate the particular paddy land.

It is expected that the enactment of the provision would enlarge the size of farm units, and disputes and enhance farm productivity enlarged and the owners of the paddy lands will be able to cultivate paddy lands free from dispute, which could enhance the productivity.

"Sarabhoomi" Program

This program has been prepared to improve soil fertility of agricultural lands by way of protecting environment, using organic manure, minimizing usage of chemical fertilizer and adopting soil and water conservation practices. The program is implemented by the Ministry of Agriculture with the assistance of Departments of Agriculture and Agrarian Development.

Commercialization of Small Farmer Agriculture

A model farmer company was formed making use of the provision in the Company Registrar's Act for formation of people's companies to undertake following activities as suggested in the said project proposal:

- Management of the irrigation system
- Advisory services (crops and livestock)
- Marketing of produce
- Providing credit for farming activities.

"Jayabhoomi" Program

The main objective of this program is to provide land grants with full ownership rights of land was first implemented in 1985 and has been in progress since then.

Restructuring Education

Student-centered participation was introduced in 1999 in eight schools of agriculture with the course content changed to accommodate needs of the day. The basic concept was to impart technical knowledge needed to own an agricultural enterprise.

Farmers Pension Scheme

In order to secure the farmer an old age farmers pension scheme has been introduced by the Agricultural Agrarian Insurance Board. As must be clear, the scheme was deemed to enhance the social welfare of out-of-work old farmers by adding to their meager incomes.

Farmers Bank

The farmers' bank was established to improve small farmers' access to credit for timely purchase and use of farm inputs, while aim was to raise land productivity of small farmers, nearly 452 agrarian centers are presently benefiting from the policy.

11. THAILAND (1)

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Thailand is a country in South East Asia with an area of 320,696,886 *rais* (1 *rai* = 0.16 ha). Most of the population lives by agriculture but the agricultural land is hardly enough to fully support the entire population. In the past, the population was not so great. Shifting cultivation was suitable for mountainous area because there was the balance between cultivation and forest regeneration. But nowadays, the population has increased and so has cultivated area leaving little time for the forest to regenerate. Agriculture remains a source of employment for Thai people despite the rapid industrial expansion. Total agricultural production increased in the country primarily as a result of expansion of cultivated land through deforestation.

LAND REFORMS IN THAILAND

Idea of land reforms is not new to Thailand and was first floated in 1933 when Mr. Predee Panomyong asked the government to buy all of excess land from the rich people and the government officers to make it suitable for the agriculture, develop it for crop production and hire the farmers to put it to more productive use. This idea, however, was not accepted by the government. Later Dr. Chaiyong Chuchart, Deputy Director General of Land Development Department studied the landholding problem and tried to set the government policy with regard to land distribution and its use.

Following the major recommendations of the study, the government decided to set up a fund in May 1970 to purchase land from big landowners and sell it to small farmers against payment within the period of 15-20 years with interest rate not more than 10 percent per year.

In spite of governments land redistribution policy, many resorted to agitated protests in 1973 because there was not enough land to satisfy all the landless. In response to these protests Mr. Sanya Thamasak, the then Prime Minister of Thailand, decided to solve the problem by taking the Land Reform Act for approval to the senate. In 5 March 1975, the government made the declaration of a comprehensive program of land reforms for distribution of land among the landless households. In order to support government efforts King Phumipol Ahulyadeth or King Rama IX joined hands and surrendered his own private land of 44,369,087 *rais* in five provinces of the central part of Thailand to the Land Reform Project in 1978 for distribution among the farmers.

In a continuing process since 1975, the Agriculture Land Reform Office has already redistributed some area of 51 million *rais* of government land among 1.2 million farmers in the 60 provinces of the country. Apart from this another 30,000 farmers have benefitted from

land purchased from the private sector. In the year 2001 alone, the Agriculture Land Reform Office gave 3.08 million *rais* of government land to 176 thousand farmers in addition to 10,000 *rais* bought from the private sector.

Many problems led to the relative ineffectiveness of land reforms in Thailand. For one thing, the soil fertility of redistributed land was very low and at many places mere rocky land. The farmers decided to leave these lands uncultivated because it was not worth the effort to improve them. Many of them sold their land to the rich for recreation purpose even though it was illegal to sell especially for use for the non-agricultural purpose.

AGRARIAN REFORMS UNDER LAND DEVELOPMENT DEPARTMENT

Soil and Land Use

Thailand has a land area of 321 million *rais* (51.4 million ha). Under growing population pressure the agriculture is no longer practiced on prime or highly fertile lands and has been pushed to marginal or least productive lands. These marginal lands accounted for approximately 182 million *rais* and include saline soils, extremely acid sulphate; sandy soils; shallow and acid soils; and mountainous areas. Due to chemical fertilizer use and the inappropriate disposal of toxic wastes, there continues to be a high level of soil contamination and erosion.

The increasing dependence on marginal lands has not added only to investment costs because of the increased need for soil management, but has also led to further degradation of soil due to encroachment into forest areas. Contributing further to the problems of soil use, is the overuse of groundwater in Bangkok and other large urban areas. In an eight-year span (1984-92), land in the severely affected areas of Bangkok and surrounding localities subsided about 32 cm. In addition, loss of land caused by soil erosion along the river banks of the country is a growing problem.

Soil and land resource problems have arisen for many reasons, including lack of coordination in the implementation of land use policy; lack of effective administration and management; improper enforcement of land use plans; uncontrolled expansion of settlements; and lack of appropriate urban development planning. In addition, previous land policies did not ensure security of land tenure nor justly allocated land occupation rights. Moreover, there was no coordination between land policy and resource management policies.

As a result of deforestation, the productivity of land declined crop productivity per unit area is now declining in most regions due to soil erosion and inappropriate continuous cropping. The sustainability of agricultural production faces many constraints for a majority of Thailand's farmers. The deforestation has exacerbated the soil erosion problem. Increased runoff reduced soil water storage and thus led to low water availability during the dry season. Soil nutrients have also been reduced and hence, crop productivity has declined.

Land Development Department is responsible for solving the above problems and has been making every possible effort to promote soil conservation through checks on deforestation, soil erosion and degradation of agricultural land.

Land Development Village and Soil Doctor

According to the observations and experiences of Land Development Department land degradation is the consequence of inappropriate land use and farmers poor understanding regarding management of land. In 1992, Land Development Department initiated two new strategies called Land Development Village (LDV) and Soil Doctor (SD) to solve the

aforesaid problems. Four hundred and thirty villages in the country were selected and established as LDV.

These villages serve as the model of land development system and also acted as a core demonstration units for each district. SDs, including barefoot (or basic), mobile SDs and mobile soil analysis units were also used to assist, advise, and transfer technologies and knowledge to farmers at village level. Volunteer SDs in every village, estimated at 65,000 for the whole country, are also being trained. The first batch of SDs was selected, trained and started performing duties in June 1994. The LDV and SD programs provided information and methods to solve common land use problems. The involvement and enthusiasm of the villagers, with the added support of cooperating agencies, had been the first step towards the future success of land sustainability in this program.

1. ***The Positive Effects of the LDV on the Farmers***

- Land use was changed from only paddy field to the combination of paddy field with orchards, vegetable and fish pond. This means that they can obtain more food from their lands.
- The use of vetiver decreased soil erosion and maintained soil fertility.
- Farm pond can solve the problem of water deficiency during the dry season.
- Farmers' point of view had already changed. They accepted and were eager to participate in LDV activities and gave many comments to improve LDV system further.

2. ***The Positive Effects of SD on the Farmers***

- As an SD, he can analyze soil fertility and soil nutrient for the farmer within his district.
- He can distribute land development news, knowledge and new technology directly to the farmers in village.
- In case of problems in the village, he can be indirect contact with Regional Land Development Office.
- He can illustrate the use of vetiver to prevent soil erosion and promote composite fertilizer use to improve soil fertility.

Soil and Water Conservation Project in the Northern Part of Thailand

The five-year joint project between the Canadian Society of Soil Science (CSSS) and the Soil and Water Conservation of Thailand (SWCST) in Amphoe Mae Chan, Chiangrai during 1991-94 concluded that soil conservation measures with good operation and participation from the farmers can increase crop yields by 15-40 percent. The establishment of trees in the cropping system can reduce soil loss and improve the environment of the project area. The number of farmers involved and the project area increased in the later year. Clear understanding of the concept, willingness of the farmers to participate and close supervision by extension workers have been some of the factors leading to the success of the project.

Saline Soils in Thailand

In Thailand, 3.43 million ha are salt-affected soils. Nearly, 70 percent of the salt affected lands or 2.85 million ha are in the Northeast Plateau basin (inland saline soils). The remaining 30 percent area of 0.58 million ha and 0.18 million ha falls respectively in coastal areas and the Central Plains.

The slight to moderately salt affected lands in the Northeast account for approximately 16 percent of Thailand's total land resources. Seventy-six percent of this land is under rice cultivation. The increase of salt affected soils in Northeast Thailand is mainly caused by man. The Soil Salinity Research Section of Land Development found that reforestation in the recharge area could lower saline groundwater table in the discharge area.

Rock salt mining has operated extensively in the Northeastern part of Thailand. Salt production by two methods – boiling and sun-drying the natural brine has caused severe environmental problems as well as a degradation of natural resources after the accidental discovery of salty groundwater. It took more than 10 years from the time of discovery before rock salt mining or farming were banned by the then Prime Minister Prem Tinsulanonda, who organized widespread protests.

Conflicting use of land and water resources among the beneficiaries and affected groups was very complicated to be managed. Zoning with control measures and advanced technology is proposed for environmentally sound utilization and effective management of the areas.

The impact of rock salt mining on land resources included agricultural land, forestland, and land subsidence as follows:

1. It was evident that discharge of salty wastewater from rock salt into nearby agricultural farmland could terminate plant growth and thus more rainwater was needed to leach down accumulated salt residues (Sinthuwanich,1989).
2. Deforestation and forest deterioration in many provinces in the Northeast was indirectly increased by rock salt mining. Rock salt mining operation by boiling method heavily consumed wood trees. Illegal logging of forest trees for fuel woods rapidly increased the deforestation rate. In addition, rock salt mining operation generated indirect impact on the extension of saline soils as a result of deforestation. High salinity and salt crust was evidently observed in some deforested areas and rice fields in the Northeast (Simking, 1991).
3. The subsidence of land resulted from excessive pumping of natural brine or salt water for rock salt mining. With no substitution in place, an underground large hole simply collapsed. The subsidence of land could be observed within 2-3 years after an intensive operation of rock salt mining (Setthabutra, 1990). In some areas, a consecutive line of holes with 8-15 m in diameter could be observed in the vicinity of rock salt mining (Roongsangchai, 1989). These areas were found very difficult to reclaim for practicing agriculture.
4. Stream and water reservoir could disappear or dry up due to the subsidence of land. In addition, rock salt mining operation resulted in cracking of laterite roads in villages and farmlands in Wanorn Niwat District of Sakon Nakhon Province (Charasdamrong, 1991).
5. The practice of rock salt mining near water reservoir or river caused a harmful impact not only on water quality for cropping but also for living fish cultivation. Reservoirs were damaged by high salinity of wastewater from rock salt farming. In this regard, rock salt mining by sun-drying method caused more salinity impact than that by boiling method. It was found that about 20 percent of wastewater from sun-drying field was pored back into the water reservoir.

6. Water for domestic use: rock salt mining operation by pumping water underground to dissolve rock salt needs a large amount of freshwater. The water in the reservoir as well as groundwater was then subjected to salt contamination from rock salt mining.

Saline Soil Improvement

As indicated before most of the area affected by salinity is in the Northeastern part of Thailand, Land Development Department tried to solve this problem by improving the saline soil. *Acacia ampliceps* and other resistant crops were introduced for this purpose. The farmer leaders were trained to improve the land and infrastructure. Soil and water conservation method was also applied to improve land. Canals were constructed for draining the excess water in the rainy season and store it for use in the dry season. Roads were constructed to control the flood in the rainy season. The project area of Thung Kula Rong Hai, under Land Development Department had already improve 549,520 *rais* of saline soil for the benefit of 14,280 farm households. Nowadays, Thung Kula Rong Hai has become the biggest area to produce jasmine rice in Thailand.

Mangrove deforestation along the coastal area – The coastal ecosystem is natural resource-rich and diverse in its composition and products. The pattern of land use varies from place to place depending on geographical characteristics and socio-economic factors. At present, the coastal saline land is put to three major uses namely; mangrove forests, agricultural area and area for aquaculture.

The coastal areas consist of various types of soils. Saline soils are the main soil types of the area, they can be found along the coastal belt with largest occurrence in the Southern region, followed by the Central Plain, and the coast of the Eastern region. The coastal area is very important to Thailand's socio-economic condition. The development activity in such areas has been increasing rapidly in recent years due to the highly productive characteristic of coastal ecosystem. Among numerous development activities, shrimp farming changes the coastal ecosystem the most.

Table 1. Mangrove Areas of Thailand

(Unit: ha)

Region	1961	1975	1979	1986	1989
Eastern	30,000	54,400	44,144	27,981	20,708
Central	3,300	36,500	31,232	1,016	596
Southern	334,600	227,200	211,932	167,431	159,254
Total	367,900	318,100	287,308	196,428	180,558

As years go by, large tracts of mangrove forest and rice land disappeared resulting in the new shrimp farms. The total mangrove area of 367,900 ha in 1961 has decreased to just 180,600 ha in 1989, while the corresponding figures for land under shrimp farms were 26,036 ha in 1980 and 81,552 ha in 1989.

The coastal ecosystem has certain capability in removing and immobilizing nutrients, heavy metals and constituents of sewage effluent coming down from other areas.

The utilization and transformation of coastal ecosystem, especially into shrimp farms not only is reducing its capability but is also causing many severe environmental problems. These problems include the deterioration of surface water, groundwater, and unsuitability of soil for rice and cash crop farming.

Coastal Area Development and Improvement

Land Development Department has set the provincial coastal area natural resources management plan and followed the land use change along the coastal area in the five provinces. Land use map along the coastal area was made to trace the land use change.

WATER AVAILABILITY

At present, the agricultural authorities concerned have made efforts to diffuse crop diversification including orchards to improve the standard of living of the farmers. To reach the goal, water resources must be supplied in the dry season. However, the scarce valuable irrigation water rapidly evaporates under the harsh sun in the dry season.

Availability of Natural Water Resources

The total volume of water from the rainfall in Thailand is estimated at 800,000 million m^3 of which 600,000 million m^3 is lost and the remaining 200,000 million m^3 is left as water resource to be developed. While the government has set its policy to develop 50 percent of the remaining rainwater, at present, only 40,000 million m^3 or 20 percent has been developed by several government agencies. Therefore, there is still 100,000 m^3 water resources to be further developed for the country's usage.

1. ***Causes of Water Shortage***
   - i) Extravagant use of water;
   - ii) Lack of emphasis on conservation of water resources;
   - iii) Drought due to erratic rainfall;
   - iv) Encroachment and sedimentation problems in water resources;
   - v) Increase in water demand due to population increase;
   - vi) Inadequate storage sites; and
   - vii) People lack sense of effective water use.
2. ***Causes of Flooding***
   - i) Heavy rainfall;
   - ii) Deforestation;
   - iii) Lack of upstream storage sites;
   - iv) Low terrain of the area; and
   - v) Ineffective drainage channels.
3. ***Causes of Pollution***
   - i) Wastewater from salt farms;
   - ii) Untreated water from factories;
   - iii) Wastewater from household usage; and
   - iv) Waste water from service sectors.

ROLE OF AGRARIAN REFORMS IN MODERN AGRICULTURE TECHNOLOGY

Land Use Map and Land Use Planning Map for Decisions on Crop Selection

Land Development Department had already finalized Provincial Land Use Planning Map for crop diversification for the whole country in 1998 on the scale 1:250,000 and is now well on the way to revise these maps on the scale of 1:50,000 for completion in 2004. These

maps will be very important and useful for considering strategies for extension of crop diversification. These maps have been designed to depict land use, soil conditions, rainfall and socio-economic data.

These maps were distributed to the farmers' leaders to redistribute to the farmer for their decision to select the proper crop in their land. They also gave information to the farmer of the crop type and land use type on the nearby area.

Vetiver Grass for Soil Conservation

The use of vetiver for soil and water conservation was introduced to Thailand by the World Bank during 1993. The experimental work for planting vetiver hedges on sloping land and in fruit plantations in 1993, indicated that the vetiver system can protect slopeland against erosion by 6-83 percent, reduce soil loss by 98 percent, conserve soil moisture for field crops and fruit trees for a longer time. Vetiver grass also presented other potential benefits to farmers and could be used for fodder, mulch, animal bedding, essential oils and handicrafts which may increase the income of the farmers.

Policy and Implementation Guidelines

1. ***Soil Resources and Land Use***

Policy 1 – Protect the soil resources from degradation and loss, and rehabilitate soil quality.

<*Guidelines*>

a. Increase awareness of the value and usefulness of soil by extension and training programs, and effective land use practices;
b. Promote soil improvement and conservation of soil and water resources by using measures favorable to environmental quality and the sustainable use of soil and land;
c. Formulate specific laws for land use zoning and control activities that may affect the soil resources such as removing top soil and sand mining; and laws and regulations effectively;
d. Improve and establish mechanisms for effective administration and management that facilitate national control of land use;
e. Have entrepreneurs take responsibility for soil rehabilitation, and regular monitoring;
f. Formulate guidelines for protection and solution of coastal erosion problems and formulate criteria and measures for landfills on river banks, beaches, shorelines and sea beds in order to rehabilitate privately-owned lands that have been eroded by river and seawater;
g. Support environmental and ecological studies and research regarding soil quality and rehabilitation techniques for improving degraded soils and promote the application of appropriate research results for the current situation and socio-economic circumstances; and
h. Develop a systematic soils and land information network, as a support unit for administration and management at policy and implementation levels.

Policy 2 – Increase effective land use practices that are relevant to soil capacity.

<Guidelines>

a. Encourage local administration units and community groups to participate in the administration and management of soil resources;
b. Use economic incentives as a mechanism for promoting appropriate land use based on potential and capacity;

c. Improve administration and management of agricultural land reform, according to the intention of the law, and promote coordination for efficient land management;
d. Develop public land and abandoned area as deemed appropriate, for the benefit of the community;
e. Rehabilitate Royal Forest Department reserve forest concession lands exceeding 100 *rais*; and
f. Upon expiration of the concession 16 ha to be reforested.

2. ***Agricultural Land Use***

Policy 1 – Conserve and protect areas that are suitable for agriculture; at least equal to 35 percent of the country's total area with 25 percent designated for farming and 10 percent for pasture.

<*Guidelines*>

a. Designate fertile land and irrigated areas for protection as agricultural areas;
b. Develop grasslands and waste land as grazing areas for the promotion of livestock raising based on their capacities and the ecosystem;
c. Designate management guidelines for agricultural land in irrigated areas that conform to its land use and socio-economic capacities; and
d. Use legal and fiscal measures to preserve and protect fertile agricultural areas.

Policy 2 – Promote and support suitable agricultural land use practices.

<*Guidelines*>

a. Promote restructuring of agricultural production based on soil capacity and economic efficiency, appropriate for sustainable agricultural development;
b. Increase the capacity of farmers to undertake efficient production that enhances conservation and rehabilitation of natural resources;
c. Monitor and control agricultural practices or other activities that may cause soil degradation in areas suitable for agriculture; and
d. Promote inter-disciplinary research, and encourage integrated conservation and development by providing incentives for agricultural development that support natural resources and environmental conservation.

3. ***Land Use in Unique Ecosystems and Geological Areas***

Policy 1 – Conserve the natural balance of areas containing unique ecosystems and geological area.

<*Guidelines*>

a. Prepare conservation and sustainable utilization management plans at all levels;
b. Amend and update laws to ensure effective protection of important areas;
c. Decentralize administrative and management authority for conservation and protection of unique ecosystems to the local level and increase the capacity of concerned agencies;
d. Promote and conduct public dissemination programs for informing and increasing the understanding of public and private sector personnel and local people of the value and importance of these areas, and to induce cooperation; and
e. Cooperate with international agencies at regional and global levels, to foster exchanges of technical and legal information.

Policy 2 – Utilize areas containing unique ecosystems and geology resources, while retaining the natural balance.

<*Guidelines*>

a. Formulate clear conditions for land use and land occupancy in areas with unique ecosystems and geologically important areas;

b. Control and monitor land use practices in these areas, based on a legal and regulatory framework, and ensure effective enforcement of protection measures; and
c. Allow local people to participate in implementation and to receive reasonable benefits from any development and utilization of the areas.

Ministry of Agriculture and Cooperatives (MOAC) Policy on Sustainable Agriculture

In accordance with the objective for restructuring sustainable agriculture in the 8th Plan, at least 20 percent of agricultural land should be used for sustainable agriculture. This will build opportunities for farmers to have higher income by providing alternatives, integrated agriculture and ecological agriculture:

1. MOAC assigned Agricultural Technology and Sustainable Agriculture Policy Division (ATSAP) to research and create a strategy for sustainable agriculture development: including the training of local officers to follow the 8th Plan;
2. The King's New theory also supports the development of sustainable agriculture;
3. The sustainable agriculture strategy includes the adjustment away from mono cropping as this leads to a problem with market pricing.

MOAC approach to Sustainable Agriculture

- Focus on the big picture to emphasize the link between market prices and production; and
- To decrease the risk of small farmers by supporting sustainable agriculture activities and conserving natural resources.

Projects related to sustainable agriculture development

- MOAC assisted projects - sustainable agriculture and integrated farming;
- Project to provide support for inter cropping; and
- The Royal Project.

Government Policy

The 8th National Social and Economic Development Plan contains points of reference that are relevant for the sustainable agriculture, including the following:

1. Develop status of farmer efficiency;
2. Support farmers in sustainable agriculture practices including: small-scale water resources in the field; restructuring of agricultural structure in field; research on the level of farmers' knowledge on biodiversity to develop sustainable agriculture and preserve the ecosystem using IPM; providing long-term loans to farmers; and increase product development and level of product standards;
3. Change the extension system currently in place; and
4. Increase the public activities to interact better with the government, i.e., knowledge transfer on the administration of a central market place for "one-stop" shopping.

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12. THAILAND (2)

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INTRODUCTION

Agriculture is one of the main production sectors in the Thai economy. During development, agriculture accounted for a large share of 19.01 percent of in the 5th National Plan (1982-86). However, the agriculture's contribution to GDP has declined to 11.44 percent in the 8th National Plan (1997-2001). The non-agriculture sector has grown at the higher rate than that of agriculture (Table 1). Within the agriculture sector, crops have dominated during 40 years of development by accounting for about 60-70 percent of agricultural GDP. The main crops are paddy, cassava, rubber, maize and sugarcane and their contributions to GDP have declined overtime. The new crops such as vegetables as well as flowers have increased. However, as development proceeded, Thailand evolved as one of the largest food exporters. In the 1990s the economy faced severe economic problems of degraded natural resources, increasing inequality of incomes and balance of payment. Hence, agrarian reforms in Thailand should be in line with the current problems as follows.

Table 1. The Contribution of Agriculture to GDP During the 5th-8th National Plan (1982-2001)

	5th Plan (1982-86)	6th Plan (1987-91)	7th Plan (1992-96)	8th Plan (1997-2001)
Agriculture:	19.01	14.88	11.42	11.44
Crop	12.00	9.20	6.67	7.00
Livestock	1.80	1.58	1.17	1.03
Fisheries	1.84	1.59	1.75	1.69
Forestry	1.02	0.50	0.18	0.10
Service	0.78	0.54	0.33	0.30
Agricultural simple processing	1.56	1.48	1.34	1.32
Non-agricultural GDP	80.99	85.12	88.58	88.56
GDP	100.00	100.00	100.00	100.00

Source: Office of Agricultural Economics, 2001.

THE PAST EXPERIENCES OF AGRARIAN REFORMS IN THAILAND

Agrarian Structure

Thailand's agricultural growth and income distribution are affected by its agrarian structure and available land resources. The total reported area of Thailand is about 320.7 million *rais* (1 *rai* = 0.16 ha; 1 ha = 6.25 *rais*), which is put to three major uses. Agricultural land extends over 132 million *rais* at 41 percent of the total area. The forest land and unclassified land represent 26 percent and 33 percent, respectively (Table 2). The farmer in the central plain has the largest average farm size, which is 30.95 *rais*. Most of the farmland is the ownership of private individuals and farmers (Table 3).

Table 2. Land Utilization in Thailand by Regions in 1995

(Unit: *rais*)

Region	Forestland	Agricultural Land	Unclassified Land	Total
North-eastern	13,290,417	57,859,173	34,384,373	105,533,963
Northern	46,178,701	29,216,745	30,632,234	106,027,680
Central Plain	14,942,902	27,237,692	22,775,669	64,956,263
Southern	7,784,141	18,164,960	18,247,891	44,196,992
Total	82,196,161 (25.63)	132,478,570 (41.31)	106,040,167 (33.06)	320,714,898 (100.00)

Source: Office of Agricultural Economics, 2000.
Note: Figures in parentheses are percent.

Table 3. Type of Farm Holding of Thailand by Regions in 1994

Region	Number of Farm	Farm Size (*rai*)	Type of Farm Holding Land (*rai*)	
			Owed	Others
North-eastern	2,273,549	25.44	51,310,467	6,548,706
Northern	1,293,997	22.57	21,902,124	7,314,621
Central Plain	879,835	30.95	19,362,406	7,875,226
Southern	801,434	22.66	16,743,385	1,421,575
Total	5,248,815	25.23	109,318,382	23,160,128

Source: Office of Agricultural Economics, 2000.

The Past Experience of Agrarian Reform in Thailand

1. ***The Agrarian Reforms under the National Economic and Social Development Plan***

The agrarian reforms have been the central objective of the enactment of the National Economic and Social Development Plans since the 1960s. However the emphasis varied from plan to plan and can be depicted as follows:

The 1st National Plan (1961-66)

The plan mainly emphasized the construction and improvement of the agricultural water distribution systems such as dams, reservoirs and irrigation canals. The varietal research, agricultural extension and experiment works by agricultural center were

undertaken for lasting increases in agricultural production. During this period, farmer's institutions such as the Bank for Agriculture and Cooperatives (BAAC) were mobilized to provide agricultural loans to the poor farmers.

The 2nd National Plan (1967-71)

During this period, major agricultural development policies were geared to accelerate agricultural production as well as to improve the economic and social conditions of the rural people. Several programs were launched to improve the performance of various sub-sectors in agriculture. New irrigation systems were constructed. Significant amounts of resources were spent on the improvement of rice varieties and other crops. Lending institutions intensified their services in granting loans to poor farmers.

The 3rd National Plan (1972-76)

The policies and programs were directed towards the promotion of export of agricultural products and the socio-economic improvement of poor farmers. In this plan, Thailand increased the agricultural production in order to stabilize the price of agricultural commodities. However, increase in agricultural output mainly relied on the expansion of cultivated area with an annual rate of approximately 4 percent.

The 4th National Plan (1977-81)

The policy emphasis was on land ownership through the land reform, land improvement and still carried out in order to minimize the risks in agricultural production. Sustainable development, especially balancing resource stock and use and the environmental considerations, was discussed since the period of this plan.

The 5th National Plan (1982-86)

During this plan, agricultural diversification was laid down as an important agricultural development measure. The diversification of economic crops was promoted to minimize farmer's risk due to fluctuation of prices, and varied returns from land utilization. Major crops consisting of rice, rubber, cassava, etc. were to be replaced by vegetables, fruits, oil palm and silk worm to promote diversification.

The 6th National Plan (1987-91)

The plan proposed to establish a link between production and marketing by changing the approach from "sale based on production" to "production for sale" particularly in foreign markets, which will complement the strategy to agricultural diversification. The main measures of agricultural development were to increase the efficiency of natural resource use at farm level and to improve farming system from traditional mono-cropping system to multiple-cropping systems which is complementary to crops, livestock and fisheries activities.

The 7th Plan (1992-96)

The plan aimed at the development of farmers through adjustment of their production system to market conditions and promotion of the appropriate technology. During this plan, the government policy has put emphasis on designated land use zones in line with local social condition and development potential of each locality. This was to be done by adjusting the cultivation and farming system to nature. The fisheries and livestock sectors were encouraged to play a greater role in agriculture. Integrate farming, natural agriculture and agro-forestry were called in order to alleviate the problem of natural resources deterioration. During this plan, the government strongly supported farmers' institutions, especially agricultural cooperatives and farmers group, for agricultural production and marketing.

The 8th Plan (1997-2001)

The agrarian reforms in the 8th national plan have emphasized sustainable agricultural production and competitiveness in the world market. The participation of the private sector and farmers were to be encouraged to apply the appropriate and environmentally less harmful technologies through information on campaigns, demonstrations and technological dissemination for promotion of sustainable agricultural development. Investment in agriculture to lower water demands which required and necessitated huge investments in equipment, infrastructure and human resources. These investments should be concentrated in areas with high production potential and good marketing opportunities. This would require a strong involvement of local institutions, the private sector and NGOs and increased awareness of sustainable alternative agricultural methods.

2. ***Developing Supportive Policies and Policy Instruments for Agrarian Reforms***

Increasing scarcity of new agricultural land and deterioration of land already in use forced the country to seek more efficient utilization of the resource. Over a decade ago, Thailand introduced several policies to increase efficiency of land use and conservation as follows:

Land Security – Land security has been necessary to encourage higher productivity and land conservation. The major programs that are being implemented in the 1990s to ensure land security are:

- land titling: to encourage more efficient land use and to increase long-term productivity. Thailand has been implementing an accelerated land titling project with the World Bank loans since 1985. The project aims to provide land titles for all the privately held non-forest land for 20 years. Total land requiring titles is estimated at 87 million *rais*.
- land acquisition: Thailand set up a land acquisition fund with the objective to purchase land for the landless. The land thus purchased was to be placed into a land bank for onward transmission to landless against recovery of price of land over a long-term period at low interest rates.
- land reform: began in 1975 to help tenant farmers become owners of the land they farmed. The land reform program began to provide usufruct rights to the smallholders who were working on degraded forestland. By 1994, usufruct rights on about 8 million *rais* were allocated. Under government policy, all 44.5 million *rais* of degraded reserve forestland will be degazetted as forest area and transferred from the control of the Royal Forest Department to the Agricultural Land Reform Office to survey and distribute usufruct rights to the farmers.

Land Use Planning – The land use planning in Thailand is classification of land and soil surveys used to support agricultural economic zoning and to identify crop potential.

Sustainable Development of Land – Long-term sustainable development of land is being stressed through crop diversification and other programs, including organic farming and appropriate farming systems.

3. ***Key Problems in the Agrarian Reforms***

Thailand's experience with agrarian reform leaves much to be desired. Many of the reforms were only partially implemented. Thailand was successful on implementing plan. Although, the agricultural development contributed to consistent economic growth, the economic achievements of Thailand did not come without unnecessary and heavy costs. There were many problems during the past agrarian reforms, which could be listed as follow:

Natural Resource Degradation

* Forest: Expansion of agriculture was mainly through clearing forestland to create new farmland and not through major increases in productivity. This led to serious land use problems. Forestland declined steadily and is now at a critical level and threatens environmental degradation. Similarly, agricultural land is increasingly overexploited (Figure 1).

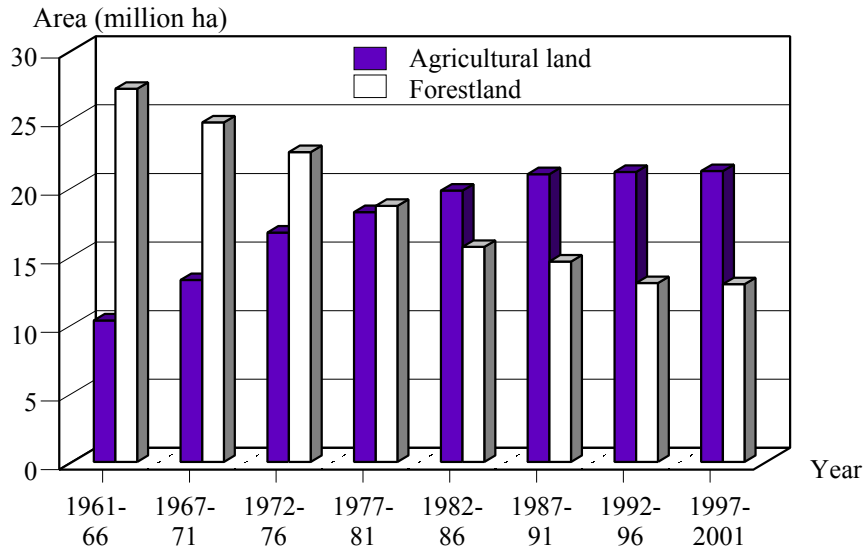

Figure 1. Forestland and Agricultural Land During the 1st-8th National Plan (1961-2001)

* Land: Land utilization in some areas is not compatible with the capability of soil and improper land uses give rise to soil depletion and soil erosion. The farmers lack incentives to improve land productivity by undertaking soil conservation practices.
* Water: Benefit from water distribution have not always been effectively allocated to all farmers under the irrigation schemes and have been developed without taking into consideration the achievement of efficiency and maximum economic returns in the long run.

Income Distribution and Poverty – Thailand has achieved an impressive overall economic growth. However, the development effort and economic progress was not evenly distributed among various groups of people. Farmers, the largest group still have low income and standard of living. The income gap between farm and non-farm sectors also widened (Table 4).

THE ROLE OF THE AGRARIAN REFORMS IN ADOPTION OF MODERN AGRICULTURAL TECHNOLOGIES IN THAILAND

Thai agriculture in the past was mainly for subsistence purpose, with high dependence on the productiveness of natural resources. At present situation has changed substantially because of growing dependence on modern technology that has tended to increase production for local consumption and export. These modern agricultural practices have also led to

problems related to imbalances in the natural environment, outbreaks of pests and diseases, and production and market uncertainties. In response to these problems, Thailand has resorted to certain agrarian reforms for mitigating these problems through more appropriate policies and practices for improving agricultural productivity and environmental sustainability.

Table 4. Poverty and Income distribution in Thailand during 1990-98

	1990	1992	1994	1996	1998
Poverty					
– Number in poverty (million)	15.30	13.47	9.65	6.84	7.95
– Poverty incidence by area (percent)					
* Municipal area	6.9	3.6	2.4	1.6	1.4
* Municipal area	18.2	12.7	9.6	5.8	7.5
* Rural	33.8	29.7	21.2	14.9	17.3
Poverty gap ratio	8.0	6.8	4.3	2.8	3.3
Severity of poverty index	3.3	2.7	1.7	1.1	1.3
Gini Coefficient of income distribution	52.4	53.6	52.7	51.5	51.1

Source: National Economic and Social Development Board (NESDB), 1997.

In this regards, Ministry of Agriculture and Cooperatives had implemented agricultural practices during the 7th-8th National Plan which were environment-friendly and were expected to lead to more output as follows:

1) Identify agricultural zones appropriate for crop cultivation to enhance the efficient and systematic use of land and water resources, thereby keeping the balance of natural resources and creating suitable business-oriented management.
2) Identify suitable alternatives for the potential areas and market demand aimed at reducing production and market risks and maintaining the balance of natural resources.
3) Promote diversified agriculture and more natural farming systems.
4) Supplement utilization of fertilizers and agricultural chemicals and organic fertilizers such as animal manures, crop residues, green manures, compost bio-fertilizer and mineral fertilizer to improve the productivity, tilth and fertility of the agricultural soils. In so doing reduction in harmful effects on consumers and farmers and cost of production, may be expected. There is also the need to promote greater adoption of biological insect control methods for plant protection to lessen adverse impacts on environment.
5) Redirect agricultural activities of farmers for conservation of natural resources and environmental conditions. On-farm water management plan can be implemented to ensure efficient use of the two resources.
6) Promote and control the application of agricultural chemicals by adopting integrated pest management and biological control measures.
7) Increase sustainable crop production by using bio-fertilizer such as rhizobium, mycorrhiza, *Azolla* blue green algae, etc. It has, for example, been shown that rhizobium, frankia can fix nitrogen approximately 10-500 kg N/ha/year. A study in Thailand indicated that *Azolla* could increase rice yield equivalent to the application of high rate of nitrogen fertilizers. The maximum benefit was obtained by using it as feed for fish cultured in rice fields as shown in Table 5.

Table 5. Paddy and Fish Production from Rice-*Azolla*-Fish Farming System

Treatments	Paddy Yield (kg/ha)	Average Fish Weight (g/fish)
Rice + 36-36-34 (N-P-K kg/ha)	760	-
Rice + 36-36-34 + *Azolla*	1,740	-
Rice + 36-36-34 + Fish	1,760	46.0
Rice + 0-36-34 - 24 + Fish + *Azolla*	1,890	84.3

Source: Swadee, *et al*., 1988.

MEASURES FOR ENHANCING ROLE OF THE AGRARIAN REFORMS IN SUSTAINABLE AGRICULTURAL DEVELOPMENT IN THAILAND

Since the United Nations Conference on Environment and Development (UNCED) in South America in 1992, Thailand also agreed with the term "***Sustainable Agriculture***". It concerns agricultural practices, which will help to create better economic, social and the environmental conditions. It will help farmers in several ways, for example, farmers can be more self-supporting and able to improve poor incomes without long-term problems of land degradation, thus, ensuring sustainability in socio-economic environment.

In Thailand, the development of the national economy and the expansion of agricultural commodity exports could never have happened without large-scale expansion of cultivated land. This required modern technology of land clearing tillage, puddling, high-yield varieties, fertilizer and pesticides. These factors tend to bring about soil erosion, environmental pollution, pest and disease outbreak and reduction of forest. The inefficient utilization of natural resources, degradation of environment and unsustainable agricultural production, non-equity of food production have been the outcome.

Thus, agrarian reforms in Thailand should be aimed at enhancing the role of sustainable agricultural development and encourage farmers to apply the appropriate and environmentally less harmful technologies, through information campaigns, demonstrations and technical dissemination. Sustainable agriculture would require diversity of species, complexity and interaction of ecosystem and natural selection. The measure and programs needed for this purpose include:

1. ***Emphasizing Efficient Use of Natural Resources in Agriculture to Preserving Them for the Futures***:
   - Designating agricultural production zones in order to ensure that agricultural land is being utilized appropriately and efficiently, particularly in areas where the government has already invested heavily in the provision of irrigation and other basic services.
   - Supporting land consolidation to achieve more efficient use of available land and water resources down to farm level.
2. ***Promoting the Modern Agricultural Practices for Increased Production and Environmental Protection***
   - Use of organic fertilizers.
   - Use of organic pesticides and biological control as substitutes for inorganic chemicals.
   - Application of "green" agricultural products.

- C Promotion of natural farming methods.
- C Multiple-cropping including inter-cropping, relay cropping, sequential cropping, multi-story cropping and ratoon cropping.
- C Farm diversification, e.g., the parallel production of crops, livestock, and aquaculture and forestry.
- C Application of bio-fertilizers in order to promote microbial activities in the soil such as decomposition of organic matter, biological nitrogen fixation and phosphate solubilizing microorganism.

3. ***Promoting Sustainable Development***

Ensure that farmers are able to adjust their production system with market conditions. They are able to choose appropriate agricultural technology.

4. Support research and development and transfer of technology in agriculture.
5. Organize research and training programs to enable farmers to apply new technical know-how, reduce production costs and increase their competitiveness.

THE STATUS OF AGRARIAN REFORMS UNDER PRESENT GOVERNMENT POLICIES OF THAILAND

Within it's 8th National Plan (1997-2001), the Royal Thai Government was under a new era of increased global rather than national level development. Key elements included globalization, trade liberalization and global political developments as new challenges for the development of the country.

Trade and Market Liberalization of Agriculture

The problems and constraints of Thailand in its efforts to improve international terms of trade are those of discrimination and implicit technical barriers to trade. The selected use of certain environmental arguments to distort the world market, while ignoring other more severe global environment impacts, hinders fair and transparent global trade. Imposition of high tariffs on agricultural products and high subsidies given to domestic producers constrain the development of more efficient utilization of global resources and management of the environment through trade liberalization.

In the coming age of globalization, Thailand is likely to facing rising competition in the world market. While the free trade concept is endorsed, adjustment of demand and supply among countries will result. The principal of comparative advantage of countries is brought into consideration. Apart from straight competition, trade policies and measures of trading countries will have influence on production and marketing among countries. Furthermore, the implementation of the World Trade Organization (WTO) agreements is expected to have impact on the production situation in major exporting countries, including Thailand.

Thailand has been a member of WTO since 22 December 1981 and submitted its schedule of commitments on agriculture and its conditional offer on tariffs in trade negotiation in March 1993. Under the agreement, Thailand has several commitments under WTO agreement on agriculture as follows:

- C Thailand must reduce its total tariff by 24 percent within 10 years starting from 1995 to 2004.
- C For market access, tariffication must be used on agricultural commodities instead of any specific non-tariff measures as follows:

– For products which are normally not imported, Thailand must open its internal markets at a rate of 3 percent of domestic consumption beginning 1995 and the quantities have to be increased to 5 percent in 2004 with low taxation.
– The import quotas for products, which have import restrictions less than 3 percent of consumption, must be treated in the same way as above. Where the quantities imported are more than 5 percent of domestic consumption, such as current import quotas, an existing tariff will have to be used as the basis for the calculation. On the other hand import volumes exceeding the quota have to be taxed at a rate equal to the difference between foreign and domestic prices of the products.

With regard to market access, Thailand must open the market for 20 farm commodities, which had import control (Table 6).

C International support must be reduced by 13.3 percent within 10 years.
C Export subsidies must be reduced either by 24 percent of the government budget or 14 percent of the subsidized exports, within 10 years.

Table 6. Market Access in Thailand

Tariff Item Number	Description of Product	In-quota			Out-quota	
		Binding Rate (percent)	Minimum Access (mt)		Binding Rate (percent)	
			1995	2004	1995	2004
0401	Milk and cream	20	2,286	2,400	46	41
0402.10.0007	Milk powder	20	45,000	55,000	240	216
0701	Potatoes	27	288	302	139	125
0703.10	Onion shallots	27	348	365	158	142
0703.20.0007	Garlic	27	62	65	63	57
0801.10.0106	Coconut	20	2,312	2,427	60	54
0901	Coffee beans	30	5	5.25	100	90
0902	Tea	30	596	625	100	90
0904.11.0003	Pepper	27	43	45	57	51
1005.90	Maize	20	52,096	54,700	81	73
1006	Rice	30	237,863	249,757	58	58
1201.00.1000	Soybean	20	10,402	10,922	89	80
1209.91.0106	Onion seeds	30	3	3.15	242	218
1507.10.0001	Soybean and oil	20	2,173	2,281	162	146
1511	Palm oil and kernel	20	4,629	4,860	159	143
1513.11.0008	Coconut oil	20	385	401	58	52
1701	Sugar	65	13,105	13,760	104	94
2101.1	Instant coffee	40	128	134	55	50
2304.00.0008	Soybean meal	20	219,580	230,559	148	143
2401	Tobacco leaves	60	6,129	6,435	80	72
5002.00.0003	Raw silk	30	460	483	257	226
813.4	Dried longan	30	5	8	59	53
1203.00.0005	Copra	20	694	1,157	40	36

Source: Kajonwan, 1999.
Note: Surcharge imposed on maize has been ฿380/mt.

The Impact on Agricultural Trade

Agricultural commodities have long been Thailand's major exports with a growth rate of 11.75 percent during 1984-99. The major agricultural export, namely; rice, rubber, sugar, frozen chicken and shrimp products witnessed increasing trade. But the exports of some commodities like maize decreased tremendously as a result of increase in the domestic livestock industry requiring feed for raising animals. In 1999, the total export value of agricultural commodities was ฿550,116.27 million. Rubber and rice were the original important agricultural exports. The others, namely; maize, cassava, shrimps, and frozen chicken were added to the list of important Thailand exports items (Table 7).

The total imports have increased with a rate of 14.66 percent during 1984-99. The major imported commodities were pulp and paper, dairy products and soybean products. According to agricultural trade statistics, the value of farm commodities dependent heavily on export of traditional crops, such as rice, rubber and cassava (Table 8).

Agricultural trade liberalization will benefit Thai agriculture, which has higher comparative advantage than competitors. That will lead to farmers expanding their production levels for export. It will place some agricultural products at a disadvantage owing to high production costs and low quality. Those products cannot compete with imports and the producers will receive a low price. In the long term, producers will have to make adjustments by improving crop productivity and quality.

The Government Strategy to Make Agrarian Reforms in Thailand More Compatible in View of the Trade and Market Liberalization under WTO Regime

Several strategies have to ensure more compatibility with other countries as follows:

1) Enhancing competitiveness in agricultural products for export and import substitutes.
   - Focus on designation of an agro-economic zone linked to marketing and processing of important agricultural products. Increase production efficiency and reduce cost of production by focusing on research and technology transfer and promotion of efficient use of fertilizer and agricultural chemicals.
   - Change to more competitive products.
2) Improve crop productivity by promoting sustainable agricultural products.
3) Promote eco-labeling, green label, ISO 9000 and ISO 14000 development in order to enhance the competitiveness and environment friendly practices.
4) Strengthen land use planning and management systems to integrate resource utilization and environmental protection.
5) Advance scientific and technological development in sustainable resource use and environmental protection, such as pollution control, clean technology, biodiversity, conservation and biotechnology development.

THE APPROPRIATE AGRARIAN REFORMS IN THAILAND IN THE 21ST CENTURY

The problems of agricultural development in general and of productivity and income enhancement in particular are considered to be the major impediments to development of agriculture sector. Under the changing international economic and trade environment in the next century, four types of appropriate agrarian reforms in Thailand are as follows (Figure 2).

Table 7. Export of Principal Agricultural Commodities and Percentage Share of Agricultural Exports

(Unit: ฿ million)

Year	Rice	Rubber	Maize	Cassava	Frozen Chicken
1984	25,932.00 (22.87)	13,891.69 (12.25)	13,463.38 (11.87)	16,600.46 (14.64)	1,419.75 (1.25)
1985	22,524.10 (19.42)	14,807.05 (12.77)	11,891.80 (10.25)	14,966.93 (12.90)	1,468.06 (1.27)
1986	20,314.80 (15.11)	16,629.33 (12.37)	9,176.19 (6.83)	19,086.53 (14.20)	3,121.28 (2.32)
1987	22,703.00 (14.74)	23,328.32 (15.15)	3,866.56 (2.51)	20,661.58 (13.42)	4,019.94 (2.61)
1988	34,676.40 (17.86)	31,823.75 (16.39)	3,809.93 (1.96)	21,845.44 (11.25)	4,869.91 (2.51)
1989	45,462.30 (19.72)	31,952.61 (13.86)	4,087.41 (1.77)	23,974.79 (10.40)	5,883.71 (2.55)
1990	27,769.50 (12.39)	30,155.94 (13.45)	4,141.26 (1.85)	23,136.81 (10.32)	7,589.73 (3.39)
1991	30,516.30 (11.92)	32,156.57 (12.56)	3,913.28 (1.53)	23,175.08 (9.05)	10,275.73 (4.01)
1992	36,213.80 (12.71)	38,137.08 (13.38)	531.13 (0.19)	27,592.85 (9.68)	10,399.29 (3.65)
1993	32,958.60 (11.78)	40,631.19 (14.53)	718.98 (0.26)	19,552.05 (6.99)	8,884.48 (3.18)
1994	39,187.30 (11.66)	54,820.78 (16.31)	583.86 (0.18)	16,609.52 (4.94)	9,854.38 (2.93)
1995	48,626.80 (11.95)	81,910.66 (20.12)	541.36 (0.13)	15,393.97 (3.78)	9,688.44 (2.38)
1996	50,734.80 (12.30)	82,419.27 (19.98)	427.27 (0.10)	17,093.56 (4.15)	9,085.02 (2.20)
1997	65,088.10 (13.42)	82,644.00 (17.05)	513.62 (0.11)	18,387.51 (3.79)	10,951.32 (2.26)
1998	86,806.20 (14.82)	91,642.00 (15.65)	793.80 (0.14)	16,877.12 (2.88)	16,638.52 (2.84)
1999	73,810.42 (13.42)	77,870.87 (14.16)	464.37 (0.08)	17,402.67 (3.16)	15,261.68 (2.77)
1984-99 growth rate (percent)	9.82	13.55	-10.38	1.28	20.33

... To be continued

Table 7. Continuation

(Unit: ฿ million)

Year	Shrimp	Other	Agricultural Export
1984	2,798.56 (2.47)	39,291.54 (34.65)	113,397.38
1985	3,439.46 (2.97)	46,876.70 (40.42)	115,974.10
1986	4,391.08 (3.27)	61,697.11 (45.90)	134,416.32
1987	5,748.88 (3.73)	73,662.48 (47.84)	153,990.76
1988	9,697.99 (4.99)	87,474.66 (45.04)	194,198.08
1989	16,057.08 (6.97)	103,118.84 (44.73)	230,536.74
1990	20,453.75 (9.12)	110,921.01 (49.48)	224,168.00
1991	26,680.93 (10.42)	129,318.01 (50.51)	256,035.90
1992	31,695.55 (11.12)	140,410.40 (49.27)	284,980.10
1993	37,841.65 (13.53)	139,063.67 (49.73)	279,650.62
1994	49,155.58 (14.62)	165,929.48 (49.36)	336,140.90
1995	50,302.05 (12.36)	200,574.12 (49.28)	407,037.40
1996	43,402.36 (10.52)	209,327.27 (50.75)	412,489.55
1997	47,184.89 (9.73)	260,077.89 (53.64)	484,847.33
1998	58,343.33 (9.96)	314,586.25 (53.71)	585,687.21
1999	48,347.97 (8.79)	316,958.29 (57.62)	550,116.27
1984-99 growth rate (percent)	23.03	15.28	11.75

Source: Office of Agricultural Economics, 2000.
Note: Figures in parentheses are percent.

Table 8. Value of Imported Agricultural Commodities and Percentage of Total Imports

(Unit: ฿ million)

Year	Soybean Products	Dairy Products	Pulp + Paper Products	Cotton Raw and Linters	Other	Agricultural Import
1984	2,526.58 (7.20)	2,084.65 (5.94)	4,064.24 (11.57)	4,826.06 (13.74)	21,614.99 (61.55)	35,116.52
1985	1,043.21 (2.73)	2,195.73 (5.74)	5,103.64 (13.34)	4,749.96 (12.42)	25,161.67 (65.77)	38,254.21
1986	1,148.53 (2.73)	2,098.80 (4.98)	4,805.09 (11.40)	4,555.39 (10.81)	29,526.93 (70.08)	42,134.74
1987	1,340.47 (2.50)	2,442.54 (4.56)	6,963.53 (13.00)	7,003.28 (13.08)	35,806.28 (66.86)	53,556.10
1988	1,870.21 (2.39)	3,267.12 (4.18)	8,340.08 (10.66)	8,181.84 (10.46)	56,559.00 (72.31)	78,218.25
1989	1,526.00 (1.49)	3,288.77 (3.22)	9,814.56 (9.60)	9,771.61 (9.56)	77,843.40 (76.13)	102,244.34
1990	2,046.06 (1.63)	4,180.15 (3.32)	12,115.14 (9.64)	12,835.77 (10.21)	94,533.34 (75.20)	125,710.46
1991	2,402.69 (1.68)	4,031.09 (2.82)	14,748.45 (10.32)	16,267.13 (11.39)	105,419.96 (73.79)	142,869.32
1992	5,263.49 (3.32)	5,570.26 (3.51)	16,839.79 (10.63)	14,415.16 (9.10)	116,365.76 (73.44)	158,454.46
1993	4,590.31 (2.87)	5,163.79 (3.23)	18,916.85 (11.83)	11,717.18 (7.33)	119,500.87 (74.74)	159,889.00
1994	6,018.18 (3.35)	6,202.22 (3.45)	21,953.30 (12.22)	14,295.02 (7.96)	131,205.87 (73.02)	179,674.59
1995	6,010.35 (2.82)	8,242.87 (3.86)	32,494.53 (15.22)	16,941.72 (7.93)	149,848.15 (70.17)	213,537.62
1996	9,689.29 (4.47)	9,371.25 (4.32)	26,787.76 (12.35)	17,572.70 (8.10)	153,410.96 (70.75)	216,831.96
1997	19,548.63 (8.54)	11,472.03 (5.01)	26,630.01 (11.64)	14,702.14 (6.43)	156,477.73 (68.38)	228,830.54
1998	16,049.30 (7.10)	11,604.16 (5.13)	25,818.10 (11.41)	18,601.15 (8.22)	154,161.67 (68.14)	226,234.38
1999	17,109.80 (7.52)	9,420.49 (4.14)	27,969.50 (12.29)	15,034.40 (6.60)	158,056.18 (69.45)	227,590.37
1984-99 growth rate (percent)	21.97	11.84	15.00	9.84	15.07	14.66

Source: Office of Agricultural Economics, 2000.
Note: Figures in parentheses are percent.

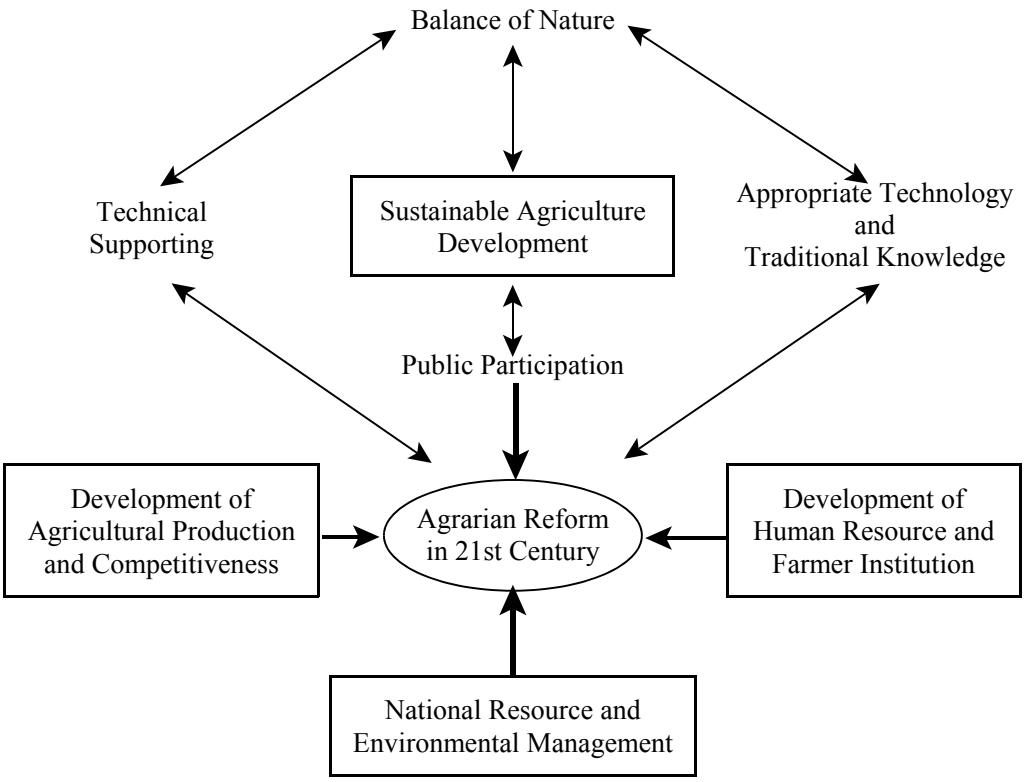

Figure 2. Agrarian Reform for Thailand in 21st Century

1. ***Development of Human Resource and Farmer Institutions***

Strengthen farmer institutions by encouraging farmers who have learned from experience to be self-reliant, provide intensive training to extension workers and cooperative officials. Increase the potential for saving and emphasize the importance of farm finance.

2. ***Sustainable Agricultural Development***

Restructure small-scale farmer base for consistency with the balance of nature and promote traditional knowledge, appropriate technology and public participation for sustainable agricultural practices by undertaking natural farming with use of bio-fertilizers, integrated pest management and local plant species.

3. ***Development of Production and Competitiveness***

Promote production and quality of import substitutes and potential export commodities.

4. ***Natural Resources and Environmental Management***

Decentralized authority for the conservation and preservation of natural resources to local level organization and community and impose environmental green tax on users of natural resources whose activities have adverse environmental impacts.

13. VIETNAM

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INTRODUCTION

The agriculture sector of Vietnam has achieved a very strong and rapid development in recent years following the implementation of some important policies and strategies on agricultural development in general and on agricultural land reforming in particular. Vietnam has been self-sufficient in agricultural products and aimed at commercial agricultural production with emphasis on agro-product exports. This has resulted in Vietnam's annual agro-products export turnover of US$3 billion.

In the year 2000, Vietnam used 9345.3 thousand ha for agricultural production, which represented 28.4 percent of country's total area. Paddy cultivation area spread on 4.2 million ha (appropriate half of agricultural area). With the existing productivity and additional subsidiary production, Vietnam was not only able to ensure food stabilization but also exported 3-4 million mt of rice annually.

The agriculture sector of Vietnam has performed well. However the Vietnamese agriculture is not considered as a highly developed one. The low crop yields and productivity, irrational sectoral structure, poor quality products and low value crop production remain typical features of the sector. The competitiveness of commercial agricultural products of Vietnam in the region as well as in the world markets is weak and agricultural product markets are unstable. The physical and technical facilities of agriculture sector are backward and timeworn.

The average per capita availability of agricultural land in Vietnam in recent years stands at 0.11 ha which is much lower than other countries in the region. Apart from that the land lost annually to commercial and residential uses exceeds 22-25 thousand ha. Hence, average agricultural land per capita remains under population pressure and threatens ecological safety. The unused land area, though available, lacked exploitation and utilization plans.

Therefore, to define a reasonable agrarian reform policy will contribute to sustainability and development of agriculture, increase production as well as improve the quality of agricultural products to meet domestic consumption, raw material needs of processing industry and to generate surpluses for export.

RESULTS OF AGRARIAN REFORMS IN VIETNAM

The Period from August Revolution in 1945 to 1975

The August Revolution in 1945 emphasized the policy of "land to the tiller", which encouraged farmers to strengthen agricultural production and eliminate hunger and disaster.

In the North, after Geneva Convention, the State implemented agrarian reform policy aiming to redistribute land to people and mobilize farmers to join cooperatives for a frontal attack on improvement of techniques and stepped up agriculture production. The policy basically consisted of a revolution of agricultural structure, focus on cropping pattern and replacement of summer rice crop by spring paddy crop over 60 percent of the sown area. It resulted in average paddy yield of 24.2 quintals/ha and the food production rose to 5,486 thousand mt.

In the South, the government had issued temporary certificates for allocating land to farmers. However, land basically belonged to government with poor individual production incentives. Thus, in that period, agriculture witnessed little change and the country had to import about 800 thousand mt of food annually. At the same time material technical facilities such as irrigation schemes were seriously damaged, as canals and sea dykes were not repaired and reinforced.

The Period 1976-80 (Before Renovation "*Doi Moi*")

The system of agricultural production was operated in a central planned manner as cooperatives, and production collectives accounted for a large proportion of total agricultural production. Benefit and main income of agricultural laborers was determined by low wage rates because the cooperative profits were distributed according to average procedure. This mechanism had discouraged farmers to invest their resources for production development. The Vietnamese agriculture in this period was small scale, scattered and self-contained. The growth rate was very low and unstable. Food production which was 13.5 million mt in 1976 rose to 14.4 million mt in 1980 and reflected only an annual increase of 18,000 mt. The average paddy yield exceeded no more than 20.2 quintals/ha and average food per capita was only 254 kg. The sown area of industrial trees had hardly increased. Coffee plantation area increased from 18,800 ha in 1976 to 22,500 ha in 1980. Areas under rubber trees went up from 76,500 ha in1976 to 87,700 ha in 1980. The cattle, as well as poultry had slow growth rate as the live-weight production was only 419,000 mt in 1976 and 44,800 mt in 1980. The agricultural exports in 1980 achieved US$116.2 million and accounted for 34.2 percent of total exports of the whole country. Food deficit occurred regularly in several areas in the country with average food imports of about 1.1 million mt per year.

The Period 1981-88 (Beginning of Renovation)

Based on actual situation of production as well as pressing requirements of life, the State in January 1981, issued policy proposing contract mechanism in agriculture. However, the cooperatives and production collectives still played important role in agricultural production, distribution of income and delivery of products to State. At the same time the State recognized and allowed farm households to invest capital and use labor power to intensively cultivate cooperative land for getting surplus contract production. Farmers were empowered to purchase products in local markets for domestic consumption. This policy was the first sudden move towards renovation. It created favorable conditions for agricultural production. In 1981, food production of the country reached a 15-million mt mark with an annual increase of 60,000 mt which was three times the annual average increase of the past five years. As the production continued to increase it reached 19.6 million mt in 1988. As a result of growing production, thanks mainly to these increases, the country imported only 24,000 mt of food annually which was only one-fifth of the average annual imports over

1976-80. In the face of growing population, however, the average food availability per capita in the period could rise only to 294 kg.

In spite of the viability of product contract mechanism, problems still remained. For example, the contract receiver had been owner of three parts among eight parts of cultivation. The remaining five parts belonged to the cooperative and gradually left entirely to cooperative members. The payment was not distributed fairly in accordance with service supplying system. The cooperative to State-owned units were still run bureaucratically with heavy subsidies. As cooperative management fell in difficult situation, contract receivers got only 15-20 percent of produced products. The living standard was very difficult to maintain and sustaining production increases and continued investments became increasingly difficult. It was in the wake of such problems that need for further reforms were keenly felt.

The Period from 1989 up to Present (Integrated Renovation Period)

Since Congress IV, renovation process on agricultural management had been carried out synchronously, which was expressed on Resolution 10 and some other resolutions of the State. At primary levels, the cooperatives were redirected to adjust three main contents:

- Ownership relation of production materials: allocate land by contract for long-term use to farm households, equitize buffaloes, cattle, exchange, bidding production material and technical facilities under ineffective management of the cooperative to farm households.
- Management relation: confirm that farm household is an independent economic unit.
- Distribution relation: eliminate working day counting regime and distribute things in nature by working days. Cooperative member has obligation to contribute fund for the cooperative and pay tax to the State.

The guidelines and policies of the State about renovation on agricultural management in essence is a solution system to readjust ownership, express concern on renovating the relation between farm household economy with cooperative's economy and attract tens of millions of farmers to contribute human resource as well as investment to agricultural production. The idea was to induce a turning point for rapid agriculture and rural development.

The Congress VII, comprehensive renovation series of new laws and policies continued to be issued. The emphasis of these series has been on long-term land allocation and stabilization for farmers, multi-sector economic policies and encouragement of agricultural development. In order to achieve the latter reforms of market structure under management of the State, price policy, tax policy on agricultural land use, policies on loaning capital to farmers, agricultural extension policy on applying technologies on production, etc., received special attention. It was for this reason that agricultural production had shown remarkable progress during the period with significant contribution to economic stability and social well-being of the entire country.

PRESENT POLICIES OF GOVERNMENT CONCERNING AGRARIAN REFORM

- Land Law (1993) and adjusting and supplementing some clauses of Land Law (1998).
- Decision 64/CP dated 27 September 1993 of government of which the issue of land use red book for long-term use was the most important point.

- Decision 85/CP (1999) of government on agricultural land allocation:
  - Allocate land for 20 years for annual cropland and 50 years for perennial cropland. After the expiry of this time, farmers in possession of land can lengthen land use.
  - The farm size limit of each household in the regions is as follows:
    - For annual crop land:
      - Provinces and towns in the Mekong River delta, Southeast: not more than 3 ha.
      - Other provinces and towns: not more than 2 ha.
    - For perennial crop land:
      - Communes in the deltas: not more than 2 ha.
      - Middle and Mountainous communes: not more than 30 ha.
    - For bare land the farm size is decided by the provincial people committee.
  - For the households occupying excess land and above the limit:
    - Before 1 January 1999, use to continue out of dated time the land will be changed to rent.
    - After 1 January 1999 to be changed to rent.
  - Farm households having income sources mainly from agriculture are to be allocated land within given farm size for long-term use in crop production, fishery, salt production and to be free in use (not to pay land tax).
    - Reduce and exempt from land tax (land use law dated 10 July 1993).
    - Exemption from land tax for reclaimed land for agriculture:
      - For annual crop land: five years, for bare land in mountainous regions, swamps and sea encroachment land, the duration of exemption from land tax is seven years.
      - For perennial crop land: exemption from land tax in capital construction period and three years more after having harvest. As for bare land in mountainous regions, swamps and sea encroachment land, the duration of exemption from land tax is six years more.
        - As for perennial cropland with one time harvesting the land tax is one time of harvesting (4 percent of harvested product).
      - Exemption from land tax for perennial crop land replanting and for annual crop land changes to perennial land: exemption from land tax in capital construction period and three years more after having harvest.
- Decision 163/CP dated 16th November 1999 of government of forestland use:
  - Government allocated forestland without any taxes for objectives and objectives must rent land.
  - Farm size limit for forest land rent.
  - Duration limit of forest land allocation and rent
  - Competence of forest land allocation.
  - Policy of tax reduction and exemption.
- Resolution of the government on farm economy No 03/2000/NQCP dated 2 February 2000 issued specific land policies as follows:
  - The households that have demand and capability to use land for developing farm are being allocated land or are given land on rent would be issued certificate of land use right. The allocated or rented land area must depend on land resource of the locality and production and business capacity of the farm owners.

- % Households that are directly engaged in agricultural, forestry and fishery production in local area, have demand and capability to use land for expanded production scale, in addition to allocated land area within landholding scale of the locality, would be permitted by Commune People's Committee to rent land for developing production business.
- % Non-agricultural households that have prospect and possibility to setup long-term career on agricultural, forestry and aquaculture production would be allowed to rent land form the Commune People's Committee for operating farm's economy.
- % Households and individuals in other localities that have prospect to establish long-term business and have available investment capital will be given land by residential Commune People's Committee.

– Households and individuals, that have received transferred land use right, renting or re-renting land use right of the other organizations for developing a farm enterprise, will have rights and obligations according to regulation of land law and will be given certificate of land use right.
  - % Households and individuals that have been allocated land or received transferred land use right in excess of land use limit before 1 January 1999 for developing a farm, will be able to continue using and shift to rent on land in excess of landholding limit according to regulation of land law and will be given certificate of land use right.
  - % Households and individuals, that use land without land allocation or land renting or have transferred land use right but did not receive certificate before the date of issuing this Resolution, will be reviewed for allocating or renting of land and given certificate of land use right.

ROLE OF THE AGRARIAN REFORMS IN AGRICULTURAL PRODUCTIVITY

Land Use Right of People Will Be Guaranteed

– After completion of drawing and designing the land allocation maps (commune level), complete survey of land statistics, land use administration and the land classification for land use tax identification have been carried out (Guidance of Decree 299).
– Building and promulgating the Land Law (1993) and Amendments and Supplements on Land Law (1998). The most important content is to clearly identify land use right, land transferring right, land renting right, land inheritance right and land mortgage right for encouraging land users to invest for intensive cultivation, land conservation and improvement.
– Finalizing land use planning (land utilization strategy in terms of surface use) for national socio-economic sectors up to 2010. This activity is extended over 61 provinces and cities as well as district and commune levels on a nationwide scale.

Constitution, Land Law issued in 1993 and policies of the State solved problems in term of land use duration and rights of land receivers, etc., which induced the users to invest for improvement in production. Out of the agricultural area of about 9,345 thousand ha, agricultural land use rights have been established on 8,013 thousand ha which accounted for 87.5 percent of total agricultural land.

– Households, as independent economic units, have been responsible for 80-90 percent of agricultural production value. The households, after being given certificate on agricultural land use, will be free to use land most appropriately and in harmony with the purpose specified in allocation (cultivation, animal husbandry and aquaculture). Produced products can be freely marketed at pre-specified prices. The State will pursue price support/subsidy policy and purchase any output in case of market gluts and seriously falling and low prices of rice and coffee in the world markets as it happened during the financial year of 2000-01. The State will facilitate and encourage households having good experience and ability for operating business by using available capital, and family labor and hired labor. The State has been in pursuit of supportive policies such as agricultural service system, credit program, etc., to induce a movement from subsistence agriculture to commercial production.

On the foundation of independent economy of farm households, many farms are being cultivated with heavy inputs of capital, labor, modern technologies and efficient management practices with a view to expand commercial production, improve productivity, and step up competition. According to statistical data, there are about 45,000 farms in Vietnam, which occupy about 270,700 ha of land with an average farm of 6 ha. Although farm owners comprise of farmers, workers, officials (retired and working in the localities), 62 percent are pure farmers. Most of the farms mainly use family labor power but hire casual labor in peak cropping season. Very few farms hire permanent regular labor. The farms invest on average of VND (Vietnamese dong) 200 million/farm. Nearly 85 percent of this investment is self-financed; 10 percent is met through bank loans and the remaining 5 percent from the community.

– All farms engage in integrated business for developing commercial agro-forestry production. In 1999, average production value of a farm was VND105 million, of which cultivation sector accounted for 58 percent; animal husbandry, 27.3 percent; agriculture, 13.7 percent; and forestry, 1.2 percent.

Application of New Advanced Techniques and Technologies on Production

Production knowledge has progressed rapidly in comparison with past developments. Many scientific achievements and new technologies are widely used to increase yield and improve quality of the products.

– Thanks to agrarian reform and land consolidation which has created favorable conditions for mechanical application for land preparation.
– The households after being given certificate on agricultural land use, have been induced to adopt innovative production technologies and practices as follows:
  % The use of new varieties with high-yield potential and disease- and pest-tolerating capacity and suitability to each region have resulted in significant increases in crop production and animal products. The case of rice in this regard has been particularly important, as the hybrid rice yields could be as high as 14-15 mt/ha.
  % Adoption of suitable agro-forestry systems, cultivation technologies, and construction methods to protect sloping land.
  % Using of fertilizers on commercial agricultural crops in agro-ecological zones.

- % Following of appropriate disease and insect management practices for commercial agricultural crops.
- % Application of technologies on processing of commercial agro-products for domestic consumption demand and for export.

Role of the Agrarian Reforms in Improving Agricultural Productivity

- Agricultural production after 10 years of implementing comprehensive renovation (1989-99) has achieved 4.3 percent annual growth rate which has been stable and evenly distributed among sectors. The greatest achievement has been in food production, which expanded rapidly and continuously the annual rate of 1 million mt per year and reached 23 million mt in the recent years with strong implications for national food security. It needs to be mentioned that despite high population growth rate and annual disasters, the country has been able to produce exportable surpluses of nearly 3.7 million mt of rice per year.
- Among the rising food production commercial production sectors have also been on the rise. The production of coffee, rubber, cashew nuts, mulberry, cotton, fruits sugar and animal products has expanded significantly. Apart from meeting domestic demand, many of these products have also been routed to world markets. Although average annual exports of Vietnam were considerably less than US$1 billion between 1989-94, they exceeded US$1.3 billion in 1994, US$2.005 billion in 1995; and US$4.3 billion in 1998. Taking the decade as a whole, the annual growth rate of Vietnamese exports was in excess of 13 percent.
- As planned, the growth of agriculture in Vietnam has a widespread and favorable impact on the rural masses. Part of the reason could be Vietnam's growing emphasis on the production of non-food commercial crops which accounted for a rising share of 35 percent in 1993 to 38 percent in 1995 in total value of agricultural production. It may be noted that commercial plantation crops are not only high value crops but are also known for their high labor intensity. As a consequences it can be expected that both the farmers and rural labor will be equal beneficiaries of any development in agriculture. It is in the light of this expectation that the standard of living of Vietnamese farmers improved substantially and incomes of people in rural areas increased remarkably. The number of rich households increased from 8.06 percent in 1990 to 9.7 percent in 1991 and 15 percent in 1992. The poor household reduced from 26 percent in 1993 to 15.3 percent in 1999. The rural infrastructure such as transportation, irrigation, electricity, healthcare, and schools also improved.

Role of the Agrarian Reforms in Sustainable Environment

In spite of rapid growth of agricultural production, environmental deterioration continued to remain a potential threat due to following factors:

- Serious deterioration of slope lands that have been exposed due to intensive cultivation and irrational practices.
- Rampant exploitation of forest resources that resulted in reducing the forest cover ratio below the biosafety rates and decreased the biodiversity.
- Lack of emphasis for controlling bank erosion, and effective utilization of sandy soils in the center regions and other problem soils.
- Increased soil contamination due to eutrophication of water sources.

SUGGESTED MEASURES FOR ENHANCING ROLE OF THE AGRARIAN REFORMS IN SUSTAINABLE AGRICULTURAL DEVELOPMENT

- Organize production on the pattern of integrated agricultural development, and specialized commodity regions along with processing industry to aim at creating high value agricultural products for export as well as domestic consumption.
- Encourage all economic units for promoting agro-forestry business and production.
- Develop and apply scientific techniques and modern technology in agriculture.
- Continue to effectively implement credit policy for rural and agriculture development.
- Create jobs for increasing incomes of agricultural labors and alleviating poverty in rural areas.
- Strengthen markets, ensure prices, diversify products and push competitiveness of agro-forest products especially those for export.

SPECIFIC LAND REFORMING POLICIES FOR THE 21ST CENTURY

In order to ensure consistency with trends in industrialization land policies should be improved as follows:

- Fully and effectively implement land regulation law according to Decree 64/CP and to issue certificate of land use right to 100 percent households in rural area.
- Encourage land renting instead of land selling. This seems to be necessary for controlling land fragmentation and land concentration. The measure can also be used to promote commercial production.
- Gradually transfer labor from agricultural production to secondary industrial and turtiary services sectors. At the same time rapid development of cooperatives in agriculture must be kept in check so that farmers do not loose their jobs and are not pushed to a destitute situation.
- Strengthen land allocation and issue land use right certificate for stable and long-term use to farmers. Resolve any complaint about land use on priority basis. There is need to ensure that each patch of land and forest plot has legal owner.
- Take up assessment of expanding allocation period of agricultural land to household and conduct a study of eliminating agricultural tax for lowering support agro-product prices.

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2. PROGRAM OF ACTIVITIES

(28 May - 2 June 2001)

Date/Time	Activity
Mon., 28 March	
Forenoon	Opening Ceremony Presentation and Discussion on Topic I: *Implementation of Agrarian Reforms in Asia – An Overview* by Mr. Kiran N. Pyakuryal
Afternoon	Presentation and Discussion on Topic II: *Some Issues Related to Agrarian Reforms* by Mr. S. B. Rajapakse Presentation and Discussion on Topic III: *Agrarian Reforms – Highlights of Selected Countries in the Asia and the Pacific Region* by Mr. Menachem Lourie Presentation and Discussion on Topic IV: *Farmer Companies: Can They Stands up to Expectations in the Changing Economy?* by Dr. Gamini Batuwitage
Tue., 29 March	
Forenoon	Presentation and Discussion on Topic V: *Agrarian Reforms and Agricultural Productivity: A Status Review of Sri Lanka's Experience* by Mr. J. Alwis Presentation and Discussion on Topic VI: *Poverty Alleviation in Agrarian Reform Commission in the Philippines* by Mr. Menachem Lourie
Afternoon	Presentation of Country Reports by Participants
Wed., 30 March	
Forenoon	Presentation of Country Reports by Participants
Afternoon	Presentation of Country Reports by Participants
Thurs., 31 March	
Forenoon	Workshop
Afternoon	Visit Hiriyala Farmer Company and Dambulla Dedicated Economic Centre (DDEC)
Fri., 1 June	
Forenoon	Visit CIC Sed Farm, Higurakgoda
Sat., 2 June	
Forenoon	Summing-up Session Closing Session