From: Development of Agribusiness Enterprises

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Report of the APO Seminar on Development of Agribusiness Enterprises Indonesia, 20–24 November 2000

Edited by Mr. Robert Oliver, Consultant Editor, Bangkok, Thailand.





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DEVELOPMENT OF

AGRIBUSINESS ENTERPRISES

2003 Asian Productivity Organization Tokyo

Report of the APO Seminar on Development of Agribusiness Enterprises held in Indonesia, 20-24 November 2000. (SME-SE2-00)

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FOREWORD

Modern agricultural technology, coupled with better management practices, has helped greatly to improve productivity on farms and to increase the value-adding activities of farmers/farmers groups in Asia. The latter, in particular, haves been positively promoted by governments by providing incentives to develop agribusiness activities in the countryside. To be sure, agribusinesses are complex enterprises that integrate agricultural production, value-added processing, packaging, distribution, and marketing activities. They entail greater risk than simple farming and require specific skills and experience. Accordingly, in November 2000, the APO organized in Indonesia a Seminar on Development of Agribusiness Enterprises to assess the current status of agribusiness in member countries and to discuss measures for further promoting the establishment of such businesses in rural areas.

The seminar identified a number of problems that hindered the setting up of agribusiness enterprises, especially of small ones. These included, among others, the unreliability of raw material supply, lack of infrastructure, and poor managerial skills. To address these problems, the following measures were suggested by the participants: 1) promoting an expanded role for farmers organizations or cooperatives by taking over some of the processes in the value-added chain; 2) encouraging partnerships with large companies to sustain the operations of small agribusiness enterprises; and 3) establishing a more conducive policy environment for these enterprises.

This volume is a compilation of the papers and proceedings of the seminar. I hope that it will serve as a useful reference on the subject in APO member countries.

The APO is grateful to the Government of Indonesia for hosting the seminar, and in particular to the Directorate General of Primary Agroindustry and Marketing, Ministry of Agriculture, and the Directorate of Manpower Productivity Development, Ministry of Manpower, for implementing the program and to the resource speakers for their valuable contributions. Special thanks are due to Mr. Robert Oliver for editing the present volume.

> TAKASHI TAJIMA Secretary-General

Tokyo October 2003

Part I. Summary of Findings

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INTRODUCTION

The Seminar on Development of Agribusiness Enterprises, organized by the Asian Productivity Organization (APO) and hosted by the Government of the Republic of Indonesia, was held in Yogyakarta, Indonesia from 20 to 24 November 2000. The program was implemented by the Directorate General of Primary Industry and Marketing, Ministry of Agriculture in cooperation with the Directorate of Manpower Productivity Development, Ministry of Manpower and Transmigration. Thirteen participants from 11 member countries and five resource speakers from Indonesia, Japan and the Philippines attended the seminar.

The objectives of the seminar were to: (a) assess the current status of agribusiness in member countries; and (b) discuss measures for further promoting the establishment of agribusiness, particularly in rural areas. The seminar consisted of the presentation and discussion of resource papers and country papers, the conducting of a workshop and visits to two agribusiness firms. The resource papers focused on the following topics: (a) Agribusiness Development in Asia and the Pacific – With Emphasis on Indonesia, Malaysia, the Philippines and Thailand; (b) Policies and Programs for Promoting the Development of Agribusiness Enterprises; (c) Requisites for Initiating Agribusiness Ventures; (d) Marketing Promotion for Agribusiness Sector – a Practical Approach from the Perspective of a Large Enterprise. The country papers, on the other hand, discussed the present situation as well as prospects for agribusiness development in the respective participating countries. The highlights of the seminar are presented below.

HIGHLIGHTS OF THE RESOURCE PAPERS

Agribusiness Development in Asia and the Pacific – With Emphasis on Indonesia, Malaysia, the Philippines and Thailand (Dr. Hiroyuki Nishimura)

Agriculture in Southeast Asia is shaped not only by natural elements such as geographical location and climatic conditions but also by socio-economic and institutional factors. Aside from the local agricultural production and management in each country, the interrelationship of capital and the increasingly competitive international trade are important concerns and issues for agribusiness in the region. It is also important to understand the situation concerning advanced production technology and means of market information or transportation, the creation of value-added products change in supply and demand, especially drastic change in developing countries caused by differing socio-economic development, and the effects of globalization.

From the end of the Second World War up to the present, the peoples of Asia have been able to fulfill their basic needs and have since demanded more industrial goods and services. The technology, facilities and management needed to produce these goods were acquired and integrated to gradually achieve a self-propagating high level of industrialization. Total exports increased with the relative proportions of exported agricultural products decreasing and industrial export increasing.

Newly Industrialized Economies (NIEs) in Asia have been promoting export-oriented industrialization since the 1980s, and they have been successful in actively exporting their industrial products within the region by gradually abolishing restrictions and restraining government intervention. In addition to NIEs and the Association of South East Asian Nations (ASEAN), China and Vietnam joined the global market economy in the latter part of the 1980s and began exporting agricultural products and industrial goods, which was made possible by cheap labor and active promotion of free trade.

Within a quarter of a century, countries in the region have been able to multiply their agricultural production and satisfy the food demands of their increasing populations. The food processing industry met the needs of the developed countries by transferring production to local sites, and by introducing a modern technology and management systems from developed countries. With improved socio-economic standards and changing lifestyles, domestic demand for processed food steadily expanded. Agriculture in the region became diversified according to conditions within and outside the region and in response to changes in corporate activities. In addition to agricultural and livestock production, other changes were induced in agribusiness areas. In particular, manufacturing output and markets of the food processing industry grew. Countries became beneficiaries of foreign investments and transfers of business management practices, enabling them to develop their food processing industries and promote distribution or the eating-out business. While maintaining the production of traditional foodstuffs, domestic demand for new products was also developed.

At present, there are several critical problems in the region. Competition is being escalated with the market participation of China and Vietnam. The start of investment and production activities in the food processing sector of those countries resulted in increased production among agriculture-based ASEAN members and the newcomers becoming more competitive.

The following policies and programs might be necessary for coping with globalizing trend of the economy in the region: (a) promotion of greater cooperation for mutual benefits between local farmers and related small and medium-size businesses; (b) establishment of a regional framework for greater integration of production activities among countries; (c) development of supporting and related industries; (d) development of basic social infrastructures to keep up with economic development; (e) adequate supplies of basic food requirements for the increasing populations in Asia; (f) development of common inspection standards for the safety of food products; and (g) conservation of resources and effective protection of the environment.

On the demand side, economic development has brought about diversified lifestyles and food preferences. On the supply side, development of agribusiness products has been accompanied by the emergence of more complex food materials, especially in types of processed foodstuffs, and manufacturing process. Because of the diversification of resources and technologies of the different countries, agricultural production has to expand its linkages with related industries. A more broadly defined agribusiness is needed in order to understand present conditions and implement comprehensive policies to deal with problems. Asia and the Pacific is a vast region that has rich resources with much potential for possible utilization. The region is still developing from a global point of view. It is expected to develop the means of production division and collaboration within the region or between other regions.

Policies and Programs for Promoting the Development of Agribusiness Enterprises (Dr. Kaman Nainggolan)

Agribusiness is viewed as a vital sector contributing to economic prosperity. In most Asian countries, agribusiness remains crucial in terms of labor absorption and export earnings, and therefore government support in promoting agribusiness enterprises is a crucial requirement.

As a result of economic globalization and market liberalization, market opportunities for agricultural products are greater for countries having competitive products. However, a more open market creates more competitors and more complex quality standards imposed by trading partners. It is, therefore, important for agribusiness companies to explore possibilities for improving competitiveness. Governments need to devise policies that are conducive to agribusiness development.

Among the common problems faced by agribusiness are: (a) international trade barriers; (b) limited access to credit, high interest rates and fluctuating exchange rates; (c) poor trade policy; (d) export and import taxes on raw materials; (e) bureaucratic practices; (f) high transportation costs; (g) raw materials of poor quality and unreliable supply; (h) the lack of support facilities; and (i) the lack of professional managers.

From a macro perspective, a prudent macroeconomic policy should be pursued. This will ensure that the agribusiness sector remains healthy. In trade policy, all export barriers such as export taxes for agricultural products and high import tariffs on inputs required by the agribusiness sector urgently need to be eliminated and proactive trade promotions pursued. In the investment sector, removal of all "red tape" for foreign investment in agribusiness would help the sector. In addition, policies and programs need to emphasize: (a) the creation of a conducive business climate and a level playing field for small-scale agribusiness ventures; (b) the strengthening of resource supplies and support institutions in rural areas; the provision of needed investment in infrastructure and other public goods; and (c) the provision of training for agribusiness enterprises.

At the micro level, emphasis needs to be placed on creating entrepreneurs, ensuring competitive products, stimulating local investors and human resource development, supporting business partnerships, and developing agribusiness terminals. Some of these actions should be undertaken by the government, while others can be handed over to the private sector. In short, what is expected from the government is the formulation of policies that do not discriminate against agribusiness in trade and industry as well as related macro policies. If this goal is achieved agribusiness enterprises will grow and become a leading sector, thereby enriching the country.

Requisites for Initiating Agribusiness Ventures (Thomas Darmawan)

Market trends in Southeast Asia are defined by a number of factors including: (a) the population, which is growing and getting younger; (b) the economy, which is generally exhibiting strong growth in many countries of the region; (c) increasing food imports; (d) westernization of the diet; (e) expansion of fast food outlets; (f) the development of retail and distribution systems; and (g) the improvement of market access. In order to further promote agribusiness development, the following strategies have been suggested: (a) the identification of competitive advantages; (b) the preparation of business proposals; (c) understanding the market; (d) the identification of partner relationships; and (e) the provision of adequate servicing of customers.

In the Indonesian context, the agribusiness sector has been growing, most notably the food processing industries. Several issues, however, now confront the sector such as stagnant agricultural production, increasing food imports, an inferior distribution system and the enhancement of new government regulations. The food laws of the country, for example, are aimed at protecting public health, conveying information to consumers, protecting the public against fraud, assuring fair trade practices and protecting the environment. Meeting all the relevant legal requirements has provided challenges, particularly for small agribusiness concerns.

Opportunities in the agri-food sector of the country include: (a) priority activities such as seed development, machinery and fertilizer manufacture, and food distribution; (b) traderelated businesses such as wheat flour, soybeans, meat, eggs and salt production; (c) investment activities such as dairying, feedlots, flour milling and sugar production; and (d) consultancy services. In order to realize these opportunities, there is a need to enhance the production capabilities of agribusiness enterprises, provide adequate infrastructure, effectively identify markets and develop the required skilled labor. In addition, the efficiency of the distribution system needs to be improved; in that regard, one strategy would be to establish a distribution center.

For the future, the food industry is projected to continue growing at a rate of more than 10 percent. The demand for quality food will become much stronger as the middle income group grows. With improvements in the quality of agribusiness products, the agro-industry sector is expected to expand further. Other developments that will contribute to its growth will be: (a) modernization of the traditional food business; (b) the establishment of joint ventures and strategic alliances with world-class companies; and (c) improved collaboration between government, industry, and research and development institutions in the production of the best seeds, processes and technologies.

Marketing Promotion for Agribusiness (Dr. Togar A. Napitupulu)

Agribusiness is an important sector in any economy in Asia. It contributes substantially to GNP and it is a source of employment for many of the population. Furthermore, since most agribusiness activities are in the rural areas, their development can be an effective instrument in alleviating poverty in any country. Agribusiness is a source of foreign exchange earnings as well as food and fiber, which are considered to be strategically important for national security. Agribusiness is defined as "the totality of all operations involved in the manufacturing of farm supplies, production, operations on the farm, as well as processing and distribution of farm commodities and items made from them".

Marketing is defined as "the performance of all business activities involved in the flow of agricultural products and services from the point of initial agricultural production until they are in the hands of consumers". Hence, marketing is a productive activity that creates utilities, i.e., form utility, place utility, time utility and possession utility, in the process of bringing the products from the farm to the consumer. Promoting agricultural/agribusiness marketing means, therefore, improving utility creation throughout the marketing chain or channels, through all marketing functions necessary to the marketing process, beginning with customers at the front end to farming activities at the other end of the process. In other words, marketing promotion is equivalent to improving both operational and pricing efficiency in marketing activities. That efficiency encourages markets and institutions, prices and marketing costs, and the functional and organizational aspects. Governments should not be undertaking activities that they are not good at doing. Governments are good at providing public goods, avoiding inequality, ameliorating externality, and enforcing competitiveness in the market through the regulation of monopolies and monopolistic markets. Therefore, a government should be establishing marketing infrastructures such as marketing information, rural market facilities and agribusiness terminals. In addition, it is commonly argued that of the total consumer expenditure on food, only a small percentage accrues to farmers. There is no substantial evidence supporting this argument. Theoretically, however, this might be correct as the structure of the farm market is close to being perfectly competitive while marketing firms are basically oligopolistic or monopolistic. To gain more bargaining power, farmers should be organized. Strong farmers' organizations are important in balancing the monopolistic or oligopsonistic structure of buyers (mostly large enterprises). Governments should also provide training for small-scale enterprises in order to help them understand the market and quality requirements as well as improve their product quality.

The promotion of farm and processed products through advertising and public relations appears to be effective in creating demand, especially for processed products. However, for farm products, advertising might be not be as effective as for processed products, since farm products are homogenous and can only be advertised generically. On the other hand, advertising works through creating product differentiation, which can minimize the free rider problem. For these reasons and for the reason of equity, the promotion of farm products and, to some extent in many developing countries, processed products should be carried out by the government. This can be done through public television programs and other channels such as public school food programs.

Improving Productivity/Management of SMEs in the Agribusiness Sector

- a Practical Approach from the Perspective of a Large Enterprise (Raymond C. Tan) Many quality and productivity (Q&P) programs are now being promoted and peddled in the market. We have been swamped by acronyms (e.g., TQM, 5S, ISO, GMP, HACCP, QIT, MRP, ERP and WMS) and technical jargon (i.e., quality function deployment, business process re-engineering, change management, seven basics habits and shareholder value). Thus, it becomes difficult and confusing for a layman or a small-scale enterprise to decide what is the most appropriate, cost-effective and optimal intervention for a particular business.

Improving productivity or management *per se* should not be viewed as a goal in itself, but rather as a means towards an end, i.e., being able to survive, compete and grow in the brutal world of business. For small- and medium-sized enterprises (SMEs), this could mean going up against large companies and conglomerates with their vast resources and clout. That, in turn, could become either a very profitable foray or a fatal step for a small company. A quick look at various industries, whether agriculture-, industry- or service-oriented, will reveal the typical domination by big enterprises and the "corpses" of fallen companies including SMEs.

Simplistically speaking, the options that are open to a small business when confronted by heavyweight competitors are to: (a) battle it out head on; (b) aim at "niche" marketing; (c) collaborate as a business partner; or (d) call it quits and liquidate the business. Q&P improvement programs are just tools and interventions used to bring an enterprise to fighting form to face these challenges. However, many of these programs have been short-lived, costly in terms of wasted resources, demoralizing to employees and counterproductive for some companies. On the other hand, they have been successful for other firms. So what makes the difference between success and failure? It is "doing the right thing, and doing it right".

To gain a clear understanding of what is the right thing to do or the correct intervention to undertake, it is necessary to have a system for exploring available options, evaluating them properly, and executing and institutionalizing the chosen program accordingly. This entire process, as well as how effectively and efficiently it is implemented, determines the quality of decisions and success rate of any enterprise.

A four-step framework can be adopted starting with: finding out what is wrong or needs to be done, followed by the selection of the intervention to be used, implementation of the program, and keeping it stable and healthy. The transformation (input-output) model is also given as a simple but effective tool for systematically scrutinizing Q&P programs. Relevant considerations such as resource limitations, strategic positioning, urgency, opportunities and conservatism should be made in view of prioritization that needs to be done.

There are many cases of large enterprises working with cooperatives and third party contract "partners" that depict win-win arrangements with SMEs. On the other hand, lessons have also been learnt from mistakes in design standards and breed selections that have become costly decisions as a result of a lack of information. Therefore, it is critical to consider the value of information and its important role as an equalizer for SMEs to compete against larger enterprises.

In that regard, there are a number of steps that can be taken towards achieving business success, such as:

- (a) pursuing benchmarking, competitive comparison and best practices sharing at various levels;
- (b) sustaining information dissemination programs (i.e., television documentaries, radio broadcasts, publications and assistance from extension workers);
- (c) continuing to strengthen IT and telecom infrastructure (i.e., the Internet);
- (d) encouraging networking and linkage promotion (i.e., tripartite partnerships between the government, farmers/SMEs and large companies);
- (e) broadening training curricula to include basic management, people development, networking, market research and intelligence; and
- (f) exploiting the use of national quality awards criteria as a framework.

HIGHLIGHTS OF THE COUNTRY PAPERS

The country papers that were presented at the seminar highlighted the fact that agriculture continued to be the primary source of employment and livelihood for people in the Asia-Pacific region. However, although production volume had been increasing through the years, there had been a gradual shift to other higher value industries (e.g., garments, IT and semiconductors) in some countries, resulting in a lower share of agribusiness, percentage-wise, in the total GDP. For some countries, this had led to further urbanization and migration of people to the cities, which had subsequently resulted in the reduction of the workforce in the rural agricultural areas. That, in turn, had affected the viability of some small enterprises, especially those operated by family units.

From the demand side, customers had started to become more sophisticated in their tastes and specifications. This could be seen in the growing demand for more varieties of

crops (i.e., non-traditional crops/fruit) and a greater range of processed foods. As a result, product life cycles had also been shortened.

In recent years, many countries had joined the movement towards the privatization of government-owned and controlled industries and businesses (e.g., power, water and fertilizer). In turn, that has led to improvement of those sectors with the takeover of private enterprises.

In the area of trade, non-tariff barriers had also been put up by importing countries in the form of packaging and labeling requirements, certifications for non-genetically modified products (GMPs), hazard analysis critical control point (HACCP) and environmentfriendliness etc. That had resulted in additional costs for the producers, which had not been passed on to consumers nor absorbed through higher prices. The profit squeeze was now taking its toll among farmers and industry as a whole.

Other identified common problems and challenges that SMEs were facing included:

- С a lack of good infrastructure, i.e., roads, and telecommunications and irrigation networks
- unreliable supplies of raw materials in terms of quality and quantity.
- CCCCCCCC obsolete and inefficient equipment and technologies.
- poor marketing facilities and sales networking.
- a lack of managerial skills.
- fluctuating foreign exchange rates and high interest rates.
- high product losses due to inadequate post-harvest facilities.
- high transportation and distribution costs.
- difficulty in accessing financing support due to bureaucracy and bias against smallscale farmers who are usually considered to be high-risk borrowers.
- С unresponsive or inappropriate government policies.
- С a lack of data and statistics on the industry.

To address the above concerns, strategies now being pursued included:

- privatization of government-managed industries and businesses.
- C C C C C C C trade liberalization involving imports and exports.
- the provision of soft loans and credit facilities.
- the provision of incentives to attract investments in priority areas and businesses.
- information/technology sharing and dissemination through various channels of communications, e.g., extension service, tri-media, websites, forums, seminars, conventions, trade fairs and exhibits.
- С the promotion of joint ventures or partnerships with large companies.

It was clear from the discussions that almost all countries would continue to be highly dependent on their agriculturally-based economies in the near future. The above-mentioned strategies had been formulated in order to address the goals of food self-sufficiency, increased competitiveness in the global market, less dependence on imported inputs and technology, and alleviation of poverty and unemployment in rural areas.

Regarding cooperatives, it was reported that very little success had been achieved despite the promotional efforts and resources being poured into strengthening them. Even so, the participants saw the value of cooperatives and proposed their continued promotion and

sustained support. In that regard, they cited the need for competent managers to manage the cooperatives if they were to succeed at all. The participants further identified as an opportunity the venture towards the production of higher value agricultural products through further processing. Currently, only basic and simple processing was being undertaken (e.g., solar drying and chip production).

A conscious thrust had also been made towards expanding and tapping new export markets. That move was in line with bringing their industries up to world-class level and, at the same time, earning much-needed foreign exchange to sustain their import requirements (i.e., raw materials, equipment and technology). Currently, all the participating countries had a net trade deficit except for Indonesia, which had its oil revenues. Hence, the need to promote export-oriented crops and higher-value products in order to offset the trade imbalance.

Lastly, the need for government to give more attention to, and place greater focus on, SMEs than large enterprises was highlighted. For example, the lack of sufficient support and incentives to spur growth in the sector was cited. To address that issue, governments should draw up suitable policies.

WORKSHOP OUTPUT

A workshop was conducted to provide an opportunity for further discussion and sharing of views and experiences among the participants. Two small groups were formed to discuss the following points: (a) the critical issues currently affecting the promotion of agribusiness SMEs in the Asia-Pacific region, and (b) strategies/measures that could be adopted to resolve those issues so that more agribusiness SME opportunities could be generated in rural areas. The outputs of the two groups, which were presented in a plenary session, are summarized below.

Group I (Bangladesh, Islamic Republic of Iran, Mongolia, Nepal, Pakistan and Sri Lanka) Chairperson: Mr. Maher Sher Mohammad

Area	Issues	Strategies/Measures
Policy	No specific policy for the promotion and development of agribusiness in some countries Rigid/ad hoc/short-term policy on agribusiness in other countries	Formulation of policy on agri- business Liberalization of policy on agri- business Formulation of off-term policies with involvement of the private sector
Management	Lack of skilled management result- ing in inefficiency	Conduct management training and improve management technology
Technology	Lack of modern technology	Acquisition and transfer of modern technology
Financing/Credit	Inability to obtain credit due to long and complex procedures	Simplification of credit procedures

Rapporteur: Ms. A. M. Youuverly Jasmin De Silva

Financing/Credit	Inadequacy of financial resources for agribusiness High interest rate Low recovery of bank loans	Allocation of more credit/funds for agribusiness enterprises Reduction of the interest rate Improvement of recovery rate
Marketing	Lack of infrastructure (e.g., tele- phones and roads) Inability to supply quality products	Improvement of infrastructure, parti- cularly in the rural areas Provision of facilities and training Strengthening of marketing linkages (e.g., through exhibitions abroad and locally) Provision of post-harvest technology

Group II (Indonesia, Republic of Korea, Malaysia, the Philippines and Vietnam)Chairperson:Mr. Prajogo Utomo HadiRapporteur:Ms. Nemelita G. Sungcaya

Area	Issues	Strategies/Measures
Policy	Lack of or poor infrastructure facilities (e.g., farm-to-market roads, ports, agribusiness terminal markets, chain cold storage, drying facilities and storage) Constant shifting/inconsistency of policies Overlapping of policies	Focusing of government spending on infrastructure development Establishment/implementation of monitoring mechanism on infra- structure development Strengthening and/or organization of the private sector (SMEs) and under- taking regular consultation with them Undertaking appropriate consulta- tion with concerned agencies
Management	Lack of or poor incentive system for encouraging improved production performance Poor management capability	Setting up a reward system Designing a set of standards Formulation of sustainable and innovative training program (SME and government partnership)
Technology	Seasonality of supply of agricultural products Little financial support for R&D of SMEs High cost of technology	Improvement of productivity Establishment of common service facilities (e.g., cold chain storage) for SMEs Increasing financial support for R&D Provision of incubators Creation/establishment of strategic alliances with SMEs of developed countries Provision of support for SME parti- cipation in technology transfer from developed countries

Financing/Credit	High cost of money capital Lack of equity capital	Provision of subsidized interest rate Establishment of guarantee fund Provision of consultants for SMEs
Marketing	Uneven production and distribution High cost of promotion	Provision of agribusiness terminal markets with complete facilities Establishment of database Promotion of agricultural products (e.g., through brochures and other media) and sponsoring of SMEs' participation in agricultural shows
	Poor market information and dis- semination network Poor bargaining power of farmers	Installation of telecommunication facilities down to farm level Establishment of marketing board Linking of producers to buyers (e.g., through contract growing, marketing arrangement and joint ventures)

FIELD STUDIES

For their field studies, the participants visited the PT Tuwuh Agung and PT Sari Husada agribusiness firms in Yogyakarta. The highlights of the visits are presented below.

PT Tuwuh Agung

PT Tuwuh Agung was a holding company which was established in 1986 to produce straw mushrooms (*volvariela volacea*) for domestic consumption and export. The product was processed and packaged at the company's factory (PT Margo Redjo) in Yogyakarta. The production company comprised some 1,300 employees, 900 of whom worked in the plantation and about 400 in the factory. The plantation's main operation included two composting plants, 300 greenhouses and several warehouses for storage of the raw material. It was located on 40 ha, some 25 km from the factory.

The company, which was the first and currently the biggest producer of straw mushrooms in the country, was growing its own mushrooms in order to control the quality and quantity of the product. The factory had a monthly operating capacity of 400-450 mt of fresh straw mushrooms, which was only 60 percent of the rated capacity. Because the mushrooms were freshly packed on the same day that they were harvested, they had a better taste than similar repacked products from other countries. The company's products, which came in the form of whole peeled, whole unpeeled and broken, were being exported to the U.S.A. (60 percent of total production), the U.K. (10 percent), Australia (7 percent), Hong Kong (6 percent), Singapore (3 percent), Canada (5 percent), Taiwan (1 percent) and others (4 percent) as well as marketed in the domestic market (4 percent).

The participants had an opportunity to observe the operations and facilities of the factory.

PT Sari Husada

PT Sari Husada, a medium-sized agribusiness enterprise that was manufacturing nutritious food and beverages for infants, children and adults in Indonesia, was established in 1954 as a state-owned enterprise by the United Nations Children's Fund (UNICEF) and

the State Industrial Bank of Indonesia. The objective until 1972 was to develop the health and intellect of the Indonesian people by providing them with nutritious foods. Then the government entered into a joint venture with a private company. In 1983, it became a public company when its shares were offered to the public. During its long history, the company had changed its name several times in accordance with the changes in ownership.

Currently, the company was the largest producer of formula milk in the country. In addition to infant formula milk, it also produced follow-on formula milk, growing-up formula milk, low lactose milk, baby cereals, milk for pregnant and lactating mothers, full cream milk powder as well as a number of milk products under license by Morinaga (Japan). In order to compete successfully and promote consumer confidence in its products, the company had installed quality assurance in all stages of the manufacturing process. It sourced its fresh milk requirements from local dairy farmers whose village unit cooperative undertook the collection and transportation of milk to the factory where it was combined with other raw materials, most of which were imported from abroad, to produce the various processed milk products. Most of the company's production was sold in the domestic market, with a small amount being exported to Pakistan.

The participants were given a short tour of some facilities of the factory.

CONCLUSION

Various views were expressed at the seminar on how the development of agribusiness, particularly SMEs, could be enhanced in the participating countries. With agribusiness becoming a major thrust in the region in recent years, opportunities for strengthening the links between agriculture and industry, and creating more value addition had multiplied, resulting in the expansion of the rural economy in many of the countries. While many of the agribusiness SMEs were facing a number of problems such as unreliable supplies of raw materials in terms of quantity and quality, a lack of infrastructure and poor managerial skills, different strategies had been adopted at the macro level and enterprise level to overcome the obstacles.

In that connection, the seminar highlighted the possible larger role that farmers' organizations or cooperatives could play in further promoting agribusiness activities. It was pointed out, however, that while those organizations were potentially capable of taking over some of the processes in the value-added chain, such as processing and marketing, they would first need to be strengthened, particularly with regard to their management capability. In addition, strategies such as partnering with large companies or seeking joint ventures could be helpful in sustaining the operations of SMEs. Finally, it became evident from the discussions that achieving any success in the promotion of SMEs would depend very much on the effectiveness of government policies and support programs. Such policies and programs have become more critical considerations in the establishment and survival of those enterprises in the face of the increasingly competitive market environment for agribusiness products.

The seminar provided the participants with an opportunity to review the current situation of agribusiness development in their respective countries. It also gave them a chance to learn in greater detail the experience of the host country through the presentation of relevant papers and visits to two local agribusiness enterprises. The discussions, in particular, raised a number of important issues and at the same time suggested a number of specific strategies/measures that could be adopted to further promote SMEs in the APO

member countries. In that regard, the participants felt that there was also a need for better appreciation of what should be the appropriate roles of the different players involved in the promotional efforts.

1. AGRIBUSINESS DEVELOPMENT IN ASIA AND THE PACIFIC – WITH EMPHASIS ON INDONESIA, MALAYSIA, THE PHILIPPINES AND THAILAND

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INTRODUCTION

In a broad sense, agribusiness involves the agricultural input industry, agricultural production and management, the agricultural output industry and related industries.

The paper basically discusses the agribusiness development issues concerning the four agricultural countries, i.e., Indonesia, Malaysia, the Philippines and Thailand. In addition, the newly industrialized economies (NIEs) of Singapore, Hong Kong, Taiwan and the Republic of Korea as well as other Asian countries such as China and Vietnam are included for comparison purpose.

Agriculture in Southeast Asia is shaped not only by natural elements such as geographical location and climatic conditions but also by socio-economic and institutional factors. Aside from the local agricultural production and management in each country, the interrelationship of capital and the increasingly competitive international trade are important issues for agribusiness in this region. It is also important to understand the situation concerning advanced production technology and means of market information or transportation, the creation of value-added products (change in supply and demand, especially drastic change in developing countries caused by differing socio-economic development) and the effects of globalization.

This paper reviews the characteristics of important economic and agricultural changes that occurred during the past 25 years, in terms of their causes, and discusses major issues that need to be tackled to enable the development of agribusiness.

SOCIO-ECONOMIC CHANGE AND ITS EFFECT ON AGRICULTURE

Trade and Socio-economic Change

Since the end of the Second World War, the people of Southeast Asia have been able to fulfill their basic needs and demand for industrial goods and services. In fact, those countries were supplying foodstuffs and industrial raw materials to former colonial powers, which resulted in predominantly specialized commercial agriculture that was dependent on technology and capital from the importing countries. A systematic industry able to process raw materials locally was never developed. However, following independence, a policy to replace importation and promote industrialization was implemented, but a lack of entrepreneurs, businessmen, managers and skilled labor limited business activities. The result was dependence on private corporations in developed countries.

With economic development, the importance of agricultural production and employment decreased while the industrial and service sectors expanded. Within the region. after 1970, increased income through economic development resulted in diverse life styles and increased demand for processed agricultural products and various types of industrial goods. The technology, facilities and management needed to produce such commodities were acquired and integrated to gradually achieve a self-propagating high level of industrialization.

From the 1980s to the start of the 1990s, the relative contribution of agriculture to the overall GDP of the ASEAN countries generally decreased while that of the industrial or the service sectors recorded an increase. Although exports of agricultural products fluctuated, they showed an increasing trend. Total exports also increased; however, the relative proportion of exported agricultural products decreased while industrial exports increased (Figure 1). Malaysia showed a slight decrease from 23 percent to 21 percent while the Philippines showed no change in the relative proportion despite increased agricultural production.

Asian NIEs, on the other hand, have been promoting export-oriented industrialization since 1980s. They have been successful in actively exporting their industrial products within the region by gradually abolishing restrictions and restraining government intervention.

After 1987, the economic growth of NIEs and Thailand reached more than 9 percent, while in Indonesia and Malaysia it was more than 5 percent. The corresponding rate for the Philippines was 7 percent. These high economic growth rates began with the introduction of foreign capital from the latter part of the 1980s and were positively influenced by expanded local production. Those trends were caused by a shift in production sites from Japan and other developed countries to ASEAN members.

In addition to the NIEs and ASEAN members, the socialist countries of China and Vietnam joined the global market economy in the latter part of the 1980s, when they began exporting agricultural products and industrial goods. This was made possible by cheap labor costs, the active promotion of free trade and the introduction of favorable policies for exportoriented multinational corporations.

Since 1990, countries within the region have been able to promote a certain degree of free trade and investment. In addition, individual countries are currently trying to encourage local industry as well as attract investment and promote the expansion of raw material imports within the region.

Agricultural Production

The current agricultural situation in Southeast Asia is characterized by the following natural conditions:

- С The region comprises a continental area and an island area. Geographical conditions (topography, soil and water conditions), and land zones (plains, mountains, valleys and delta areas) influence local agriculture.
- Climatic conditions influence agricultural production.
- C C C Traditional farming methods have long been practiced.
- Population density (farmer/land ratio) and land ratio) directly influences availability of arable land. In each locality, food supply is limited by the level of technology being applied.





Figure 1. Share of Agricultural Products in Total Export Value

Source: FAO, 1995.

Introduction of commercial production strongly influenced agricultural production by impacting socio-economic conditions, particularly marketing factors.

With regard to trade between countries in the region, the following factors exert a strong influence on domestic agriculture in each country:

- C A comparative economic advantage will decide the nature and extent of export products. When the market expands internationally, land is increasingly developed and agriculture production may change in terms of area, farming system or degree of intensification.
- C Because of changes in people's preferences and rise in living standards, demand for farm products is affected. That, in turn, leads to a further change in agricultural production.
- C Prices of farm inputs (especially labor wages), plus institutional factors such as trade restrictions and taxation, influence production.
- C At present, people are much concerned with the prevention of pollution, energy saving, conservation of the environment, food safety, etc.

They are paying increasing attention to sustainable agriculture or less use of agrochemicals. The social concepts and value systems concerning agriculture and food are becoming more serious, requiring governments to change laws and policies. Policy direction should emphasize environmental protection and food safety.

One prominent feature of Southeast Asian agriculture is small-sized family farming operations. In 1969-71, the average farm size in the region was 0.86 ha in Indonesia, 2.21 ha in Malaysia, 0.93 ha in the Philippines and 1 ha in Thailand, while in 1993, the average farm size was 0.88 ha, 2.19 ha, 0.86 ha and 1.08 ha, respectively. Thus, no significant change occurred between 1969 and 1993. However, the national structure of agriculture changed in terms of production size, pattern and intensity.

Introduction of high-yielding varieties (HYVs) of rice led to the "Green Revolution" in late 1960s. The introduction of HYVs, greatly increased use of fertilizers and other agrochemicals as well as the reform of agricultural laws, which resulted in increased production (except for Thailand) and stable crop production within the region. Up to the mid-1970s, the use of HYVs reached 41 percent, 36 percent and 62 percent of the area under rice cultivation in Indonesia, west Malaysia and the Philippines, respectively. In Thailand, the area under HYVs during the same period was only 6.5 percent.

In the 1970s, due to increased rice exports by Thailand, and increased investment in agricultural development and land improvement for rubber and oil palm in Malaysia, agricultural production in those countries recorded expansion with an annual agricultural growth rate of 2-3 percent with 50-60 percent of the population engaged in agriculture. Increase in production during 1970s was attributed partially to diversification of agricultural crops and livestock expansion.

AGRICULTURAL SITUATION OF SELECTED COUNTRIES

The relationship of agriculture to other sectors in the national economies of Indonesia, Malaysia, the Philippines and Thailand, as well as a brief outline of trade, are described below.

Indonesia

1. Economy

The economic development of Indonesia began in 1969 with the full implementation of the first Five-Year Plan. At that time, per capita income was an estimated US\$70. In 1996, per capita income exceeded US\$1,000, which was one remarkable result of development undertaken during the 25 years that elapsed from the first to the fifth plan (1969-94). The average yearly per capita growth was 6.7 percent. But the average yearly growth of the agriculture sector was limited to 3.6 percent during that period. The GDP composition ratio clearly showed that the proportion of industry increased from 8 percent in 1969 to 23 percent in 1994 while agriculture, forestry and fisheries decreased from 47 to 17 percent. The trend towards industrialization accelerated from 1980 and, by 1991, the relative shares of agriculture and industry had been reversed.

2. Agriculture and Agro-industry

The devaluation of the rupiah in 1986 greatly increased the export levels of plantation products and processed goods. In addition, the export competitiveness of the food processing industry increased. By the 1990s, the major proportion of exported agricultural products comprised estate-produced palm oil, rubber, tea and cocoa. From 1985, the share of palm oil, coffee and cocoa accounted for an increased share of small-scale farming products.

Many types of cottage industries or small-scale businesses were created for the sake of rural development, in order to absorb the abundant labor supply. However, many unemployed workers were unable to find jobs because of their low skills level, poor supplies of raw materials, inadequate infrastructure, etc.

Malaysia

1. Economy

In 1960, economic development was achieved mainly through agriculture. During the 1960s, 80 percent of export earnings came from natural rubber and tin, while from the mid-1970s, crude oil, palm oil and timber became primary export products.

Until the 1980s, Malaysia was the region's largest exporter of five primary products: natural rubber, tin, palm oil, timber and pepper. Subsequently, the share of agriculture in GDP began to decrease. Export prices of agricultural products dropped and exports stagnated. At the beginning of the 1990s, agriculture again showed some growth but relative share of the sector in GDP decreased.

After independence in 1958 a policy of providing incentives to invest in industrialization for import substitution was introduced. In the 1970s, the policy was specifically shifted to export-oriented industrialization.

Employment in agriculture peaked in 1988 and then began to decline. In 1992, the number of employees in the manufacturing sector surpassed agriculture for the first time and the GDP share of agriculture continued its downward trend from 19 percent recorded in 1990.

2. Agriculture and Agro-industry

The primary agricultural export products are, among others, rubber, palm oil, cacao products and pepper. The export sales of agriculture-related processed foodstuffs grew by an average of 7.8 percent from 1990 to 1995. In the food and feed processing industry, grain processing occupied the leading position, making livestock feed the biggest contributor to export sales.

Agribusiness in rural areas faced several constraints such as inadequate technology, lack of capital, poor participation by members and insufficient marketing channels.

The Philippines

1. Economy

Since 1960, the trade balance has been showing a deficit almost every year. In 1960, 87 percent of the major export commodities were agricultural, forestry and fisheries produce (mainly coconuts and coconut-related processed products, sugar, forestry products, abaca and tobacco, respectively). Mineral and industrial products accounted for a very small share. In 1970, the share of agriculture, forestry and fisheries products was 72 percent, indicating a typical primary product export model.

From 1960 to 1970, agricultural export products comprised coconut oil, copra and sugar, while exports of forestry products comprised logs, lumber and veneer. In addition, from around 1971, bananas, pineapples, natural rubber and coffee were increasingly exported to countries such as Japan. The share of the agriculture sector in GDP during that period was about 26 percent. From the late 1980s, the share of the industrial sector increased to reach 34 percent in 1988 while the share of agriculture decreased to 23 percent.

From 1992 to 1996, political stability and favorable investment conditions attracted an expanding inflow of foreign capital to the Philippines. Formerly dependent on the United States, the Philippines began importing machinery and equipment that was not produced domestically from neighboring Asian countries. In 1995, imports in terms of cost amounted to 23 percent from Japan, 21 percent from NIEs and 12 percent from ASEAN members, thus accounting for more than half of the country's total import expenditure.

2. Agriculture and Agro-industry

The major food crops are rice and corn, while coconut oil and copra are important as export products. Other important cash crops include sugar cane, bananas, pineapples, abaca, coffee, mango, rubber and tobacco. Exported foodstuffs include raw fisheries products and fresh fruit and vegetables. The export volume of fresh foodstuffs is larger than the export volume of processed foodstuffs.

Pineapples, bananas, rubber, coffee and sugar cane are under plantation management, but the harvesting, sale, processing, export and other agribusiness-related aspects are handled by multinational corporations and other business enterprises. Agribusiness activities in rural areas have failed to provide sufficient technical and managerial guidance.

Thailand

1. Economy

From the 1960s, total agricultural production rapidly increased in Thailand; however, its share of GDP decreased. With economic development, the share of rice in total agricultural production decreased from an average 34 percent in 1960-63, to an average 28 percent in 1985-87. From the 1960s, increased diversification in agriculture resulted in increased production of export products such as corn, mung bean, cassava, sugar cane, sorghum and soybeans. Sugar cane production, in particular, rapidly increased in 1970.

Expanded cultivation from the 1960s maintained the share of agricultural products in exports at over 51 percent until 1984, after which they stagnated and were replaced by processed fruit and vegetables, and fish and livestock products. From around the mid-1960s, the share of rice in agricultural product exports was 34-35 percent. However, with the diversification in the 1970s in export products (e.g., rubber, corn, kenaf and tapioca), the share of rice dropped to 12 percent in 1993. At present, vegetable exports are increasing and, as with fruit exports, are being canned or frozen.

After the Plaza Agreement in September 1985, the value of the yen rose against the US dollar. As a result, the cost of locally produced processed foodstuffs rose and from 1986 Japanese companies began moving their operations to Thailand. Similarly, the NIEs of Taiwan, Republic of Korea, Hong Kong and Singapore, hit by the adverse exchange rates with the US dollar and rising labor costs, made inroads into Thailand. The result was a foreign investment boom. The accumulated recorded capital up until 1992 showed that Japan was the largest investing country at 47 percent, followed by Hong Kong at 13 percent and Taiwan at 10 percent, indicating the remarkable progress of NIEs.

Poultry production (which comprised 55 percent of fresh meat production) and egg production increased by annual averages of 6.5 percent and 19.4 percent, respectively, during the 10-year period up to 1992. Exports of chicken in 1992 accounted for 25 percent of domestic chicken production, which was a 6.1-fold increase from 10 years earlier.

2. Agriculture and Agro-industry

Thailand is one of the largest producers and exporters of food products. Due to the remarkable rate of industrial development during the past 20 years, agricultural and fisheries products that were formerly exported as primary products are now processed and comprise 9 percent of the entire manufacturing industry (except beverages). The main characteristic of agribusinesses in Thailand is that they handle the majority of agricultural products for export, and (in some cases, using foreign capital or operating as joint ventures) dominate and regulate all stages of processing, manufacturing, storage, transportation and exporting.

Past agro-industrial development was brought about by diversified high-value added products. The application of modern agribusiness technology and collective bargaining power made it possible to earn a good profit. However, due to the highly competitive situation faced by the producers, organized collaboration is desirable.

COMPETITION AND COOPERATION WITHIN AND OUTSIDE THE REGION

During the 1960s and 1970s, the Republic of Korea, Taiwan, Hong Kong, Singapore and other countries within the region showed remarkable economic development. Taiwan and the Republic of Korea were agricultural countries without any specific modern industry up until the 1950s, after which they rapidly became industrialized and developed their mutually-related industrial sectors.

At first, the ASEAN countries and NIEs were dependent on Japan, the United States and European countries for capital and technology as well as acting as production subcontractors for developed countries. However, a gap in labor costs became clearly evident with the creation of a vertical division in the cooperative relationship. Also, differentiation of industry developed between ASEAN agricultural countries and NIEs.

In February 1977, the ASEAN Preferential Trade Agreement was signed. It was implemented in the following year, focusing on primary products. In November 1983, with the signing of the Business Merger Agreement, favorable measures were introduced for applying lower tariffs on products. In the mid-1980s, efforts to attract foreign capital, such as the easing of restrictions on foreign currencies, resulted in increased foreign direct investment.

During the latter half of the 1970s, the Republic of Korea and Taiwan became industrialized to the point where the GDP share of manufactured products in total GDP amounted to more than 30 percent (the same proportion as in industrialized Japan). At that time, manufacturing in each ASEAN member, except Indonesia, accounted for a GDP share of some 30 percent or higher, indicating the formation of an industrial sector. After the 1980s, industrialization in ASEAN countries shifted markedly from import-substitution to an export-oriented industry.

From 1985, the yen (which remained basically strong against the US dollar from the late 1980s to mid-1995) and, from 1987, the strong NIE currencies strengthened the relative competitive power of ASEAN industrial products. Consequently, Japanese and NIE companies actively invested in ASEAN countries, and the products manufactured by those companies were exported to Japan and NIE countries.

Between 1988 and 1992, a large share of the increasing imports by Pacific rim countries came from NIEs and Southeast Asia. The biggest export partners of ASEAN and China were the NIEs, which exported more to the former than to Japan or the United States. Statistics for 1992 showed that NIEs were the biggest export target region, exceeding Japan and the United States. Meanwhile, in terms of export volume in the Asia-Pacific rim region, the largest portion of imports by China came from NIEs (Figures 2 and 3).





Figure 2. Exports to the United States, Japan, Europe, NIEs and ASEAN

Source: Bureau of Investigation, Economic Planning Agency, 2000.

Notes: ¹Germany, U.K., France and Italy; ²Rep. of Korea, Hong Kong and Singapore; and ³Indonesia, Malaysia, Philippines and Thailand.

Consequently, productive capacity increased within the region and its countries became mutually strong competitors. After mid-1995, the weak yen and the strong US dollar decreased the advantage of shifting production sites from Japan to Southeast Asia and subsequently exporting goods to Japan. China and Vietnam, under the policy of switching to market economies, then actively promoted the inflow of foreign capital and free trade. Production was expanded and exports were strengthened due to abundant low-cost labor and the implementation of favorable measures to attract foreign businesses. Those measures encouraged exporting, and were useful in nurturing small- and medium-sized businesses that conformed to the requirements for establishing a sound foundation for a modern industrial sector. As a result, fierce competition occurred among countries within the region. Foreign direct investment of foreign capital to countries within the region increased. At the same time, an increasing trend of investing in the region appeared among ASEAN countries and NIEs.



Source: International Monetary Fund, 1999.

CURRENT PROBLEMS AND FUTURE TASKS FOR AGRIBUSINESS DEVELOPMENT

Within a quarter of a century, countries in the region have greatly expanded agricultural production, satisfied food demand among their increasing populations, raised incomes and successfully supplied the various needs of the people. While promoting industries that could provide import or export substitution, foreign currency earning through exports of mainly primary agricultural products contributed to each country's economic development. The food processing industry met the needs of developed countries by transferring production to local sites and by introducing modern technology and management systems from developed countries. With improved socio-economic standards and changing lifestyles, domestic demand for processed food grew steadily.

Agriculture in the region became diversified in accordance with conditions within and outside the region and in response to changes in corporate activities. In addition to agricultural and livestock production, active changes were induced in agribusiness areas. That was particularly the case in the food processing industry, and markets grew strongly. Each country received direct foreign investment and transfers of business management practices. In addition, they developed their food processing industries and promoted distribution or the restaurant business. While maintaining the marketing of traditional foodstuffs, increasing domestic demand for new products was developed.

Current Problems

At present, several crucial problems exist in the region including competition that escalated with the recent market participation of China and Vietnam. With the start of investment and production in the food processing sector in those countries, competition increased between ASEAN and the newcomers. Depending on fluctuations in local currency exchange rates, local investment conditions, export/import promotions and favorable taxation (especially the easing of restrictions and the implementation of liberalization), several types of business investment (from NIEs to ASEAN or from ASEAN to neighboring countries) started. Some investments were in the form of miscellaneous partnerships such as subsidiaries, joint ventures, associated companies, conglomerates and multinational corporations.

In the case of agribusiness development, there are differences in the levels of general development and comparative advantages of production. Also, there is the usual problem of potential differences in the interests of agricultural producers and input suppliers and output processing firms. In addition, the related supporting sector of the agribusiness industry may not have adequate or modern enough technology for an efficient management system.

Future Policies and Programs

Future policy issues under economic globalization should take the following points into consideration.

1. Cooperation among Producers and Cottage Industry

Methods of cooperation that promote mutual benefits for local farmers and related small-medium businesses are crucial. Cottage processing industries have long played an important role in each area, using locally produced agricultural raw materials to manufacture and process traditional foodstuffs. The industries utilize local resources and provide jobs for local residents. They need technological advice and suitable management know-how in distribution and raw materials supply. In order for a new industry to start or promote collaboration, financial and other necessary support need to be provided. It should be particularly noted that large-scale food processing industries are already becoming large corporations or multinational companies.

2. Formation of a Regional Network

The framework of a regional network should be discussed. By considering the present relative advantages of items produced for export and the level of economic development, a regional network plan for the division of production within a certain region should be promoted. Since mutual dependence is clearly evident, each country should present advisory guidelines and a general framework for production division for agreement, based on the following criteria: mutual benefits, equality and fairness, diversity of productive capacity, and the needs of each country or locality.

3. Development of Supporting and Related Industries

Efforts should be made to develop supporting and related industries. Each country should promote agribusiness-related industries, and especially supporting industries, by providing concrete extension advice in the areas of technology, management and finance. Also, each country should strive towards mutual easing of restrictions and, because of mutual dependency, should agree to lower tariffs and protect investment.

4. Development of Infrastructure

A satisfactory policy and plan for developing the basic social infrastructure, in order for it to keep up with economic development, should be devised. At present, the locations of agribusiness enterprises (especially food processing industries), and their means and methods of transportation, are generally within cities. Many problems are encountered by businesses in distant localities. A definite policy on requirements for sanitation, favorable locations, better planning and ways of providing support should be implemented as early as possible.

5. Satisfactory Supply of Basic Food Production

Fundamentally, agriculture should be promoted and developed in order to provide food for the increasing population of Asia. It is necessary to undertake regular checks of the food

supply balance, conserve resources, improve technology and ensure that there are adequate food reserves.

6. Security of Safe Foods and Uniform Standardization of Checking Systems

A common system of inspection and assurance of food product safety should be implemented. Quality control for processed food products has to be established. A regulated standard for safety inspections should be applied, particularly for the use of biotechnology in agriculture, and the application of fertilizers, chemicals and hormones.

7. Appropriate Resource Use and Environmental Protection

Conservation of resources, and the effective utilization and conservation of the environment should be kept in mind. The use of containers and additives in processed food production are of particular and growing concern. In addition, measures should be implemented to lessen garbage resulting from packaging and other wastes created during the manufacture, transportation and sales of fresh and processed food.

CONCLUSION

In order to cultivate, nurture and propagate useful plants and animals, man has utilized and developed land-based production processes, techniques and management practices of socalled traditional agriculture.

On the demand side, economic development has brought about variations in lifestyles and food preferences. On the supply side, agribusiness products have been accompanied by growing complexity in food materials, especially in the types of processed foodstuffs and the manufacturing process. Moreover, because of the diversification of resources and technologies used, agricultural production has had to expand its interrelationship with related industries.

A widely defined viewpoint of agribusiness, which includes industry and business, is needed both to understand present conditions and implement comprehensive policies for dealing with the various related problems. Asia and the Pacific is a vast region with rich resources that have much potential for utilization. The region is still developing from a global point of view. It is expected that the means of production division and collaboration will be found within the region or with other regions.

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2. POLICIES AND PROGRAMS FOR PROMOTING THE DEVELOPMENT OF AGRIBUSINESS ENTERPRISES

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INTRODUCTION

The world today is characterized by rapid and fundamental change toward a new global economic order. Geopolitical change, which is not easily predictable in terms of its direction or impact, and the increasingly rapid development of science and technology are driving the world economy into an era of globalization.

The rapid advances that are occurring in the areas of information, telecommunication and transportation technologies are further accelerating this phenomenon of globalization. It is with almost blinding speed that we are entering the globalization era and we thus face a great deal of uncertainty and probable instability in the international economy. Obviously, globalization will also affect national economies, including the agriculture sector and its various activities.

Over the past three decades, the global economy has grown enormously. The successes of General Agreement on Tariffs and Trade (GATT), Asia-Pacific Economic Cooperation (APEC) and other forms of regional economic development have produced agreement on opening up the market worldwide. The most significant action to achieve free trade is to reduce, step by step, tariff and non-tariff barriers that are believed to have been the obstacles to world trade in the past. We have witnessed the acceleration of international financial flows and the massive growth of foreign direct investment fuelled by the opening of world markets, all of which have contributed to significant expansion of the global economy. Thus, the success of such multilateral agreements would simultaneously provide greater opportunities for, and challenges to, improving efficiency in winning markets.

According to the World Bank (1995), however, the benefits accruing to developing countries from multilateral liberalization depend mainly on the policy reforms of those countries and, to a lesser degree, the liberalization carried out by their main trading partners and the major world players. Therefore, related policy reforms in the agriculture sector (especially in the developing countries) have to be carefully and comprehensively formulated.

To compete in the international market, product quality must meet the requirements of the standardization systems, such as the ISO 9000 series. Therefore, the quality of production and marketing management should be improved to conform to international standards. Products of world-class quality increase competitiveness and access to international markets. Accordingly, the agribusiness process should be market-driven in the sense that businessmen should produce what the market wants, rather than selling what they can produce. The role of government is to devise policies to promote agribusiness.

CURRENT STATUS OF THE GLOBAL MARKET: OPPORTUNITY AND CHALLENGE

Today the global market is characterized by the freer flow of resources. With regard to the markets, two fundamental revolutions are occurring: (a) world markets are opening up; and (b) information technology is becoming pervasive.

Twenty years ago half of the nations of the world were closed to market economies. Today, perhaps less than 10 countries can still be considered as closed. The opening of frontiers goes in parallel with the harmonization of business rules worldwide through regional and global agreements such as GATT. Similarly, the opening of what used to be closed industries, such as telecommunications, and privatization also mirror this trend.

The consequences of this fundamental trend are:

- C more business opportunities
- C more competitors than ever before
- C greater vulnerability of nations, enterprises and people than ever before.

Opportunities

The changing trends in global markets will affect the agribusiness sector. The basic roles of agriculture, especially in developing countries, remain its importance as a source of foodstuffs, support for agro-based industry, and employment. In a more open economy, the external sector becomes more important, and international marketing of agricultural products is therefore extremely important. Trading of agricultural products is likely to continue expanding in coming decades in response to rising populations and increasing food demand. More open export markets in the future will provide market opportunities, especially for those countries with production surpluses.

Some processed commodities such as oil, fruit and vegetables show a higher response to income changes than that of basic staples. Similarly, the Food and Agricultural Organization of the United Nations (FAO) has shown that processed products will dominate future demand for agricultural products. Traditional commodities such as tropical products have shown negligible growth, while cereals and sugar have shown negative growth, and vegetable oils have exhibited moderate growth (Table 1).

Table 1 reveals that in the world markets, processed foods recorded the most rapid growth. World markets for the traditional exports of ASEAN members have been particularly weak. World exports of tropical products grew by only 1.7 percent per annum over the past decade. The growth rate of vegetable oils was somewhat higher at 4.8 percent per annum. Meanwhile, world trade in higher valued products such as meat, fruit and vegetables, fisheries products and other processed commodities was far more dynamic. Growth rates for many products exceeded 10 percent per annum over the past decade. This reflects the high growth rates of many emerging markets and the high-income elasticity of demand for higher valued products, including processed foods.

Commodity	Market Description	Growth Rate (percent per annum)
Traditional		
Tropical products*	Negligible growth	+1.7
Rubber	Negligible growth	+0.4
Cereals	Negative growth	-0.5
Sugar	Negative growth	-1.5
Vegetable oils*	Moderate growth	+4.8
Non-traditional		
Fruit and vegetables*	Rapid growth	+10.1
Meats	Moderate growth	+6.6
Fish products*	Rapid growth	+10.8
Beverages, tobacco and		
processed foods*	Rapid growth	+11.5

Table 1. World Markets for Agricultural Commodities

Source: Stephen L. Magiera, 1995.

Note: * Growth rates are compounded over the period from 1983 to 1991; other growth rates are compounded over the period from 1983 to 1993.

Although processed products will dominate future international markets, demand for fresh food products remains high, especially in Japan. Given that situation, it is crucial that a system of packaging is developed that retains the quality of products in order to meet the required taste and high standards. Japan, for example, applies three domestic laws regarding imported foods. The Food Safety Law basically covers the maximum content of edible chemicals allowed, such as additives or sweeteners, and the maximum permitted content of pesticide residues. The Plant Protection Law applies sanitary and phytosanitary requirements, while the Food Control Law requires that all imported foods must have a label that provides information about the nutritional content as well as the complete addresses of the manufacturer(s)/producer(s) and the local importer.

In Japan, demand for frozen vegetables and processed fish is tending to increase. Demand for frozen vegetables increased from 430,000 mt in 1993 to 700,000 mt in 1998. Most vegetables demanded by the Japanese market can be grown in Asia (e.g., eggplant, Chinese cabbage, okra, melons, cucumbers and paprika), thus presenting an opportunity to increase export earnings. Similarly, imports for fresh and frozen fruit have increased sharply in Japan. Fruit imports are mostly in frozen form due to strict quarantine requirements and the Food Safety Law.

In 1992, Indonesia was the leading shrimp exporter to Japan with a market share of 21 percent. However, demand for frozen shrimp is projected to decrease during the next three years. According to a Sanwa Research Institute report in 2000, the frozen shrimp market is saturated, and demand for processed products such as hot and spicy fish is showing an increasing trend, especially among the younger generation. Again, market opportunities are wide, but in a much different form to what they were 10 years ago.

The European Union (EU) is currently applying stricter regulations on quality standards as well as sanitary and veterinary controls for importing fishery products. The EU, which recently ratified its agricultural reform (Common Agriculture Policy), is to open its markets to organic and pesticide-free products. Meanwhile, organic farming will be

intensified in the EU. The impacts that need to be anticipated are controls on the usage of preservatives, hormones, antibiotics and pesticides. Market opportunities for organic foods will rise in accordance with increasing demand for natural foods.

What about the United States? Fish imports by the United States are projected to increase during the next three years. In terms of value, US shrimp imports increased by 4.38 percent during the past five years. The main supplier was Thailand with a 34-percent share, while Indonesia's share was only 5 percent. In 1998, the US shrimp import bill was US\$3.1 billion. The United States is the second largest importer of tuna after Japan, with annual imports ranging between 240,000 mt and 250,000 mt. The leading supplier was Thailand, followed by the Philippines.

Recently, the United States was importing more tropical products because of the strong US dollar relative to Asian currencies. Indonesia, for example, is the second largest exporter to the United States after the Ivory Coast. The problem with the US market is that it tends to impose requirements that are stricter than international standards such as the Codex Alimentarius of the World Health Organization (WHO) that was legalized by the World Trade Organization (WTO). Many Asian export products are still subject to detention in the United States (e.g., shrimp, tuna, fish fillets, cocoa beans, mushrooms and canned pineapple).

To avail this opportunity, a strong and effective food processing sector and other agrobased industries are considered as important to:

- (a) the diversification and commercialization of agriculture;
- (b) the improvement of rural income and employment;
- (c) value addition and the generation of surpluses for export;
- (d) the reduction of wastage of perishable products; and
- (e) fostering rural industrialization.

Governments should provide massive support by acting as a catalyst for attracting investments in agribusiness, including the food processing sector, encouraging exports and creating a healthy atmosphere for the growth of the food processing and agro-based industries. The private sector should also be continuously encouraged to undertake initiatives while governments act as a facilitator, motivator and regulator of investment and growth.

Challenges

Although the global market offers business opportunities, various foreign trade regulations are still imposed by importing countries. In addition to the international treaties and agreements governing international trade, e.g., WTO, general regulations are applied with regard to customs, tariffs, banking or foreign trade control, unjustified competition, and anti-dumping and anti-trust issues. In the case of agricultural products, additional regulations are usually applied such as laws on food control and sanitation, and sanitary-phytosanitary controls. Some countries also apply the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), also known as the Washington Agreement. Fisheries products imported by the United States have to comply with the Marine Mammals Protection Act, Dolphin Safe Treatments, and the Environmental Protection Law.

A guarantee of product quality is not only based on the final product but also on the whole process of production. ISO standards, the FAO/WHO Codex Alimentarius standards, and Hazard Analysis Critical Control Point (HACCP) implementation are common requirements in current global trade, signaling the era of quality revolution.
Japan requires that imported agricultural products meet the Japan Agricultural Standards (JAS), which are applied to beverages, processed foods, forestry products, agricultural commodities, livestock products, oils and fats, fisheries products, and processed goods made from agricultural, forestry and fisheries raw materials. The EU requires specific containers to be used in carrying food products. The US market applies HACCP treatment for imported foodstuffs. This requirement is regulated under the Uruguay Round on Technical Barriers to Trade and Sanitary and Phytosanitary Agreement; therefore, an integrated quality improvement pattern is mandatory in order to compete in the international markets.

The characteristics of the market could also shift towards a "buyers' market", thus strengthening consumer bargaining power. In such a situation, efficiency and competitive advantages appear to be more important. Business competition spreads to involve various aspects, and every enterprise tries to win in the competition for business. Until the 1970s, enterprises generally adopted the 4P marketing mix, i.e., price, place, product and promotion, in order to gain advantages. Commencing in the 1980s, an additional P, "power", was introduced. This was actually related to monopoly power ("brand name" or "identity and image") held by the enterprises.

In the 1990s, the 5P formula became irrelevant and inadequate, as the enterprises had to apply the 4R formula, i.e., right product (R-1), right place (R-2), right price (R-3) and right time (R-4) in order to dominate the international market. It should be noted that R-4 is the most difficult to implement, because the right time referred to here is from the point of view of consumers and not that of the producers. Right time also implies a dynamic element of agribusiness, which includes continuity of production.

The element of right product (R-1) implies that product characteristics must conform to consumer preferences. Well-educated consumers will emphasize the importance of nutritional value and hygiene. The element of right place (R-2) means the need to identify the right market segment in which a product has a greater chance of being accepted. For example, young professionals in urban areas comprise a potential market segment for fresh fruit and vegetables, which can be penetrated through supermarket chains. The right price (R-3) involves pricing strategy, and usually a price leader is a common strategy used in penetrating the market.

For agro-products to compete in the international market, they have to respond to the following future challenges:

- C **Superior Quality**: This is the most difficult requirement to fulfill. Many countries now impose sanitary and phytosanitary measures. Japan enacts three measures for agricultural imports: JAS, the Food Safety Law and the Plant Protection Law. The United States imposes HACCP, while Australia applies similar standards.
- C *Anticipation of Market Trends*: Consumer preferences change dynamically. More environment-friendly and processed products will dominate the market in the future.
- C *Superior Market Distribution*: Exporters must develop market distribution abroad by establishing cooperation agreements with foreign companies.
- C **Product Development**: Product life cycles tend to be shorter. When a product reaches saturation point, a new product must be developed to meet consumer satisfaction and maintain market share.
- C **Promotion**: This important element is commonly neglected by entrepreneurs. The Kiwi story is a good example of the importance of promotion.

- C *Continuity of Supply*: Maintaining a continuous supply is crucial to generating goodwill among customers.
- C *Market Research and Market Information System*: Market research and information are essential to the analysis of consumer preferences and competitors. Market information is necessary to penetrating a market. With the advances in information technology, enterprises can easily develop an online marketing information system. The Indonesian Ministry of Agriculture has developed an online market information system to assist agribusinesses in their marketing efforts. The site can be accessed from the website, http://www.fintrac.com/indoag/

To be able to meet future challenges, agribusiness enterprises must show positive responses to increased competitiveness by improving productivity and efficiency as well as ensuring world-class quality and continuous supplies of products. In the current era of globalization, consumer preferences will determine what needs to be produced. This means that attention will have to be focused on every subsystem of agribusiness.

PROBLEMS FACED BY AGRIBUSINESS ENTERPRISES

As discussed above, a more open international market offers greater opportunities and challenges. Agribusiness enterprises, especially in developing countries, are still facing some external and internal problems. Those problems are detailed below.

International Trade Barriers

Extremely strict import regulations imposed by some developed countries pose obstacles to entering the international market. This form of protectionism, which is legalized by GATT/WTO, is implemented through HACCP or sanitary and phytosanitary measures. Training should be provided for agribusiness companies. A bilateral approach is also needed to resolve the problem.

Macro Policy: Credit Availability, High Interest Rates, and Fluctuating Exchange Rates

Following the economic crisis that hit some Asian countries in 1997-98, credit became scarce and interest rates became high. Many opportunities could not be realized because of a lack of working capital, particularly among small enterprises. Developing a financial institution for small- and medium-sized enterprises (SMEs) would alleviate that problem. Currency fluctuations have exacerbated the problem, making it difficult for exporters to plan ahead. That is why Indonesian exporters, for example, are still unable to benefit from the rupiah depreciation.

Trade Policy: Export and Import Taxes on Raw Materials

Some competitive products are still confronted by export tax. Crude palm oil, rattan and logs in Indonesia, for example, are subject to export tax, which lowers the profit received by farmers. In view of the extremely low international prices prevailing for crude palm oil, the export tax must be removed. On the other hand, import tax is still applied to some raw materials for food processing.

Bureaucratic Practices

Illegal fees are still charged by government officials.

High Transportation Costs

Shipping costs charged by domestic companies in developing countries for exports are much higher compared with those in other countries (for example, Taiwanese shipping is cheaper). In addition, domestic shipping companies sometimes follow the practice of including hidden surcharges.

Good Quality and Continuous Supplies of Raw Materials

A lack of knowledge and seasonality are critical factors. Generally, in Asia, agriculture is characterized by small-scale farming. It is difficult to maintain a homogenous quality. Partnerships between exporters and farmers should be encouraged in order to overcome the problem.

Lack of Supporting Facilities

Wider availability of cold storage facilities is among the most important requirements for ports, while the expansion of irrigation networks is one of the most crucial needs of farms. The development of agribusiness terminals in production centers could also help in overcoming export problems.

Lack of Professional Managers

To penetrate the international market, agribusiness companies need professional managers. A thorough knowledge of the international market, regulations, competitors, harvest times, communications, and strategic alliances abroad as well as domestically with farmers are definitely required in order to make agribusinesses more competitive.

POLICIES TO PROMOTE AGRIBUSINESS ENTERPRISES

In general, promoting agribusiness is a popular policy for accelerating the economic growth of countries, since it provides a range of benefits such as: (a) enhanced efficiency in the production sector; (b) increased foreign exchange earnings; (c) expanded export markets for domestic producers; (d) a way to deal with balance of payment problems; and (e) increased employment in the production and manufacturing sectors. At issue is the government role in promoting agricultural exports under the free trade regime.

Specific government participation in agribusiness promotion should not be limited to providing basic hard infrastructure (roads, ports and irrigation works), the collection, processing and dissemination of statistics on national production and foreign trade, generating and distributing data on current weather conditions, or enforcing the observance of certain plant and animal health requirements. That participation should be broadened by adopting support measures that facilitate research and development (by both the public and private sectors), technology transfer programs, product inspection and certification in order to improve product quality, the improvement of public information, and the development of financial institutions that are easily accessible by farmers and fishermen. The government should also develop a legal infrastructure for enhancing international trade with trading partners, such as signing agreements on banking arrangements, the avoidance of double taxation, and cooperation in air, sea and land transportation.

Other types of public intervention are a governmental role in accessing certain markets, assisting in product promotion in international markets, and providing easily accessible market information. A good example is the introduction of a special Market Access Program

by the United States to promote exports by SMEs. Under this program, enterprises that are willing to promote their products abroad will be charged differently (usually a very low rate, amounting to as much as 50 percent of the total cost) based on their financial situation. The balance of the costs is borne by the government. During both the preparation and implementation stages, the government also provides consultative assistance and other necessary guidance in order to achieve effective promotion.

The World Bank recognizes six important general governmental roles in developing an economy based on the experience of the United States as well as East Asian countries. The first role is promoting general public education. The other roles are promoting technology, supporting the financial sector, investing in infrastructure, preventing environmental degradation, and creating and maintaining a social safety net. In their implementation, these roles need to be supported by a sound macroeconomic policy.

In adapting these roles in promoting agribusiness, the government should educate new entrepreneurs, businessmen and the agricultural community on the importance of international markets, socialize the GATT/WTO agreements and other international conventions and treaties on international trade, and disseminate tariff adjustments in each trading partner.

The government should identify market opportunities for agricultural products in the domestic market as well as in the international market through their overseas representatives, including the identification of export procedures, laws and regulations in the target markets. All information should be transparent to all agribusinesses, and it should be updated regularly. The United States offers an excellent example in this regard. All US agricultural attaches analyze market situations within the countries in which they are serving, then disseminate the information through the United States Department of Agriculture (USDA) in Washington. USDA then puts the information on the Internet to make it accessible by agribusinesses. To help the private sector gain access to the target markets, the government should develop strong export promotion programs with agribusinesses as the main participants. In some cases, government-to-government cooperation to facilitate intercountry trading could be initiated.

Promoting technology will improve quality, increase efficiency, and product development to enter markets. Preventing environmental degradation is absolutely necessary to conserve natural resources for the future. Creating and maintaining a social safety net such as issuing relevant laws, refining and enforcing commercial laws and regulations fairly, covering all segments in the community, and controlling administrative abuse are definitely required to support the conducive climate for the overall growth of development.

The primary responsibilities of government in promoting broad-based agribusiness growth can be grouped under four broad headings:

- The creation of a business climate conductive to agribusiness growth;
- C C C C The creation of a level playing field for small firms and farms;
- The strengthening of resource and support institutions; and
- The provision of needed investment infrastructure, public goods and human resource development. Since exports of agricultural products will be successful only if supported by industrial farming, developing a strong agribusiness sector will provide more opportunities.

A supportive business climate is indicated by political and economic stability. It is also influenced by several specific factors such as reducing barriers to market entry, promoting competitive markets, improving and enhancing the efficiency of any public services, controlling administrative abuses and unfair practices, and refining and enforcing fair commercial laws equally.

Strengthening resource and support institutions may be developed by governments through the provision of different inputs and services such as research and development, market information, product standards, technical assistance, and consulting and financial services. The government may maintain some of those services while the other services could be handed over to private or independent sectors.

Providing needed investment infrastructure, public goods such as communications, power, cold storage at ports, roads and transportation as well as human resources development are also government responsibilities. The government should also encourage the complementarity of public and private investments for agribusiness.

During the implementation of the above roles, the government should take a serviceoriented and problem-solving approach. The government should also act as a catalyst and broker, and should demonstrate flexibility and responsiveness in a fair manner while also developing creative and innovative solutions.

The fundamental principles for accelerating agribusiness development are favorable macroeconomics including a supportive exchange rate policy and relevant micro policies.

Macro Efforts

Within the macroeconomic context, it is important to understand the impact of three important variables on national competitiveness of agribusiness, i.e., the exchange rate, inflation and interest rates. Most importantly, overvaluation of the domestic currency must be prevented in order to provide incentive to domestic production and exports.

The second most important variable is inflation, which is always related to nominal interest rates. Since farmers are net borrowers, high interest rates worsen farm income. This means that the money supply should be directed more towards the real sector, which, in turn, will increase national output.

The third variable is interest rates, which are a major factor in attracting potential investors to the agribusiness sector. A high real interest rate will discourage perspective investors from investing in agribusiness, due to the relatively low internal rate of return and long payback period in the sector. Monetary policy should be designed to provide easy access to credit facilities in the rural areas.

The efficiency and competitive advantage of a nation is determined by market structure. With a more open and transparent global market structure, there is a need to restructure by eliminating monopoly, oligopoly, monopsony and oligopsony rights. Only in this way can we improve the rural terms of trade and strengthen the structure of the rural economy as a renewable resource base for agricultural products. Existing export taxes on agricultural products should be immediately removed. Current export tax policy has worsened farm income, resulting in social problems in rural areas. Import taxes on inputs required by agribusiness enterprises should be reduced or eliminated. The problems of "red tape" and high transportation costs need to be addressed.

Government policy should focus on: (a) creating a conducive business climate; (b) creating a level playing field for small-scale agribusinesses; (c) strengthening resource and support institutions, especially in rural areas; (d) providing needed investment infrastructure for public benefit such as the seed industry; (e) research into supporting industries for agribusiness; and (f) providing training for agribusiness enterprises.

Micro Efforts

1. Creating New Agribusiness Entrepreneurs

Agribusiness requires rural-level entrepreneurs who can initiate, plan and organize the implementation of agribusiness in a specific locality. The entrepreneurs must be assisted and given encouragement. If just 10 percent of 50 million farmers can be selected as new entrepreneurs within the next decade, they will substantially contribute to rural economic development. Millions of other entrepreneurs will appear through synergistic and cooperative activities, and new economic incentives and added value will emerge in every agribusiness subsystem. This will create enormous support for activating the rural economy. The role of professional organizations in establishing business incubator centers at the regional level should also be encouraged.

2. Focusing on Competitive Products

In the competitive global business arena, only competitive products will eventually gain a market share. The products should not only have an advantage in terms of quality but should also incur low production costs. Suitable resources should also help in supporting competitive production. Existing products with comparative advantages such as tropical horticulture, livestock and plantation products offer a good basis for competitiveness.

3. Intensifying Market Penetration

Market share can be increased if enterprises are able to produce high-quality products cheaply and ensure a steady supply to the market. The role of the government is to provide guidance and directions to businessmen in penetrating world markets, by facilitating the availability of relevant information together with support for trade exhibitions.

At present, export market penetration by agribusiness enterprises is constrained by difficulty in accessing information as well as strict technical barriers to market entry, such as those imposed on trading partners. That is particularly the case in developed countries such as the United States, Japan and European countries.

4. Stimulating Local Investors

Investors are the prime movers of agribusiness development. Local investors need to be encouraged to support the development of agro-industry. Such effort should be supported by investment incentives. Problems such as land-use rights, complicated investment procedures and permit issuance will discourage investors.

The role of entrepreneurs in initiating the production process in agriculture sector is widely recognized. In the future, local government will have more roles to play in investment management, licensing, guidance on agribusiness operations, land-use etc., which is in line with decentralization policies. By attracting local investors, some resources will be drawn to the regional level, thereby enhancing equity.

5. Human Resources Development

The human resources involved in agribusiness are mostly poorly educated, lack professionalism and provide low levels of productivity. Therefore, an improvement in human quality can be expected to increase productivity and, consequently, competitiveness. Regular training should be provided for those involved in agribusiness.

6. Developing Agribusiness Terminals

To encourage agro-exports, government policy should be to develop agribusiness terminals on a one-stop service basis. Thailand has developed such a model, equipped with cold storage and grading facilities. Through such a terminal, producers are able to meet potential buyers. Recently, Indonesia began designing a program for building agribusiness terminals in some cities, which will be supported by subterminals that already exist in some production areas.

7. Developing Business Partnerships

In view of the fact that only a limited number of large enterprises are involved in agribusiness, governments should encourage a partnership program between such companies and farmers by applying the nucleus-plasma mechanism. Basically, the nucleus provides working capital and other production inputs, agro-processing and marketing, while the plasma undertakes the production process, based on agreement between both parties on quality, quantity and other related factors. The nucleus also provides extension and necessary education to the plasma. To ensure that the plasma receives fair treatment, especially in marketing their products, the agreement is legalized in the form of a binding contract.

CONCLUSION

For most Asian countries, agribusiness is seen as a significant source of economic prosperity. Agribusiness development is influenced by appropriate macro- and micro-economic policies. Since agribusiness remains crucial to most developing countries in terms of labor absorption, government support for promoting agribusiness enterprises is essential.

As a result of GATT/WTO, market opportunities for agricultural products are greater for those countries with efficient practices. International markets for agricultural products will remain or become even more competitive in the future; therefore, individual countries must vigorously continue pursuing domestic and institutional reforms in order to ensure broader domestic participation in competitive international and regional economies.

At the macro level, prudent macroeconomic policies should be pursued with regard to the exchange rate, inflation and interest rates. High rates of inflation and interest, as well as overvalued currencies should be avoided. The result will be a healthy agribusiness sector. Higher growth of agribusiness will provide greater employment opportunities in other sectors. In the short term, increasing consumption and government expenditure cannot be expected to be a major source of growth. Exports and foreign direct investment are crucial to fostering agribusiness. Governments must formulate industrial and trade strategies that are favorable to agribusiness. Top priority should be given to providing incentives for agroindustrial development in order to generate added value.

The elimination of all export barriers such as export taxes on agricultural products is urgently needed, since this policy only hurts the farm sector. Proactive trade promotions should be pursued. In the investment sector, the removal of all "red tape" for foreign investment in agribusiness would be a major incentive. Joint ventures and more open markets need to be encouraged in order to improve trading activities among trading partners. In addition, policies and programs need to emphasize the creation of a favorable business environment and a level playing field for small-scale agribusiness, as well as the strengthening of resource and support institutions in rural areas, the provision of necessary investment infrastructure, public good and training for agribusiness enterprises.

At the micro level, emphasis needs to focus on the creation of entrepreneurs and competitive products, encouragement of local investors, development of human resources, establishment of agribusiness terminals, and support for business partnership. In addition, training on market penetration, trade exhibitions and easy access to information needs to be given to the private sector.

In summary, there is tremendous scope for agribusiness to increase both performance and output. What are needed are policies that do not discriminate against agribusiness in trade and industry, together with effective macro policies. If such an approach is followed, agribusiness enterprises will grow and agribusiness will become a leading sector, thus enriching the national economy.

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3. REQUISITES FOR INITIATING AGRIBUSINESS VENTURES

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INTRODUCTION

The challenges to be faced by the Indonesian economy in the 21st century will definitely be even greater and more global than in the past. This is in line with the changing economic order in the global, regional and domestic environments.

Global transformation is being marked by an increasingly unified market and the development of free trade. The success of a country is the extent to which it is capable of entering the global market.

Regional transformation is characterized by the formation of an economic cooperation network between nations in relevant zones. In the Asia-Pacific region, the Asia Pacific Economic Cooperation (APEC) group was set up as an economic cooperation forum with 18 member countries. The Association of South East Asian Nations (ASEAN) countries also set up the Asian Free Trade Area (AFTA) with the economic goal of a free trade area among the 10 members, similar to the European Union (EU), Mercado Común del Cono Sur (MERCOSUR), North America Free Trade Agreement (NAFTA), CER, etc.

Globalization poses a threat to national industries and agribusiness in the international and domestic markets. Large-scale multinational companies have better business networks, enabling them to operate more efficiently.

Meanwhile, in most of the developing countries, domestic transformation is indicated by the change in industrialization strategy from import substitution and rice self-sufficiency to export promotion. The former is oriented to the domestic market whereas the latter is oriented to the foreign market. Foreign direct investment (FDI) from developed countries also becomes more important for developing countries entering the global market and increasing economic growth.

Through sophisticated business strategies, market research and intelligence, business people still can utilize government incentives, regulations and laws in creating companies and ventures to ensure that they are able face the tight competition. With some 70 percent of the population earning a living from the agriculture sector, the development of agriculture through an agribusiness approach becomes a strategic alternative.

Prior to the Asian economic and financial crisis in 1997 and 1998, Indonesia experienced 30 years of rapid growth during which it developed human and physical capital. It also possesses a rich base of natural resources, a large domestic market and an industrious workforce. The country also has a history of high savings rates.

Its agribusiness sector is fairly well integrated with the global economy. The major opposing factors now facing foreign companies contemplating entering, or already in, the Indonesian market are a first-time free and open market environment against a background of diminished spending power and poor liquidity.

PROFILE OF INDONESIA

Indonesia is the largest country in Southeast Asia, both in terms of surface and population. As the world's largest archipelago, Indonesia comprises more than 17,508 islands with a total coastline of 81,000 km. The country extends across a landmass of 1,926,000 km². In addition, the country possesses an enormous supply of natural resources, extensive forest areas and fertile soil.

Indonesia is the fourth most densely populated country in the world, with a total of about 210 million inhabitants of whom 80 percent are Moslems. The population is still growing although the rate declined to 1.8 percent a year over the past decade. As a result, the average age of the population is low, with one-third younger than 15 years old. The population is distributed unevenly across the country, with nearly 60 percent living in Java. Sumatra is the next populous island with just over 20 percent of the country's total population.

During 1997, the growth pattern was normal (around 8 percent per annum) for the first half of the year until the economic crisis that began in July 1997. As the crisis worsened, GDP growth slowed dramatically to zero or negative, especially in the last quarter of 1998. The result was an official real GDP growth figure of 2 percent for 1998.

While the Indonesian economy had contracted by about 13 percent by the end of 1998, the agriculture sector still showed a positive growth rate of 0.22 percent. However, the contribution of that sector to GDP declined from 34.4 percent in 1997 to 18 percent in 1998 or about 20.36 percent of the contribution of non-oil/gas commodities to GDP.

The year 1998 began as a defensive one for many Indonesian businesses and consumers. In general, business investment was minimized because of higher costs and uncertainty. In addition, much of the needed foreign investment has dried up.

A dramatic rise in the cost of imported items means that they now cost as much as three to four times more than in early 1997. Total private consumption expenditure was also reduced because of lower disposable income, and uncertainty surrounding the economy. The Indonesian economy was projected to increase slightly in 2000 by 3 percent.

The food and beverage market is currently undergoing unprecedented deregulation, resulting in increased opportunities for foreign investors. This opening of markets is occurring against a background of diminished consumer spending power and hunger in Indonesia, brought on by the regional economic crisis.

AGRICULTURE PRODUCTION

Before the crisis, Indonesian agriculture had achieved outstanding success in increasing production, particularly in gaining near self-sufficiency in rice production, but also in the growth of cash crops, livestock and fisheries. A further stage in the transformation has begun, with changes of emphasis in production in response to the changes in consumer demand arising from income growth.

Diversification of production will increase towards higher value products such as vegetables and fruit and aquaculture, as well as small livestock and livestock products. However, there will be greater constraints in the future to achieving agricultural growth than in the past. Availability of agricultural land is shrinking on Java, the most fertile part of Indonesia, due to population growth, the spread of urban areas and the loss of land to industrial development and other purposes. A key to continued agricultural growth will be greater attention to the outer islands through public investment, particularly in infrastructure, and research and extension work.

The government also has to work out the most effective way of ensuring delivery of essential inputs for agriculture, such as high-quality seeds, fertilizers, equipment and machinery. In research, most of the efforts and expertise have been concentrated on rice, but now research expertise in the horticulture, aquaculture and livestock is also needed.

Indonesian agriculture players comprise large- and medium-sized enterprises and small-scale farmers. The large- and medium-scale farms are mostly operated in tree crop estates while the small-scale farms are mostly involved in food crop production. The average size of the small-scale farms is less than 1 ha.

Agribusiness development consequently involves a large number of farmers who not only operate their respective farms individually but also cooperate with each other in an harmonious and orchestrated fashion. In 1996, the total number of Indonesian ventures in the agricultural business sector was 22.5 million and involved more than 32.18 million workers, or about 57.84 percent of the national workforce.

The Indonesian food industry actually has a competitive advantage because raw materials from the agricultural, fisheries and animal husbandry sectors are abundant. However, the great potential of the domestic market, followed by the increase in the number of special markets such as supermarkets, fast food outlets and restaurants as well as government incentives for boosting exports of non-oil/gas commodities, has led to stiffer competition in obtaining raw materials for the food industry.

Secondary food staples such as maize, cassava and sweet potatoes are grown primarily by smallholders and, together with soybeans, sugar cane and groundnuts, make up 20 percent of agricultural production.

DOMESTIC FOOD CONSUMPTION

It is important to note that Indonesia's financial woes have not had a uniform impact on the population. Producers of coffee, cocoa, spices, estate crops, and aquacultural and fisheries commodities, together with other exporters who are paid in foreign currencies, are reaping rewards from the rupiah's devaluation. The economic crisis has also had an impact on Indonesia's middle class, which has developed a taste for foreign and processed foods. However, this segment of the population has now become much more price conscious, and it is turning to local brands.

The country's upper middle class, comprising about 5 percent of the total population, has not significantly altered its consumption patterns. Targeting this group provides a niche marketing opportunity. In addition, the demand for processed foods and beverages has been growing as consumer tastes change to more refined products.

The fall in the value of the rupiah has made Indonesia a more attractive place to establish food processing and packaging plants that not only cater to the domestic market, but also to meet the increasing world demand for processed foods. Manufacturers targeting the

local market are being forced by price-sensitive consumers to reduce costs by sourcing ingredients locally wherever possible.

Consumer spending power in Indonesia may be down, but it will pick up again with the inevitable upturn in the economy. Deregulation of the industry now offers opportunities that should be considered by companies interested in a return on investment over the medium to long term.

Income is distributed unequally between the different regions. The differences in distribution between the rural and urban areas are also significant. According to statistics, Indonesian per capita expenditure for food reached 62.66 percent in 1999 (16.44 percent for basic food, 30.11 percent for other food, and 16.11 percent for processed and finished food). Per capita expenditure for non-food commodities was 37.34 percent.

Since the higher income groups often spend most on processed food, the urban market is by far the most attractive for processed food sales. In addition, Java, Bali and Sumatra are all relatively attractive as sales markets because of their high population densities.

The industrial sector processed only 21.27 percent of the total food production in 1999 into manufactured food, while the remainder was consumed in fresh condition, such as vegetables, fruit, fish, rice, tubers, cereals and spices.

DEVELOPMENT OF THE FOOD PROCESSING INDUSTRY

The food and beverage industries are of great significance to the national economy, especially in the absorption of the workforce, and they have a multiplier effect on both the upstream sector (agriculture) and downstream sector (transport, distribution, packaging, trading, retail, vendors, food catering and the restaurant business).

Based on Central Bureau of Statistics (CBS) data for 1997, the Indonesian foodprocessing sector totaled 1,060,848 companies including 5,713 medium- and large-scale industries, 91,922 small-scale industries and 963,213 cottage industries. They employed around 3.36 million workers, while the total number of workers in the industrial sector reached 10.69 million.

The industrial sector recorded a total production value of Rp.65.36 trillion, of which some Rp.42.44 trillion was the value of input/raw materials, especially those coming from agricultural products. The remaining Rp.22.9 trillion was the added value resulting from processing and packaging.

The food industry had been growing rapidly over the five years prior to the economic crisis due to the government's deregulatory policies. The food-processing sector is forecast to grow 10 percent per annum; however, it is constrained due to a lack of quality agricultural products.

By origin, in terms of raw materials, the food industries form three groups. The first group uses imported raw materials such wheat flour, milk, soybeans, sugar, orange concentrate, tomato paste, etc. The second group uses its own plantations/integrated industries such as tea, pineapples, palm oil and sugar, while the third group uses raw materials originating from farmers.

Before the economic crisis, the first group was operating normally because BULOG (the government logistics agency) controlled the trade and distribution of certain raw materials and food products. That control ensured a continuous supply, stable prices and quality, and equal distribution throughout Indonesia.

Those manufacturers who use substantial volumes and are heavily dependent on imported inputs have been hit hard by the dramatic depreciation of the rupiah. But those manufacturers with minimal imported components were expected to survive beyond 1998 as the price shock would have been absorbed during that year and demand was expected to remain low for most of the outlook period.

The second group, which has vertical integration from the upstream to downstream sectors, is now operating normally. However, it is expected to face future problems because of restrictions on ownership of land as a result of the law prohibiting monopolistic practices and unfair competition, which will limit market share and vertical integration.

In relying on the supply of raw materials from farmers, the food industry must be able to promote proper partnership. This is crucial, as there are thousands of farmers, many of whom are scattered in remote areas and are influenced by the climate and the seasons.

RETAILING AND DISTRIBUTION

Consumer behavior, especially attitudes and shopping patterns, has a significant impact on food consumption and purchases. In developed countries, the health aspect of food products plays a mayor role and this will most likely result in greater demand for fresh products, while demand for sugar, fat, salt and alcohol may decline. Functional foods, containing health ingredients such as dietary fiber and vitamins are expected to grow in popularity.

Shopping patterns are another important aspect of consumer behavior. Distribution and retailing becomes an important issue, and both have benefitted from the high economic growth and urbanization.

Distribution and retailing also face a number of specific problems such as the need for improvements to reduce the losses of perishable goods and more efficient distribution. The cold chain hardly exists, the road network is bad – especially outside Java – and the power supply is unreliable.

Based on CBS data, in 1996 the total number trading companies reached 9,462,313 including 81,862 wholesalers, 6,855,681 retailers, 2,509,758 restaurants, bars and food catering service providers, and 15,012 accommodation service providers (including hotels and motels). The trading sector absorbed more than 15.2 million workers. But only 5.9 million companies held fixed locations while the remainder (some 3.56 million firms) were mobile traders and sellers.

The supermarket concept was introduced in the early 1970s by private entrepreneurs who understood the change in lifestyle of urban people that was taking place. Many consumers were now beginning to look for practicality, convenience and comfort in shopping, and supermarket and the hypermarkets thus became their first choice.

In 1997, despite the depressed condition of the Indonesian economy, the supermarket industry remained relatively unaffected. Goods sold by supermarkets are generally staple goods; therefore, people will either allocate more of their budget for such products or reduce consumption only slightly.

The rural areas will continue to be served by wet markets and the "mom-and-pop" stores. Wet markets are necessary for supplying fresh food in areas where the power supply is unreliable and refrigeration inadequate, with produce sourced locally. The "mom-and-pop" stores sell goods such as soap, cookies, instant noodles, sweetened cream and confectionery.

The goods are often distributed by large enterprises that have their own distribution networks and are able to supply all the tiny shops.

Distribution channels will play an important role in selling the products because the costs of transportation and investment are very high. The new concept of central distribution centers for processed foods and agribusiness terminals for agricultural products has become popular, as they are the only way to reduce losses and other costs, while also providing healthy, safe and high-quality products.

EXPORTS AND IMPORTS OF FOOD PRODUCTS

Indonesia, with an estimated population of 210 million, is a potentially huge market. In addition to the huge potential of the domestic market, the demand for agricultural products for the export sector has also continued to increase. Such a trend will enable the domestic food industry to enhance its export performance.

In the past five years, Indonesia's agricultural production has mainly decreased or remained flat, but the growth of the population and changes in dietary habits as a result of education and increased incomes brought about significant increases in the consumption of food and other agricultural products. This situation has forced the country to import most of its agricultural and food products. Indonesia needs to continue to import food in order to feed its large people.

The value of processed food and beverages imported by Indonesia for household consumption increased from US\$180.3 million in 1993 to US\$1,397.5 million in 1999 and US\$342.9 million in the first quarter of 2000. The total value of food and beverage imports, both for household consumption and raw material supplies for the food industry, soared from US\$1,307 million in 1993 to US\$3,263.1 million in 1999. The opportunity for the short to medium term is to supply raw and semi-processed food products for further processing (industrial sector) or for repacking. Food safety has also become very important to consumers.

The value of processed food and beverage exports also increased slightly from US\$738.5 million in 1993 to US\$958.3 in 1999 and US\$442.5 million in the first quarter of 2000. Exports of several agricultural products decreased such as coffee beans, frozen and fresh shrimp, tea, vegetables and fish. However, exports of several types of commodities increased such as spices, cocoa beans, fruit, palm oil, etc. The lower growth rate of exports was attributable to the difficulty faced by food industries in obtaining raw materials due to competition with exporters of raw materials.

In this free trade era, exports and imports of agricultural and food products have become a common phenomenon. Exports can provide growth and profit, but it is a complex and demanding field that may not suit every company. There are a number of factors that constrain or impede the expansion of agricultural and food exports to several countries. These factors include: weaknesses in the competitiveness of the country's food and agricultural production; low investment in the market; tariffs and other restrictions on imports such as quarantine, labeling, regulations and standards of each importing country; strong competition by third countries for shares of each importing country; and inadequate/ inefficient transport linkages.

STRATEGY FOR AGRIBUSINESS VENTURES

A number of strategic steps and forward-looking activities can be pursued to ensure that each country stays ahead of the game in food and agricultural markets in Asia and elsewhere

Strategic Steps

The main strategic steps include:

- С identifying competitive strengths;
- preparing a business proposal;
- C C C understanding the market;
- identifying a partner relationship; and
- C. servicing customers.

1. Identifying Competitive Strengths

The four main competitive strengths include:

- C production capabilities;
- С infrastructure;
- С markets; and
- C labor

Developing export markets can be costly in terms of time, money and other resources. Entering new markets and developing them usually takes considerable time and effort. The time and cost can be multiplied several times when looking at an overseas market. We should know our product and its marketing advantages, and it may sometimes be necessary to change a product design to suit different markets. It is vital to have a strong marketing background. Using the domestic market as a guide, a product/market profile should be prepared in order to provide information for buyers. Also, the production capacity needs to be known to allow the development of export markets and the rapid expansion of existing capacity as and when required.

2. Market-driven Process

In making a detailed market study, a number of aspects need to be taken into consideration including:

- C market visits;
- communication;
- C C C C leadership;
- exporter education;
- inward visits;
- Č C publications;
- market research;
- С promotion; and
- С forums.

The above steps should each be carefully considered in order to obtain information on competitors in other countries (import statistics will show how much and from where), import duties and other barriers to imports, local taxes, frequency and cost of shipping or airfreight, regulations such as quarantine, labeling and other standards, consumer protection rules and product standards, and cultural differences.

3. Supply Issue

For an importing country the supply issues are very important and must be considered because of their impact on the success of any export marketing strategy that is implemented. The issues are:

- C whether or not agricultural production is static;
- C the growth of the food processing sector;
- C increases in food imports;
- C the capacity and efficiency of the distribution system; and
- C new government regulations.

4. Market Trends

Understanding market trends with the use of past information will help ventures to determine future development. In Southeast Asia, market trends are affected by:

- C large populations with young people;
- C strong growth of the economy;
- C increasing food and agricultural imports;
- C westernization of the diet;
- C the growth of fast food outlets;
- C the development of the retail sector;
- C changes in the distribution system; and
- C easy market access.

5. Initiating the Market and Export Target

Proposing an export target is usually a risky move. Although it is not possible to foresee the future, it is useful for companies and governments in seeking foreign exchange revenue. There is a great deal of international competition, and in some areas of food processing, major multinational companies already have their foot in the door.

Increasing exports and building market share will depend increasingly on building and maintaining international competitiveness and best practices, accessing the best information on the markets and market changes, strengthening investment links, building strategic alliances and adjusting products to meet changing demand.

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INTRODUCTION

Agribusiness, "the total sum of all operations involved in the manufacturing of farm supply, production, operations on the farm, processing and distribution of farm commodities and items made from them" (David and Goldberg, 1957), is an important sector in the economy of many Asian countries. It contributes substantially to GNP and rural employment. Since most agribusiness activities are in the rural areas, the development can be an effective instrument in slowing down urbanization. Furthermore, the promotion of agribusiness can become a useful means of alleviating poverty and a major source of foreign exchange earnings. In some countries, it is considered to be strategically important to national security.

Many activities are involved in bringing products from the farm to consumers. The performance of these activities is usually called the "marketing process". To be precise, the marketing of agricultural products is defined as: "the performance of all business activities involved in the flow of agricultural products and services from the point of initial agricultural products and services from the point of initial agricultural products, all the business activities along the chain from the farm to the consumer are marketing activities. These marketing activities or businesses are basically necessary and productive; that is, they create form utility, place utility, time utility, and possession utility.

Marketing involves many functions: an exchange function such as buying or assembling, and selling; a physical function such as storage, transportation and processing; and facilitating functions such as standardization, financing, risk bearing and market intelligence. Along the marketing chain many institutions are also involved: merchant middlemen such as wholesalers and retailers; agent middlemen such as brokers and commission men; speculative middlemen; processors and manufacturers; and facilitative organizations. The activities along the marketing chain are, in many cases, necessary. However, efficiency – both in terms of operational and pricing efficiency – can be improved at each step. The objective of operational efficiency, in general, is the reduction of marketing costs while the objective of pricing efficiency is to fully represent consumers' preferences, direct resources to their best uses, and coordinate selling and buying activities. Promoting agribusiness marketing, therefore, is promoting efficiency along the marketing chain.

In an effort to improve marketing efficiency, some important characteristics of agricultural production and marketing need to be understood. The majority of agricultural operations in Asia are family-operated and are relatively small. In some countries, corporate farms can be found. The implication of such a characteristic is the increased cost of assembling and frequent difficulties in supplying standardized products. Farm products are

usually bulky and perishable, with wide quality differences, output variations, geographic differences or specialized requirements.

The current trend is for more and more farming activities to use, and be dependent on, inputs. Hence, the input market is becoming more and more important. Due to its nature, farmers are usually price-takers while those of the marketing firms are oligopolistic and some even have a monopoly. The prices of farm products have been improving very slowly while changes in input prices are being translated or transferred immediately to the farm, which is causing a cost-squeeze problem. Consequently, there is relatively sluggish growth in the profit margin in the farming business.

Some areas need to be considered in efforts to improve agribusiness marketing efficiency and promotion, such as markets and marketing institutions, prices and marketing costs, functional and organizational issues, and the government role in promoting agribusiness marketing. These areas are discussed below.

MARKET PROMOTION

Markets and Institutions

Markets and consumers are the ultimate targets of any business. However, the old philosophy of just selling what you produce is no longer relevant in today's marketing. Consumers become the central focus of any business. Production is aimed at delivering products that satisfy consumers. The saying that "the consumer is king" is true. In fact, in some places it is said that "consumers are gods". This concept is also true for agricultural products. Some Asian countries, for example, frequently experience rejection or automatic impoundment of their products by importing countries. If they really want to penetrate the export market, they need to comply with the requirements of the importing countries. They, the buyers, should be the focus, with the objective to fulfil their needs.

Demographic trends in any country affect agricultural products. Certain groups within a population have different food demand patterns compared to other groups. The young generation, for example, tends towards more international tastes. A particular culture might have a particularly demand for a product. Population growth certainly increases demand for food.

Rising consumer income affects the pattern of food demand by creating a trend towards the purchase of processed products. Recently, we have witnessed a broadening range of products that are consumed by the population, partly because of rising income. As many families now have two sources of income, i.e., both husband and wife working, the demand for convenience foods is increasing. In addition, more people are eating out, a habit that also affects food demand. In big cities, for example, people stay at the office late in order to avoid traffic and thus eat outside their homes much more frequently. Consequently, consumers are becoming more concerned about quality.

These are some of the changes in consumer behavior and demography. Failure by agribusiness players to observe and respond to such changes will lead to market inefficiency. Price inefficiency might also occur due to inefficient resource allocation. Therefore, in promoting agribusinesses, the issues mentioned above should be taken into consideration.

Efficiency in the processing and manufacturing stages of agribusiness can also be improved. Processing and manufacturing add form utility to farm products through processing, new product development, product improvement, packaging, labeling, branding, etc. In addition, the continuity and quality of raw material supplies could become a source of inefficiency. Coordinating the flow of raw materials from the farm to the factory has been cited as an important aspect in promoting agribusiness. Just as important is the quality of raw materials supplied by farms to plants.

Recently, we have witnessed a move towards decentralized marketing in which farms are established through vertical integration. Some people have argued that such an arrangement will create inefficiency in the market, as it tends to be monopsonistic. However, in the absence of an efficient centralized market and with problems of quality and continuity of raw materials, this could be the second best alternative available.

Another issue in processing is a decline in operational efficiency when idle capacity results from the discontinuity of raw material supplies from the farm. A plant can only be efficient if it is operating at its minimum average cost. This has been the case in Indonesia, where it is believed that idle capacity in the country's food industry could be allowed to rise up to 40 percent.

On the demand side, there has been a growing effort by manufacturers to utilize the 4Ps (Product, Place, Price and Promotion) of marketing mix to create a market or demand for their products. However, small-scale agro-processors might not be able to afford that approach. Organizing them through marketing boards or associations might enable them to undertake the promotion of their products. Alternatively, governments could perhaps play a role in promoting agribusiness, since the size of the market is potentially substantial in many cases. To turn this potential market into actual demand is the provision of product information, which again could be a job of the government.

Wholesaling and retailing is another marketing institution that plays a vital but often controversial role in promoting agribusiness through moving farm products to the consumer. This is the stage in marketing where the addition of possession utility occurs. Wholesaling and retailing facilitate a consumer's choice of product assortment, but are controversial since it is often argued that this stage of marketing collects a larger portion of the marketing margin. It is important to ensure that every step in the marketing chain receives a fair portion of the marketing margin according to its contribution to added value along the marketing chain. Most importantly, we need to understand that the presence of this stage is necessary in promoting agribusiness. Recently, there has been a movement towards chain stores and supermarkets in cities in many countries. Such outlets can act as a source of information for farms on the needs of urban consumers, both in terms of quality and required types of products.

International markets are important for agricultural products. Many developing countries have based their foreign exchange earnings requirements on agricultural exports. However, for a long time a large proportion of such exports has been in the form of commodities, and rarely in the form of processed products. Even so, these exports have been facing increasingly stiff competition. Theoretically, trade is considered as one way of improving the allocation of productive resources worldwide. However, many countries are still practicing protectionist regimes through trade policies that include trade and non-trade barriers. Hence, we can see that penetrating the world market is not easy and requires intensive marketing efforts.

One strategy for promoting agribusiness through international market penetration is the formation of strategic marketing alliances. Marketing business partners in the destination countries can be brought in to start up operations within the exporting countries. They will be asked to provide the necessary technology and the means of meeting the requirements of the destination countries, and to undertake related marketing activities in their respective countries. In many countries, we are witnessing the implementation of such arrangements. Japanese firms, for example, are opening joint farming operations in Indonesia and other countries that produce a variety of commodities for export directly to Japan.

Global or internal outsourcing, commonly practiced in manufacturing, can also be introduced to agriculture. Technology, in the form of components such as seeds, can be brought in from overseas in order to minimize or alleviate problems of quality and other non-tariff impediments. Yet, even with all these efforts, the highly competitive international market is not easy to enter. For this reason, in promoting agribusiness – at least at an early stage and for small-scale operations – greater emphasis should be placed on the domestic market.

Prices and Marketing Costs

The exchange functions of marketing, buying, and selling are the heart of marketing. As goods pass through many hands before reaching the final user, their titles change several times. Each time a title changes, a price must be decided upon. Prices then influence the decisions of producers, consumers and marketing firms. Pricing efficiency is determined by how well prices function in those roles.

To companies, high and rising prices means increasing profits and incentives to produce more. To consumers, they mean a reduction in consumption and possibly a "do without" decision. It is therefore important to ensure that the right or most efficient price is set at each stage of the marketing chain. What is the right price? It is achieved when the structure of a market is perfect or near perfect competition. It is therefore important in promoting agribusiness to bring the market as close as possible to a perfectly competitive environment.

Due to the nature of agricultural products, farm prices and hence farmers' income tend to be highly variable. Seasonal behavior in production, perishable products, and long gestation periods contribute to high variability in prices. Efforts have been made to alleviate seasonal behavior in production through genetic engineering. For example, Thailand is able to produce mangoes and other fruit throughout the year. Storage technology has also exerted influence in reducing price variability. Prices of processed products tend to be stable. Therefore, in addition to its role in creating demand for farm products, processing can be a useful mechanism for stabilizing prices.

Farm markets are close to being a near perfect competitive market. Farmers are pricetakers. On the other hand, marketing firms tend to be close to an oligopolistic and monopolistic market. Improvements in marketing efficiency involve bringing the market structure close to a perfect competitive market. Public policies can play an important role in influencing the state of the competition.

Prices are partly determined by marketing costs, which comprise the cost of labor and packaging materials, transportation costs, profit, energy requirements and advertising costs. The proportion of each category of costs in the total cost of marketing varies among industries. The cost of packaging materials in the food industry tends to be very high while transportation costs for fresh products are lower but still substantial. One of the reasons for the high cost of packaging materials is the high tariff for imported materials that is frequently imposed in many countries relative to other commodities. In promoting agribusiness, it is is is study and, if possible, remove this tariff as an incentive in promoting agribusiness.

Some marketing firms practice marketing integration in order to reduce marketing costs. Whether this approach is effective or not has yet to be proved. However, it is true that

such an undertaken can be a very useful tool in alleviating the problems of quality and discontinuity of raw material supplies.

Government Role

In a country such as Indonesia, agricultural marketing promotion is part of the government's responsibility. In response to the current serious social and economic situation of the country, government involvement in creating effective marketing promotion is inevitable. By and large, the role of the government in marketing promotion is the creation of policies and regulations, and the development of a marketing infrastructure for agricultural products, including agricultural market information. Market information is now equally important as other farm inputs such as fertilizers, land and even financial resources. Therefore, market information is not only a supportive condition in agribusiness development but is now a necessary condition.

In Indonesia, the role of the government is implemented through the development of agribusiness terminal markets close to production centers. The main roles of these terminal markets are to act as grading houses, promotion centers in rural areas, and rural centers for market information. The task of the government in developing agribusiness terminal markets is carrying out feasibility studies in cooperation with universities. Local government is responsible for providing the land/location for the terminal markets.

In terms of price, the problem faced by farmers in most developing countries is price fluctuation. Such fluctuations can be controlled through the creation of government policies/ regulations for some commodities. For example, in Indonesia, the government introduced a regulation covering the floor price of paddy that is periodically renewed. The floor price is used in production areas as a minimum price indication for paddy. Because local economic conditions vary from region to region, implementation can vary, based on the local economic environment. The specific purpose of this regulation is to protect farmers from low prices resulting from production booms in the harvest season. However, a wider purpose of the regulation is to create a better market environment. The floor price regulation for paddy is vital because most farmers in Indonesia grow paddy every year. Thus, any adverse effect on the price of paddy could lead to social chaos.

CONCLUSION

Agribusiness is an important sector in any economy in Asia. It contributes substantially to GNP and is an important source of employment for many people. Furthermore, since most agribusiness activities are carried out in rural areas and thus provide an important source of income and livelihood for a large part of the population, development can be an effective instrument in alleviating poverty in any country. Agribusiness is also a major source of foreign exchange earnings, and food and fiber supplies are considered to be strategically important to national security. Promoting agricultural/agribusiness marketing is the improvement of all utility creation along the marketing chain or channels, through all marketing functions necessary in the marketing process, beginning with customers at the front end down to farming activities at the other end of the process. In other words, the promotion of marketing is equivalent to improving both operational and pricing efficiency in marketing activities (i.e., efficiency in markets and institutions, pricing, marketing costs, and functional and organizational aspects).

Government should be involved in activities required for effective provision of public goods, avoiding inequality, ameliorating externality, and enforcing competitiveness by the

regulation of monopolies and monopolistic markets. Therefore, government action should include the establishment of marketing infrastructure such as the provision of marketing information, rural market facilities and agribusiness terminals. The government should also provide training for small enterprises in order to enable them to (a) understand the market and quality requirements, and (b) improve the quality of their products.

The promotion of farm products and processed products through advertising and public relations appears to be effective in creating demand, especially in the case of the latter category. However, for farm products, advertising might not be as effective as for processed products, since farm products are homogenous and can only be promoted through generic advertisements. On the other hand, advertising works through creating product differentiation, and free riders might be difficult to avoid. For these reasons as well as to ensure equity, governments should undertake the promotion of farm products and, to some extent in many developing countries, processed products. This can be done through public television programs and other channels such as public school food programs.

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Improving Productivity/Management of SMEs in the Agribusiness Sector -- a Practical Approach from the Perspective of a Large Enterprise

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5. IMPROVING PRODUCTIVITY/MANAGEMENT OF SMEs IN THE AGRIBUSINESS SECTOR – A PRACTICAL APPROACH FROM THE PERSPECTIVE OF A LARGE ENTERPRISE

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INTRODUCTION

Too Many Quality and Productivity Programs in the Market!

There are so many quality and productivity (Q&P) programs being promoted and peddled in the market that it has become difficult and confusing for the layman or a small enterprise to determine which are the most appropriate, cost-effective and optimal interventions for a particular business. Swamped as we are today with acronyms (e.g., TQM, 5S, ISO, GMP, HACCP, QIT, MRP, ERP, WMS) and technical jargon (e.g., quality function deployment, business process re-engineering, change management, seven basic habits and shareholder value), it is amazing how much can be written and said about basically the same fundamental subject: improving the productivity and effectiveness of an organization.

Small- and Medium-scale Enterprises versus the Heavyweights

Improving productivity or management *per se* should not be viewed as a goal in itself, but rather as a means towards an end, which is being able to survive, compete and grow in the brutal world of business. For small- and medium-scale enterprises (SMEs), this could mean going up against large companies and conglomerates with their vast resources and clout. That, in turn, could become either a very profitable foray or a fatal one for a small company. A quick look at various industries, whether they are agricultural, industrial or service-oriented, will reveal the typical domination by big enterprises as well as the "corpses" of fallen companies including SMEs. For example, a look at the broiler industry of 20 years ago in the Philippines shows that the bulk of the producers comprised numerous small commercial farms and backyard growers. Today, a few large corporations, controlling 70 percent of the market, dominate the industry. History is repeating itself, but this time in the hog and cattle industry where big companies are gradually taking over.

In the case of small broiler farms, some closed down while others were converted to piggeries, orchards or other businesses including real estate. Others upgraded their facilities and joined the throng of contract growers for the large integrators. For the latter, the saying that "if you cannot beat them, join them" is applicable.

Tools for a Purpose

Simplistically speaking, the options available to a small business when confronted by heavyweight competitors are to: (a) battle it out head on; (b) enter "niche" markets; (c) collaborate as a business partner; or (d) liquidate the business.

O&P improvement programs are just tools and interventions used to bring an enterprise up to fighting form in order to face the challenges. However, many of these programs have been short-lived, costly in terms of wasted resources, demoralizing to employees, and counterproductive for some companies. However, they have been successful for others. So what makes the difference between success and failure? It is "doing the right thing, and doing it right".

Harder the Second Time Around

Those who have tried and failed can say that re-launching Q&P programs (either old or new) is much harder the second time around. Rebuilding and picking up the pieces from a recent setback is an uphill struggle. Yet, with proper planning and the correct execution of the right interventions, these difficulties could be avoided or minimized.

FRAMEWORK

This paper discusses relevant considerations and takes as practical an approach as possible in suggesting recommendations for helping SMEs to survive and grow in today's rapidly changing business environment. To begin with, the simple "doctor-patient relationship" is used as a framework for discussing the salient points of this paper; hopefully, this will make it easier to relate to, and internalize, the principles. First, let us define the "doctor" as the leaders, policy-makers, decision-makers and managers of our organizations; second, the "patient" is the companies, businesses and industries for which we are working or serving. This parallelism fits nicely, since companies, enterprises, organizations and industries can also: (a) be viewed as "living organisms" that grow (through expansion or acquisitions); (b) multiply (joint ventures, mergers, diversification or franchising); (c) become sick (lose money, become insolvent or lose market share); (d) fight with others (competition); (e) struggle to survive as well as dominate; and (f) die (close or go bankrupt).

The role of a doctor can be divided into three categories:

- Treating and curing the sick "get him out of the hospital"
- C C C Keeping a healthy person fit – "keep him out of the hospital"
- Helping a person to reach his peak/optimum performance "make him a champion".

When dealing with a patient, a doctor follows four basic steps:

- Diagnose find out what is wrong or needs to be done.
- C C C C C Decide what to do – select what intervention/treatment to use.
- Treat implement the required treatment/intervention.
- Control keep stable and healthy.

Step 1: Find Out What is Wrong or Needs to be Done

1. Wrong Diagnosis, Wrong Solution

Whether it be a stomachache, a technical problem on a farm, or the loss of a major customer, knowing what happened, pinpointing the cause and how it should be corrected will solve more than half of the problems. Many Q&P programs often fail because no proper diagnosis is made beforehand. Often, after attending a seminar on this subject or visiting an exhibit or presentation, managers/leaders carelessly push their organizations to join the bandwagon of companies pursuing the latest Q&P programs (e.g., ISO 9000, quality circles, KT problem-solving) or technologies (e.g., artificial insemination, pelletized feeds, early weaning, hybrid corn and *ad libitum* feeding).

2. Looking at the Mirror

Have you ever tried putting on make-up or shaving without using a mirror? Do you use a "funny" mirror that distorts your image to make you look slimmer or taller? Of course not! The same applies when assessing a company or patient. Getting an objective perspective of the business is basic and essential. If you have a toothache, you don not go to a cosmetic surgeon or a mechanic – you see a dentist or a specialist/expert in that field. Internally, these are your hands-on managers, supervisors, line staff, workers, etc. Externally, they could be your suppliers, trade partners, customers, competitors, academic institutions, consultants, etc.

One must get a handle on what makes the business tick (i.e., success factors and key business drivers) and the dynamics of the industry and its players. This can be done through audits, surveys, planning sessions, consultations, etc. The quality awards of various countries (e.g., Malcolm Bauldridge, European Quality Award, Deming Award and Singapore Quality Award) are good programs that should be promoted and exploited by SMEs, as they are comprehensive, scholarly, effective and inexpensive.

3. Know Where You Are and Where You Want to Go

As the doctors of our respective organizations, industries and countries, we play a key role in shaping the health and future of our businesses. One of these roles is to set the direction of the organization by assessing where it is at present and where you want to take it to in the future. For the more robust organizations, this would mean establishing ambitious goals, targets, and a vision and mission. One example of this approach can be found in Bukidnon province of the southern island of Mindanao in the Philippines, where the governor's clear direction for the province was to make it the "food basket" of the region. This is a major contrast to the glamorous path of industrialization that other provinces are pursuing.

For firms struggling to keep afloat, it may be mean consolidating resources, reducing overheads and cutting costs, improving efficiencies, rationalizing product lines, and stopping the hemorrhage or profit leaks.

The input-output (transformation) model is a simple tool for systematically scrutinizing an industry/business/process, stage by stage. For a "sick" company it would mean evaluating:

- C its output versus expectations or standards (e.g., quantity, quality level, rejections and returns);
- C its material inputs as they impact on the processes and finished goods (e.g., quality, variability, cost and reliability); and
- C the transformation process as to its capability, efficiency, effectiveness and costcompetitiveness. For a "healthy" company, it would mean a review in terms of how to keep the business well oiled and running, i.e., a "maintenance mode".

Other tools/models (i.e., situational analysis, state A - state B, value analysis and engineering, organizational health assessment and "blue skying") could be adopted and used, depending on one's preference and as long as the objectives are met.

4. Know Who You Are and Who You are Up Against

Would you rather be David going against Goliath or the mouse that helped the lion with a thorn in its paw? Putting in perspective one's capability versus that of competitors should be done on a periodic basis in order to determine long-term attractiveness. This would make it possible to spell out later what strategic position should be pursued.

Keeping abreast of trends and development in the industry, both domestic and worldwide, has also become vital for the survival of SMEs. Changes in consumer preferences and values have far-reaching effects on mounting consumerism, i.e., non-genetically modified or environmentally friendly products.

The growing accessibility and use of the Internet by farmers and communities in the rural areas (e.g., India) has helped in terms of empowering farmers and making them less vulnerable to, and dependent on, local traders and cartels.

One advantage of being a small enterprise is that of being less visible or even invisible to the titans of the industry. It is also easier for SMEs to safely watch and evaluate the moves of market leaders from afar. As an SME, it is important to know and assess who the major players are at the local, regional, national and even international level, especially with the gradual lowering of trade barriers and worldwide trade liberalization. Knowing their markets, product offerings, production capabilities, financial resources, business interests and directions, etc. will help in identifying potential opportunities as well as threats. That will enable a decision to be made on whether to compete, collaborate or move on to other businesses. For that purpose, the classic SWOT (strengths, weaknesses, opportunities and threats) analysis and environmental scanning techniques are useful techniques.

5. Focus on A Critical Few (Pareto Principle)

For companies and industries with good earnings, opportunities are usually greater for:

- C rationalizing outputs in looking for new products and markets or radically changing processes, in order to gain additional advantage over competitors (e.g., new technologies); or
- C establishing a better supply base (e.g., backward integration, and contract partners). However, resources (e.g., capital, technology, manpower, land, materials, water and

time) have always been limited and will become scarcer in this finite world. The disparity becomes more pronounced for SMEs whose networks and access to markets, technology, capital, etc. are not as wide as those of large companies (e.g., multinational/transnational companies). There is a need to be judicious as to which problems, deficiencies, opportunities or programs are to be pursued first. It is common experience that overlapping programs waste precious resources, or higher priority concerns are overlooked because of poor communication and coordination (e.g., training modules, equipment purchases and material selection). These are avoidable with better communications and focus.

Step 2: Select What Intervention/Treatment to Use

1. Look at Your Toolbox

After pinpointing what needs to be done (Step 1), deciding on which intervention or treatment to use will be much easier. Sourcing and choosing from a wider field of options would help ensure a more optimal program or strategy. Interventions or strategies can be categorized in a variety of ways:

- (a) Based on need or purpose
- C Deficiency plugging the holes
- C Maintenance keeping in shape
- C Improvement growing the business.
- (b) Based on time frame
- C Short, medium or long term
- C Operational, tactical or strategic.
- (c) Based on competitive positioning
- C Cost
- C Product differentiation
- C Service.
- (d) Based on aggressiveness
- C Conservative versus radical (i.e., invasive versus non-invasive medicine, patch up versus overhaul, or extension versus early culling)
- C Incremental versus leapfrogging.

Under this category, the maturity level of an organization/industry should also be considered. For example, "to see is to believe" is the usual attitude of common farmers. Hence, to be effective, showcasing pilot farms and experimental facilities could be a good means of promoting new technologies (e.g., hog-breeding practices).

- (e) Based on scope
- C Individual
- C Team/department
- C Business/company
- C Industry/country.

2. Know Your Priorities

With all the options and pressing concerns, it is imperative that setting priorities be done wisely, taking into consideration resource availability, time limitations, imminent threats, and opportunities that may be lost.

3. Sustainable Competitiveness

Companies are often tempted to compromise policies and values for short-term gain. This often happens with substandard raw materials and finished products being passed off as good, e.g., moldy corn or copra, and adulterated grains. Unfortunately, repeat business is destroyed by this practice. Management must realize the impact of such actions on future cash flows (e.g., the Ford tire recall). Any action taken should take into consideration the long-term benefit in terms of sustainable competitiveness.

4. Good is Not Good Enough

One must be better than the competition. Whatever intervention/program is pursued, this must be chosen based on its foreseen impact/improvement within the organization. This outcome must in turn be evaluated relative to competition (e.g., cattle-breeding program versus importing, or the use of corn versus feed wheat). This highlights the importance of benchmarking and competitive comparison as a means of catching up with, or outpacing competition.

Use of focused group discussions (e.g., for franchisees, contract breeders and customer groups) is an inexpensive but effective way of getting first-hand feedback from relevant sectors. Dissecting or using reverse engineering to scrutinize competitors' products is another effective program (e.g., car manufacturers, experimental testing of feed).

5. Falling in Love with Technology

It is natural for people, especially those with a technical background, to fall in love with new technologies that they come across. But looking back, we must learn from all the white elephant projects that are wasting away in our respective junkyards. Apart from guarding ourselves against getting carried away with the glitter of state-of-the-art technologies, we must also become more open-minded, creative and resourceful in maximizing indigenous and homegrown technology (e.g., locally fabricated equipment such as hatcheries, hammer mills and tractors).

6. Pilot Program versus Full Implementation

There is also a need to determine to what extent changes or interventions will be made. Although risks are inherent in any undertaking, being prudent and conservative are also important virtues. Caution must always be exercised, especially when taking radical steps or when the stakes for the company are high (don't put all your eggs in one basket).

Resorting to pilot programs or trial runs is a good practice that minimizes the risks and uncertainty. This helps validate performance expectations and reveal kinks that may arise. Adaptations and adjustments can then be made before extensive implementation is done (e.g., incentive schemes or self-directed team policies).

Step 3: Implement the Treatment/Intervention

Top Management Commitment

In order to be effective, leaders and people in authority must be seen as role models of what they are teaching. Often, Q&P programs fizzle out because of the lack of visibility, involvement or perceived support from top management. Often, they are seen as only giving lip service, limited to giving speeches when launching programs. Some are seen as pushing for cost-cutting measures while they themselves continue to spend lavishly on luxury items. They talk about time discipline when they report late for work or take extended lunch breaks. There is a difference between being "involved" and being "committed" – the hen is "involved" in contributing eggs to the breakfast table, but the pig is "committed" to supplying the ham.

Step 4: Keep Stable and Healthy

1. Institutionalize

People and organizations have an inherent tendency to revert to the old ways or to backslide. To ensure continuity and consistency in implementation, systems and programs must be institutionalized. This can be in the form of policies, procedure manuals, company values, integration in people's duties and responsibilities, or setting up a unit to oversee the institutionalization.

2. Continuous Improvement

Caution must also be taken to ensure that institutionalization does not become bureaucratic to the point where it chokes the agility and flexibility of the enterprise. Recognizing the need for changes, and addressing that need accordingly, must likewise be part of the maintenance mechanism when institutionalizing (e.g., ISO). Establishing a feedback mechanism completes the loop that reverts to Step 1. This is essential to achieving progress in all undertakings. It is apt to say that making it a "way of life" is the ultimate measure of acceptance and institutionalization.

SOME SUCCESS STORIES

Corn-buying Contract with Cooperatives

One successful program in the Philippines was a corn supply agreement between farm cooperatives, the Land Bank and direct users (Monterey Feed Mills). This arrangement was beneficial to all parties because:

- C farmers were able to get a higher premium for corn by selling their produce straight to the users, thus removing the middleman layer.
- C the Land Bank, the financier of the farmers, was able to get a better loan repayment rate as payments were made directly through the bank.
- C Monterey was assured of better quality corn and lower prices as the middleman margins were shared with the farmers.
- C good relationships were established and the credibility of the parties involved was strengthened in the community.
- C technology in corn handling and grading was shared.

Contract Partnership: Growers, Breeders and Feed Mills

Another successful program was the establishment of exclusive facilities with third parties (i.e., cooperatives and local businessmen) in the area of breeding and grow-out farms for hogs and chickens as well as feed mills and processing plants. The advantages of this arrangement included:

- (a) the rapid development of the immediate communities where the facilities were located, in terms of employment, economic activity, infrastructure and auxiliary services;
- (b) the generation of goodwill by the partnership of both parties as well as the nondisplacement of local businessmen; and
- (c) greater efficiency and lower production costs for companies due to regional cost advantages (i.e., raw materials, labor, and a better climate and environment).

Cooperatives

There is strength in numbers and size. The success of many cooperatives can be attributed to the strength of farmers banding together as one entity compared to acting on an individual basis. As a group, resources are pooled, and larger-scale projects and opportunities can be undertaken.

One example is that of farmers organizing themselves as cooperatives, enabling them to tap soft loans for post-harvest facilities (e.g., dryers and warehouses) and trucks for transporting their produce to market. At present, many farmers are at the mercy of traders when selling their produce. With the proper facilities, that dependence could be minimized.

Cadetship

The infusion of new blood into an organization (especially older ones) disturbs the status quo and can rejuvenate ossifying organizations. The establishment of a cadetship or management trainee program is one intervention that has been successfully employed to

ensure a pool of leaders for future requirements. This is especially applicable to companies that are in an expansion mode.

Niche Marketing

A farmer in Tagaytay city has been successful in supplying the major hotels in Manila with organically grown herbs and vegetables. He has been able to gradually expand his business and has gained a good reputation among chefs. In addition, his business has been made profitable by the premium prices he has been able to command.

SOME LESSONS LEARNED FROM MISTAKES

Breed Selection

Whether it be corn (hybrid versus open pollinated varieties [OPV]) or hogs (hybrid versus LYDH purebreds) or chickens, there are always tradeoffs, since each breed has its own strengths and advantages as well as its weaknesses. There will never be a "perfect" breed. Breeding programs were started that were geared towards 120-kg hogs when the market demand was for 80 kg. Usually, breeds from the Western countries (e.g., the United States and those in Europe) have been genetically designed to grow to large sizes in order to cater to those markets. The same holds true for poultry, where broilers are been designed to grow to 2 kg when the market in the Philippines is for 1.6 kg.

In the case of corn, although hybrids give the highest yields and productivity, the technology may not be viable for farmers in remote areas where access to fertilizers and capital is very limited.

Caution should be exercised when evaluating and selecting the breeds that are most appropriate and suitable for individual needs.

Design Standards

Reviewing and customizing some designs instead of using one template for all could reduce capital expenditure. It is common practice for engineers to include safety factors in their designs. This is true for hog and chicken houses in Luzon (northern Philippines), which is hit by an average of 25-30 typhoons annually. Hence, buildings are more sturdily designed to withstand their fury than those in, for example, Mindanao (southern Philippines), where typhoons are very rare. Designs were overlooked in the initial phase wherein specifications from Luzon were applied, thus resulting in an additional unnecessary 20 percent capital expenditure that could have been saved.

In the case of raw material specifications for feed, the same principle applies. Many cost penalties could have been avoided if proper evaluation of specifications had been undertaken (e.g., feed wheat versus corn versus cassava, soybean meal 44 versus 48, North American versus Brazilian versus Indian soybean meal). In such cases, over-conservatism or aggressiveness by animal nutritionists should be moderated.

CONCLUSION AND RECOMMENDATIONS

Knowledge is power and a great equalizer. In this information age, "getting wired" or connected is necessary for long-term survival and growth. For SMEs or, in fact, any business, this means establishing reliable (accurate, updated and timely) sources and maintaining an information base that is put to good use throughout an organization to enable

people to make good decisions and take the correct and timely action. In all activities and steps of the business process, information is used and needed. The quality of information that is used could easily spell the difference between good and bad decisions, timely and delayed actions, and, ultimately, survival or failure.

The following recommendations are, in one way or another, linked to the role and value of information that leads to business success:

- C Pursue benchmarking, competitive comparisons and best practices sharing at various levels, including departmental, company, inter-company, industry, national and international.
- C Sustain an information dissemination program, e.g., television documentaries, radio broadcasts, publications and extension workers.
- C Continue strengthening IT and telecom infrastructures, e.g., the Internet.
- C Encourage networking and linkage promotion, e.g., tripartite partnerships between the government, farmers/SMEs and large companies.
- C Broaden training curricula beyond the usual format of technical-basic management to include human resources development, networking, market research and intelligence gathering.
- C Exploit the use of National Quality Awards criteria (e.g., Malcolm Balridge National quality awards [MBNQA]) as a framework.

1. BANGLADESH

Abdus Shobhan Sikder Former Deputy Secretary Ministry of Agriculture Dhaka

INTRODUCTION

The economy of Bangladesh is predominantly agrarian with the agriculture sector accounting for about 32 percent of GDP. Despite that fact, agribusiness development has until recently been constrained by distorted economic policies and institutional controls in Bangladesh. In the late 1980s, the increasing importance of competitive output and input markets in replacing excessive state control and regulations was recognized. In that context, the Government of Bangladesh started undertaking policy reforms in agribusiness and agriculture marketing for more efficient and cost-effective supply of agricultural inputs and services, relative improvement of agricultural resource incomes and the enhanced contribution of agriculture to economic growth. Those policy reforms included, among others, the privatization and deregulation of fertilizer marketing, liberalization of trade etc.

The World Bank and other international financial institutions and bilateral donors have also renewed their emphasis on privatization and deregulation of agribusiness, and they are vigorously supporting policies that promote private entrepreneurship and market-oriented reforms for agribusiness development. These changes in Bangladesh have encouraged the development of agro-based enterprises through private sector investment in the areas of production of high-value crops, seed production, chemical and blended fertilizers, agroprocessing enterprises etc. Bangladesh now has very good prospects for the development of agribusiness enterprises. Government policies as well as donors have also taken particular interest in improving agribusiness in Bangladesh through support for technology acquisition, credit fund information on markets and technology.

ROLE OF AGRICULTURE IN THE BANGLADESH ECONOMY

The economy of Bangladesh is primarily dependent on agriculture. About 84 percent of the total population live in rural areas and are directly or indirectly engaged in a wide range of agricultural activities. The agriculture sector plays a very important role in the economy of the country, accounting for 31.6 percent of total GDP in 1997/98 at constant (1984/85) prices. The agriculture sector comprises crops, forestry, fisheries and livestock. Of the agricultural GDP, the crop subsector contributes 71 percent, followed by forestry and fisheries at 10 percent each and livestock at 9 percent. The sector generates 63.2 percent of total national employment, of which the crop subsector share is nearly 55 percent. In 1997/ 98, agricultural exports of primary products constituted 10.4 percent of the total exports by the country. In the past decade, the agriculture sector contributed about 3 percent per annum to the annual economic growth rate.

The agriculture sector is the single largest contributor to income and employment generation and it is a vital element in the country's drive to achieve self-sufficiency in food production, reduce rural poverty and foster sustainable economic development. The government has, therefore, accorded the highest priority to this sector to enable the country to meet these challenges and make the sector commercially profitable.

Current Situation of Agribusiness Development in Bangladesh

The Ministry of Agriculture has successfully undertaken a number of policy reforms in the past for which it has received considerable recognition, both within the government and among its development partners. The agriculture sector has already achieved the desired long-term goal of self-sufficiency in the production of rice. The major success of the Ministry is its unquestioned success in spurring the growth of crop agriculture while saving considerable amounts of local currency through the elimination of fertilizer subsidies and allowing private trade in fertilizers, minor irrigation equipment and seeds. Structural adjustments were started with the liberalization of different agricultural input delivery systems in the public sector, including:

- C the liberalization of trade in the minor irrigation sector and encouragement of the private sector in supplying minor irrigation equipment. This occurred gradually in phases following the removal of restrictions on imports of small diesel engines in 1986/87 and the withdrawal of duty on such imports in 1988/89. The subsidy on deep tube-well (DTW) was removed in 1992 and the involvement of the government organization, the Bangladesh Agricultural Development Corporation (BADC), in the procurement and distribution of minor irrigation equipment was ended. These reform measures had a tangible positive effect on increasing the demand for irrigation.
- C privatization of trade in fertilizers with the objective of transferring the fertilizer management and distribution services exclusively to the private sector. Imports of all fertilizers except urea are now undertaken by the private sector. However, the private sector is not restricted from importing urea. All fertilizers are distributed through the network of private sector dealers. The government issued a revised fertilizer control ordinance in 1995 in consultation with the private sector and International Fertilizer Development Center (IFDC) on quality control and regulation of fertilizer use at the farm level, and economic activities in rural areas have tremendously increased due to the withdrawal of the government from fertilizer distribution.
- C liberalization of trade and foreign exchange in order to enhance the participation of the private sector in the agricultural machinery business. The government has been continually reviewing information on conditions adversely affecting competitive trade and taking action to remove barriers.
- C liberalization of seed production, progressing, distribution and import to ensure the participation of private sector seed dealers in the development of the seed industry. The private sector is now allowed to import all types of improved germ plasm for research and development and to develop its own facilities for producing foundation seeds. The private sector is also allowed to import and sell seeds with the exception of those for five notified crops (rice, wheat, sugar cane, potatoes and jute). With regard to notified crops, certain procedural formalities must be observed by the private

sector before any imports are allowed. The private sector has now taken up programs for the domestic production of hybrid rice seeds.

- С the liberalization of imports of agricultural machinery, including power tillers, resulting in a positive effect on power tiller imports. The area under power tiller utilization grew at about 3.5 percent per annum after the liberalization policy was introduced
- С structural changes in the food supply and management system. The measures implemented so far include open market sales, procurement of food grains from the farmers at market prices, the abolition of the rural rationing system and allowing the private sector to import food grains.

Agricultural Development Strategy

The government has accorded the highest priority to the agriculture sector. The commitments made in this respect, and which are reflected in the National Agriculture Policy (NAP) of 1999, include:

- С timely supplies of agricultural inputs at affordable prices.
- С an appropriate action plan for agriculture credit and the marketing of agricultural products.
- government support for agriculture.
- C C C priority for the development of agro-based small- and medium-sized industries.
- an enhanced rate of private sector participation in the different sub-sectors of agriculture, i.e., seeds, fertilizers, agro-machinery and the establishment of agribusiness enterprises.
- agricultural mechanization.
- CCCCCCC pest management.
- greater coordination between the government, NGOs and the private sector.
- food-based nutrition.
- environmental protection in agriculture.
- the involvement of women in agriculture.

The agriculture sector in Bangladesh is now in the process of being transformed from subsistence farming to commercial farming. Meanwhile, Bangladesh has already entered the European market with exports of vegetables and other high-value crops. This process opens a new vista for private sector investment in the areas of high-value crop production, seed production (especially hybrid seeds), chemical and blended fertilizers, agro-processing The policy reforms that have taken place offer greater scope and enterprises etc. opportunities for private sector participation and a suitable environment for promoting agribusiness and investment.

PRAN: Largest Food-processing Company in Bangladesh

The Agricultural Marketing Company Ltd., popularly known by its brand name, PRAN, is the largest food-processing company in Bangladesh. PRAN stands for "Program for Rural Advancement Nationally", and according to its publicity material has a twofold objective of (a) achieving social values with (b) a sustainable pecuniary advantage. PRAN has expanded to cover most areas of food processing, including bottling, canning, pickling, pulping, concentrating and dehydration. It has also installed the first Bangladeshi Tetra Pak facility and a modern extrusion plant for snack products. Machinery for these production

lines is continuously being installed, expanded, modified and fabricated, thereby ensuring that the company has the most advanced food-processing infrastructure in the country.

PRAN's products include canned fruits and vegetables, a wide variety of jams and jellies, squash and sherbet, pickles, orange and apple drinks, mango juice, vinegar, ketchup, dehydrated fruits and vegetables, fresh and sliced mushrooms, and more recently, mineral water, Tetra Pak, fruit pulp, protein canning and tomato paste.

The technical support and critical interventions provided by the Agro-based Industries and Technology Development Project (ATDP) have also had a positive impact on PRAN's growth and development. ATDP assistance started when the company embarked on its ambitious expansion program and began pioneering ventures in agro-processing, and has been continued up to the present. ATDP has supported PRAN through technical consulting, training of personnel, exposure to agro-processing technologies, credit facilities, policy dialogues with the government and as a general catalyst for change.

PRAN has formulated plans to produce milk and flavored milk drinks in Tetra Pak containers, including yogurt, probably in 2001. The company also wants to establish another Tetra Pak line for mango and other fruit drinks such as guava, lemon, pineapple and fruit mixtures. The company plans to expand its canning line to produce ready-to-eat food such as *biryani*, mutton and *hilsha*.

The success of PRAN shows that very good prospects exist in Bangladesh for investing in agro-processing. But it is essential to thoroughly learn the technologies involved in agro-processing and to select a suitable packaging system.

CURRENT OPPORTUNITIES AND CONSTRAINTS IN AGRICULTURE

The opportunities and constraints prevailing in the agricultural sector of Bangladesh are listed below.

Opportunities

- C The agriculture sector is the single largest contributor to GDP.
- C The crop production system is highly labor-intensive and there is an abundance of labor in the country.
- C Agriculture is the largest source of employment for skilled and unskilled labor.
- C A favorable natural environment generally exists throughout the year for crop production.
- C A wide range of biodiversity exists for different crops.
- C Various crops and agricultural commodities are the main sources of nutrition including protein, minerals and vitamins.
- C Agricultural commodities are comparatively higher value-added than non-agricultural commodities.

Constraints

- C Agriculture is dependent on the vagaries of nature in Bangladesh and is risky.
- C The availability of cultivable land is decreasing.
- C Widespread poverty exists among the segment of the population engaged in agriculture.
- C There is a lack of required capital for agricultural activities.
- C An inadequacy of appropriate technology taking into consideration socio-economic conditions of farmers.
- C Uncertainty in receiving fair prices for agricultural commodities due to the underdeveloped marketing system.
- C Agricultural commodities are rapidly perishable and post-harvest losses are excessively high.
- C A limited level of knowledge among the public about the nutritional value of agricultural commodities including vegetables and fruit.
- C Inadequate infrastructure and other support facilities.

SUCCESSFUL PROGRAM FOR PROMOTING AGRIBUSINESS ACTIVITY GROWTH

The ATDP, initiated in May 1995, is a Ministry of Agriculture project supported by the United States Agency for International Development (USAID). The project is managed by IFDC with a mandate to spur the growth of agribusiness in Bangladesh. The project has, in fact, been very successful in achieving that objective. During the first phase of implementation, the project has significantly contributed to the creation of awareness about the potentials of agribusiness and it has also helped to establish/expand a number of agribusiness enterprises including PRAN. Some of the factors that have contributed to the success of the project are:

- C assisting the government to identify, formulate and enact policies that provide a positive enabling environment for private agribusiness.
- C assisting government and private agribusiness organizations to collect and disseminate agri-marketing and business information.
- C assisting investors and entrepreneurs in the agriculture sector with information, analyses and technology transfer.
- C supporting the banking sector in making credit accessible to agribusiness entrepreneurs.

ATDP Agribusiness Assistance Programs

ATDP agribusiness assistance programs include:

- C STAMP (Support for Technology Acquisition and Mastery Program), which assists firms to make wise technology investment decisions and to master technology already possessed by companies.
- C ACF (Agribusiness Credit Fund), which finances agribusiness investments, working capital and trade.
- C PABA (Program of Assistance to Borrowers from ACF), which is a grant program designed to assist borrowers from ACF in achieving their investment objectives.
- C MATT (Market Access and Technology Training), which is an ATDP matching grant program designed to increase a firm's access to markets or its understanding of technology.
- C INFORMAT (Information on Markets and Technology) which is provided to STAMP and ACF participants. By special arrangement, the program may also be made available to other companies.

FUTURE PROSPECTS OF AGRIBUSINESS ENTERPRISE DEVELOPMENT

The Fifth Five-Year Plan also recognized the importance to the economy of a robust private sector. Bangladesh now has very good prospects for the development of agribusiness. Nearly 20 international donor agencies are providing assistance in agriculture in Bangladesh. Given the large potential for agribusiness expansion in the country many of the donors are being attracted to agribusiness.

Some of the specific commodities that show good potential for further development are discussed below.

Potatoes

Potatoes are the third largest food crop in Bangladesh (following rice and wheat) and make a major contribution to the total food supply of the country. Although in many Western countries potato is a leading staple food, it is used almost entirely as a vegetable in Bangladesh.

Although potato cultivation started in Bangladesh more than 100 years ago, the area devoted to potatoes and the average yield per hectare (6 mt/ha) remained almost static until 1960. Potato yields started increasing with the introduction of improved seed potatoes from Holland, India and Myanmar after 1960. The use of seeds produced locally by BADC since 1972-73 has also played a significant role in increasing the acreage, production and yield of potatoes, leading to further development of the Bangladesh potato industry. The country's annual potato seed requirement is estimated at 180,000 mt.

Use of high-quality seeds of modern varieties contributed 5 percent of the seed potato requirement. The BADC-Netherlands Technical Assistance Program, later known as the Crop Diversification Program (CDP), initiated seed potato production on a small scale through the private sector in 1990. CDP production covered 2 percent of the seed potato requirements. Beginning in 1998/99, ATDP has been supporting private sector development of seed potato production and contributes about 6 percent of the needed quality seed potatoes.

Bangladesh has begun exporting potatoes. For example, in March 1999, Bangladesh exported about 100 mt of fresh potatoes to Malaysia, Singapore and Sri Lanka. Bangladesh has a huge potential for potato cultivation and, with coordinated efforts, can further increase yields. However, due to consumption and utilization patterns, there is a glut of potatoes at harvest time; as a result, the price is depressed and farmers suffer. To cope with this situation, exports and diversified uses for potatoes, including processing, are essential.

Shrimp

The fisheries sector is the third largest export earner for Bangladesh after ready-made garments and knitwear. Given that the raw materials used by garment and knitwear industries are import-based while the fisheries sector uses local resources, the latter could well provide the highest net export earnings.

Fishery exports amounted to US\$341.79 million in 1996/97 and contributed 7.74 percent of total national exports. The largest fishery export commodity, frozen seafood, increased in value from US\$141.80 million in 1990/91 to US\$320.73 million in 1996/97. Shrimp alone accounted for 85 percent of frozen seafood exports during 1990-94 and reached a value of US\$279.22 million in 1996/97. In terms of volume, frozen shrimp exports increased from 48.62 million pounds in 1993/94 to 56.75 million pounds in 1996/97. Shrimp

now constitute 88 percent of frozen seafood exports or almost 82 percent of total fisheries exports.

Bangladesh has tremendous potential for the expansion of marine and freshwater shrimp farming. Vast areas of brackish water suitable for marine shrimp farming, and flood plains (low-lying fields, dead rivers and ponds) suitable for freshwater shrimp culture have remained unutilized. Increasing shrimp production is possible if the necessary infrastructure and technical support are provided. With increased production and productivity, the processing capacity could be fully utilized and exports increased. Therefore, the corelationship between shrimp farming and shrimp processing must be emphasized in order to realize their full potential and enrich the nation.

Seeds

Local soybean cultivation can greatly benefit farmers and the national economy of Bangladesh. Farmers benefit from soybeans because they are a profitable cash crop and they help to add nitrogen to the soil. Soybeans not only put money in the farmers' pockets, the crop also reduces the amount of urea that farmers need to use for later crops.

By promoting local soybean cultivation and processing, the agribusiness enterprise National Agri-Products Limited (NAPL) is not only operating a profitable business but will, in the future, help to avoid foreign exchange losses that industry incurs by importing crude soybean oil. Currently, Bangladesh imports more than 700,000 mt of crude soybean oil annually. The NAPL goal is to obtain at least 12,000 mt of soybeans locally each year for converting to oil and soybean cake. The company plans to supply animal feed manufacturers with soybean cake from locally produced beans.

CONCLUSION

The government is committed to the continued development of agriculture in order to: (a) maintain food supplies for the growing population; (b) provide income and employment for rural people; and (c) protect the environment. Agri-based business has great prospects in Bangladesh if the constraints discussed above are addressed properly. The government is therefore trying to take all possible steps to ensure that necessary conditions exist for the development of agro-based business in the country. Donor agencies currently providing assistance to Bangladesh are also interested in the further development of agribusiness through different projects.

2. INDONESIA

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INTRODUCTION

In Indonesia, the agriculture sector has acted several times as an economic rescuer during crisis periods. Yet, in 1999, the sector had a share of only 9.4 percent (Rp.214.9 trillion) of total national GDP. That figure becomes larger if the agro-industrial sector is included. In nominal value, the agro-industry share of national GDP in 1999 accounted for Rp.166.6 trillion.

Despite its small GDP share, the agriculture sector plays a major socio-economic role. First, the sector still provides a relatively high percentage of total employment. In 1999, 49 percent of the national workforce of 80 million people was engaged in this sector. While the large workforce can be used to accelerate national economic growth, the increasing population is creating difficulties in providing sufficient employment opportunities. In addressing this situation, an economic development policy must be formulated that will ensure structural changes leading to economic growth that is high enough to absorb the increasing workforce and improve labor productivity.

To avoid unfavorable impacts from excessive urbanization, the government policy on rural development should be consistent in encouraging people to stay and make a better living in the rural areas but not necessarily from agricultural production. Such a strategy is aimed at reducing the pressure for urban development as well as the social and economic upheavals that accompany such a transformation.

The key to making this strategy more successful is the generation of off-farm employment, such as through providing services (extension, post-harvest storage, transportation and marketing) and manufacturing industries (provision of inputs, post-harvest processing, packaging and transportation). Second, the contribution of agriculture to export earnings is one source of the country's economic growth. Since the recent economic crisis, increasing foreign exchange earnings have been one of the primary goals of economic development in Indonesia. Even though exports of agricultural products in 1999 decreased by 20.6 percent, those exports still showed a significant contribution, amounting to foreign exchange earnings of US\$2,901.4 million, which provided a big increase in national reserves. Decreases were only recorded for a few commodities.

Third, the sector provides sufficient food for the Indonesian population and contributes to the development of other sectors, especially through the supply of raw materials to the agro-processing industry. Thus, it meets expanding domestic demand for food commodities and processed products.

Although the agriculture sector plays an essential role in the national economy, the emphasis is still on improving the comparative advantages of the sector. This is a necessary but inadequate condition for dealing with the rapid and fundamental changes being made towards a new global economic environment that will affect the national economy, including the agriculture sector and its related activities. A greater competitive advantage through improved efficiency will indeed be the key to success in the foreseeable future. Therefore, agricultural commodities must be produced and processed more efficiently, in order to ensure that product quality will meet market demands. In other words, the role of comparative superiority, which was stressed in the past, should now be replaced by emphasis on competitive superiority. To support this concept, Indonesia needs to shift its development paradigm from "product-oriented" to "market-oriented".

CURRENT TREND AND FUTURE PROSPECT OF AGRIBUSINESS

Production

Agricultural commodities can be classified into five main groups: (a) coarse grains, roots, tubers and pulses; (b) vegetables and fruit; (c) estate crops; (d) livestock; and (e) fisheries. The production aspects of each group are briefly discussed below.

In the first group, the commodities are all produced by smallholders. Rice, the most important commodity, is the single major staple food and therefore receives constant government attention. From 1995 to 1999, rice production increased by 1.32 percent. Maize, the second most important commodity, plays an important role as a principal raw material for the feed industry. The production of maize increased more rapidly than rice (11.23 percent), due primarily to the use of the newly released high-yielding hybrid varieties in response to increasing demand for feed. Cassava production declined significantly (25.04 percent) because of a less favorable price. This situation was also true for the production of pulses, with soybean and groundnut production dropping by 18.30 percent and 8.90 percent respectively, mainly due to higher prices of the major farm inputs such as fertilizers and pesticides. The price increases were a consequence of the cancellation of the fertilizer subsidy and farm credit provision as well as the depreciation of the rupiah against the US dollar.

In the second group, the major vegetable commodities, shallots, potatoes and cabbages are predominant. During 1995-99, some commodities experienced a rapid increase in production, while cabbage output declined. Moreover, there are 12 fruit commodities for which production data are recorded. These commodities are all grown by smallholders; pineapples are the exception as they are partly produced by large private companies for canned and juice products. Of the fruit commodities, bananas, oranges, mangoes and

pineapples are predominant. During the same period, the production of all fruit commodities declined.

In the third group, there are 10 predominant commodities. Smallholders produce the major portion of these commodities, while state and/or private companies produce the remainder. Some of the commodities are highly transformed (manufactured) before being marketed. With the exception of sugar cane, estate crops are the major source of agricultural foreign exchange earnings for Indonesia. During 1995-99, some of these commodities experienced very rapid production growth, i.e., palm oil and palm kernel oil. The driving factor behind the rapid growth was the high comparative advantage of palm oil investment in Indonesia, which offers a high profitability. Some commodities experienced moderate production growth, while the others experienced very slow production of some commodities decreased during the same period as a result of the absence of replanting programs (rubber and coffee), a decline in output price (pepper and tobacco) or a decline in available land for cultivation (ginger).

During 1995-99, the fourth group (livestock) experienced increased production of some commodities and decreases for other products. Chicken layers and broilers experienced the most unfavorable change, the populations of which declined by 29.4 percent and 29.61 percent, respectively. Those rapid decreases stemmed primarily from sharp rises in input cost, particularly that of feed and day-old chick (DOC), generated by the region's economic crisis. Currently, the commercial poultry farms are showing a gradual recovery.

In fisheries, the fifth group, marine fish production was predominant. During 1995-99, production increased by 19.96 percent. In addition, there are five other sources of fish production: brackish water ponds, freshwater ponds and paddy fields, from which production increased, and open access inland water and cage culture, which declined.

Domestic Demand

The demand for agricultural commodities in the domestic market can be classified under direct consumption or raw materials for agro-industry. Direct consumption was expected to increase from 1995 to 1999, primarily because of demand from the growing population, which had been rising at approximately 1.5 percent per annum. Final consumers could be classified based on the amount of expenditure (as a proxy of income). According to the 1999 National Social and Economic Survey (SUSENAS), there are nine expenditure classes, with per capita food consumption increasing as expenditure (income) class rises.

Many commodities need to be processed before marketed. Processing activities range from very simple rice milling to the more sophisticated vegetable, fruit and fish canning operations and even very sophisticated tire production. Processing activities are very important not only to increasing value-added in economic terms, but also to increasing form utility, storability and attractiveness of products in order to promote both domestic and international marketing.

Exports and Imports

The classification of exported and imported commodities may follow the production classification: (a) cereals, roots, tubers and pulses; (b) vegetables and fruit; (c) estate commodities; (d) livestock; and (e) fisheries. A brief discussion of the respective groups is presented below. In reality, hundreds of commodities and products are exported or imported by Indonesia, and only the predominant ones are considered in this paper.

During 1995-99, some commodities in the cereal, vegetable and fruit groups experienced increases in export volume, while others experienced the reverse (Table 1). The smaller or higher percentage increase in value compared to the corresponding quantity, respectively, indicates a decrease or increase in the world price of the commodities. The promising export commodities in terms of increased quantity include maize, shallots, mushrooms and all fruit commodities listed in Table 1.

	(Unit: Percent)		
Commodity/Product	Changes		
	Quantity	Value	
Cereals and root crops			
Maize	14.53	-2.05	
Manioc	-24.01	-57.56	
Vegetables			
Potatoes	-67.75	-66.11	
Shallots	106.90	158.49	
Cabbages	-42.83	-41.45	
Mushrooms	5.99	-33.40	
Fruit			
Bananas	37.60	28.82	
Pineapples	47.19	75.58	
Mangosteen	44.43	44.60	
Pineapple juice	71.16	34.67	

Table 1.Changes in Export Quantity and Value of Cereals,
Roots, Tubers, Vegetables and Fruit, 1995 and 1999(Unit: Demont)

Source: Central Bureau of Statistics (CBS), 1999.

Many commodities in the above groups are imported. As shown in Table 2, wheat and rice imports have been predominant. During 1995-99, imports of some commodities decreased, while the others increased. Rice, wheat/meslin flour and soybean imports showed the most remarkable increases during that period. The rapid decreases in imports of other commodities stemmed mainly from the depreciation of the rupiah against the US dollar and subsequent higher import prices.

During the period under review, a number of commodities in the estate crop group experienced increases in export volume and value, while others recorded declines (Table 3). A very rapid export increase in terms of quantity was recorded for many commodities such as desiccated coconut (1995: nil), other coconut products, cashew nuts, areca nuts, coffee, cinnamon, copra (1995: very small increase), palm oil, crude palm kernel oil, crude copra oil, cocoa (especially processed products) and rubber tires. The slower increases or faster decreases in export value compared to export volume indicate, respectively, increases or decreases in world prices.

	(Unit. Percent)			
Commodity/Droduct	Changes			
Commodity/Froduct	Quantity	Value		
Cereals and pulses				
Wheat	-33.08	-49.67		
Maize	-36.23	-47.88		
Rice	162.75	158.02		
Wheat/meslin flour	132.41	54.68		
Soybeans	114.32	67.06		
Groundnuts	-24.99	-61.34		
Vegetables				
Potatoes	82.09	-13.12		
Onions	35.52	-21.19		
Shallots	13.15	-22.24		
Garlic	294.04	-3.15		
Peas and beans	20.08	-67.82		
Fruit				
Oranges	-51.70	-58.54		
Mandarins	19.51	5.70		
Grapes	-49.42	-71.32		
Apples	-24.30	-40.09		
Peas	-34.69	-45.97		

Source: CBS, 1999.

 Table 2. Changes in Import Quantity and Value of Cereals,

 Pulses, Vegetables and Fruit, 1995 and 1999

 (Unit: Percent)

Table 3. Changes in Export Quantity and Value of Estate Commodities, 1995 and 1999 (Unit: Percent)

Commodity/Droduct	Changes		
Commonly/Product	Quantity	Value	
Desiccated coconut	-	-	
Other coconut products	60.15	-19.99	
Cashew nuts	22.83	104.18	
Areca nuts	189.61	310.86	
Coffee	53.24	-23.01	
Теа	23.50	10.74	
Cinnamon	143.94	-6.74	
Ginger	3.95	-14.93	
Copra	26,874.05	31,945.24	
Palm oil	160.78	49.08	
Crude palm kernel oil	91.99	85.82	
Crude copra oil	135.80	123.75	
Cane molasses	-59.79	-81.15	
Cocoa	69.87	32.07	
Cocoa processed	7,355.88	30.19	
Tobacco	17.86	16.25	
Latex	-51.39	-74.21	
Smoked sheet	-10.82	-75.77	
Crumb rubber (SIR)*	15.29	-56.07	
Rubber tires	91.66	50.20	

Source: CBS, 1999.

Note: Standard Indonesian Rubber.

Indonesia imported only a few commodities within the estate crop group (Table 4). The most notable ones were sugar products (sugar cane, other raw sugar and molasses, and beet sugar). With the exception of tobacco, imports increased very rapidly during 1995-99. The most likely reason for the increase was the substantial cut in import tariffs.

Estate Commodit	Estate Commodities, 1995 and 1999				
Commodity/Product	Changes				
Commounty/110ddet	1995	1999			
Cloves	5,162,000.46	5,320,882.74			
Tobacco	-18.65	-9.68			
Sugar cane	437.71	200.10			
Beet sugar	156.27	43.46			
Other raw sugar	199.60	51.45			
Molasses	440.66	118.69			

Table 4.	Changes in Import Quantity and Value of
	Estate Commodities 1995 and 1999

Source: CBS, 1999.

During 1995-99, in the livestock group, the most important export commodity was live swine with export volume and value showing rapid increases (Table 5). Imports of livestock commodities were more important, including cattle (beef cattle), beef meat, milk and feed supplement (Table 6). Imports of cattle and milk declined during the same period, due primarily to the depreciation of the rupiah against the US dollar that followed the start of the region's economic crisis in mid-1997.

In the fisheries commodities group, export volumes of most commodities increased during 1995-99 (Table 5). Indonesia has relied on fisheries products as an important source of foreign exchange earnings. Fishmeal imports were predominant in this group. In Indonesia, fishmeal is used as an ingredient for feed production.

		()	Unit: Percent)
	Commodity/Droduct	Cha	nges
	Commodity/Product	1995	1999
Livestock:	Live swine	71.75	75.40
Fisheries:	Tunas/skipjack	3.07	-20.35
	Other fish	85.12	47.23
	Marine fish	15.46	-15.11
	Frozen tuna/skipjack	-16.28	-39.40
	Tuna/skipjack in airtight containers	23.85	32.85
	Frozen marine fish	35.92	56.01
	Frozen shrimp and prawn	4.32	-17.54
Residues:	Wheat residues	-30.87	-44.62
	Oil cake	21.51	-33.63

Table 5. Changes in Export Quantity and Value of Livestock and Fisheries Products and Residues, 1995 and 1999

Source: CBS, 1999.

		()	Unit: Percent)
Commodity/Product		Changes	
		1995	1999
Livestock:	Cattle	-45.24	-64.51
	Beef	45.34	4.88
	Milk	-10.22	-41.60
	Feed supplement	1.19	365.61
Residues:	Fishmeal	-44.38	-55.47
	Oil cake (soybean. etc.)	-7.05	-21.93

Table 6. Changes in Import Quantity and Value of Livestock Commodities and Residues, 1995 and 1999

Source: CBS, 1999.

Future Prospects

Before defining the future prospects of agricultural commodities, some aspects need to be considered.

First, the commodities need to be produced as foreign exchange generators should have good production record. Commodities included in this category are cassava, vegetable commodities (particularly shallots, potatoes, cabbages and mushrooms), fruit commodities (especially bananas, pineapples and mangosteens), all estate commodities (notably palm oil products), and live swine and fisheries products.

Second, the commodities are produced as import substitutes where they are consumed in substantial amounts. Commodities included in this category are rice (the staple food), maize (feed ingredient), soybeans (tofu and fermented soybeans called "*tempe*"), sugar cane, dairy products (milk) and cattle (beef). The policies related to future agribusiness development are discussed in the section of this paper on agricultural development policies.

CHALLENGES AND PROBLEMS

In order to face future competition in the current era of globalization, agricultural commodities need to be highly competitive. On the other hand, the agribusiness community in Indonesia is dominated by small- and medium-scale farming businesses. Some of the specific challenges and problems that need to be taken into account in efforts to improve the competitiveness of agricultural products are discussed below.

Globalization and Trade Liberalization

Globalization and trade liberalization are not only creating business opportunities but are also acting as constraints that need to be anticipated. This aspect becomes more serious challenge from the perspective of ASEAN Free Trade Area (AFTA) and Asia-Pacific Economic Cooperation (APEC). In addition, new legal forms of protection are also being created in international trade regulations that become technical barriers to under developed and developing countries, such as high standards of quality and environmental, labor and human right issues.

Product Quality

This issue has become a challenge for Indonesian agribusiness. In this sense, Indonesia should seek ways of ensuring that agricultural products meet all quality requirements, which are strictly applied, especially by developed countries of the European Union (EU) as well as Japan and the U.S.A. These requirements are known as "sanitary and phytosanitary measures" (SPS).

The other constraint faced by the agribusiness sector is the low capability of agribusiness players, especially small- and medium-sized enterprises (SMEs), to produce major products and byproducts in a steady and reliable manner as well as meet market demand for products with standardized quality. For example, banana chips produced in Indonesia continue to have an oily odor and are therefore rejected by Japanese consumers. The problem is caused by low accessibility to the more appropriate production and processing technologies.

Packaging and Labeling

The packaging of agricultural products, especially those produced by SMEs, does not meet the needs of international markets because of unattractive designs, inappropriate quality and inadequate labeling. For example, the packaging material used for banana chips is usually made in the form of large plastic sacks that cannot protect the product from the process of deterioration. The labels usually do not indicate product ingredients or the expiry date of the product.

Product Marketing

The main marketing challenges are unfair pricing practices at the farm level, an inefficient marketing system, low market accessibility among agribusiness producers, a slow response to market changes and a weak market information system. The result is that agribusinesses face great difficulty in maximizing market opportunities.

Product Promotion

Agribusinesses, including SMEs, are still unaware of the importance of exhibitions and promotional campaigns. A major constraint to encouraging such efforts is the high costs involved. For example, many agribusiness enterprises do not have a company profile and have never participated in international exhibitions or promotions. In fact, many foreign countries are interested in Indonesian products, but they do not know how to get them. The government has made some efforts to promote products by inviting private enterprises to join overseas trade missions. However, the government budget is limited, and such activities should be carried out by the private sector in the future.

Production and Productivity

In international trade, Indonesian agribusiness enterprises face difficulties in making commitments to supply agricultural products in specific amounts and in a continuous and reliable manner. The main constraint has been the inefficient size and low productivity of landholdings. Moreover, the supporting industries (packaging, cold storage, warehousing, etc.) are inadequate and in need of development.

Capital

Agribusiness enterprises face difficulties in accessing formal credit with low interest rates. The credit is usually needed by farmers or agribusiness enterprises for funding their

agricultural activities. Financial support is necessary for formulating a more appropriate agribusiness credit policy.

Support from Other Sectors

In order to develop the agriculture sector, especially in the rural areas, the support of other sectors is needed in terms of infrastructure development, transportation, harbors, and education services and training to improve manpower quality.

AGRICULTURAL DEVELOPMENT POLICIES

The process of transforming the agriculture sector from a comparative advantage base to a competitive advantage base needs a clear policy effort, which is much more to be relied on than the creativity of the enterprises. Agricultural development policy can be classified into macro- and micro-economic policy.

Macro-economic Policy

Basically, macro-economic policy is aimed at achieving the goal of economic development by maintaining domestic and external balances. The support of such a policy for agribusiness should not be in the form of subsidies and protection, because the latter will only encourage development of the agribusiness sector in the short term while having a negative impact in the long term. Subsidies and protection do not improve the creativity of the agricultural community. Some important factors concerning macro-economic policy are discussed below.

1. Exchange Rate

The overvalued exchange rate policy has proved to be unfavorable to the agribusiness sector. It has a double negative impact, i.e., it inhibits exports while encouraging imports, which ultimately decreases the domestic prices of agricultural products.

2. Domestic Interest Rate Policy

The interest rate in Indonesia is always high. It is related to government efforts to attract capital inflow in order to cover the transaction deficit and gain a balance of payment surplus. This policy should be removed since it does not support the development of agribusiness. An interest rate of less than 10 percent per annum would be appropriate to agricultural producing countries, encouraging agribusiness development with higher competitiveness.

3. Fiscal Policy and Government Budget

In order to accelerate the process of transforming the agribusiness sector to a high competitive advantage, the support of fiscal and government budget policies is needed, especially for public investment. Public investment spending needs to be increased, especially for the development of roads and harbors as well as for agribusiness research and development. Fiscal policy support is needed for the removal of tax on agribusiness investment until it reaches a breakeven point. In addition, a research and development spending policy is needed, while the cost of improving manpower quality should not be drawn from profits that are subject to taxation.

4. Banking Policy

The development of Indonesian banking is generally characterized by the branch banking system. Therefore, available regional funds are sucked into the central area. In addition, credit planning is centralized and biased towards the industrial sector, thus impeding agribusiness sector attempts to receive credit. This banking policy should be changed by developing a unit banking system, such as the Regional Development Bank (*Bank Pembangunan Daerah/BPD*). By applying this banking system, funds collected in a particular region will be recirculated within that region. Moreover, credit schemes will become decentralized and oriented towards the actual development needs of agribusiness.

Micro-economic Policy

1. Developing Superior Commodities

As trade liberalization proceeds, superior commodities should be developed in order to compete on the international markets. This implies that to beat the competition, serious attention needs to be drawn to improvement of product quality. In that connection, the establishment of a quality assurance system through total quality management (TQM) is necessary. Therefore, quality guidance as one of the critical points of agribusiness development should be directed towards improving the TQM system, since it can be applied by all agribusiness enterprises. In line with this approach, Indonesia also needs to provide an incentive system for improving quality.

2. Increasing Production and Productivity

A step that can be expected to be able to mitigate the impact of the recent economic crisis on the Indonesian economy is to increase both production and productivity. This would increase exportable commodity surpluses, and reduce reliance on imports to achieve food self-sufficiency. For example, by relocating the sugar industry from Java island to other islands, sugar production could be increased and sugar productivity improved.

3. Improving Promotion Campaigns

Promotion activities are necessary in order to introduce Indonesian products overseas through trade fairs, trade diplomacy, brochures and directories that cover all Indonesian agribusiness commodities. In addition, promotions may also help to eliminate trade restrictions (e.g., such as tariff and non-tariff barriers) that threaten national products in international markets and that act as a contra-campaign to discredit Indonesian commodities.

4. Investment Incentives

Investment provided by the government is principally used to generate a better atmosphere for agribusiness development and provide an incentive for farmers and the private sector to carry out agribusiness development. It is expected that such investment will emphasize not only production, but also processing investment and the financial system in order to accelerate the development of agribusiness in the rural areas. Investment opportunities in Indonesian agribusiness is very promising, especially those in agro-industry. Large production centers for each commodity allow the development of processing industries at the production centers. The government has committed itself to supporting agribusiness investment through several incentives:

- C The restitution (drawback) of import duty and import surcharge on imports of goods and raw materials needed in the manufacture of finished products for export.
- C Exemption from value-added tax and sales tax for luxury goods and materials purchased domestically for use in manufacturing products for exports.
- C Bonded zones and export processing entrepots.

If the policies discussed above are developed in support of agribusiness development, the sector will be able to switch from a comparative advantage base to a competitive advantage base.

CONCLUSION

Agriculture remains the most important sector of the Indonesian economy. In 1999, the sector contributed 19.4 percent to GDP and absorbed more than 40 million people from the workforce. The other essential roles of the sector are: (a) to provide food, foreign exchange earnings and raw materials for industry; and (b) to meet domestic demand. Many agricultural commodities have good prospects for the future.

In order to deal with the challenges resulting from globalization, the production of agricultural products must be more efficient and be based on market demand. Thus, competitiveness is the key to success. Supporting this concept, therefore, enables the focus to switch from "product oriented" to "market oriented".

The various issues involved should be anticipated in order to enter the global arena with improved product quality, packaging and labeling, marketing, promotion, productivity and production, and provision of adequate capital.

Ensuring the success of the transformation process from a comparative advantage to a competitive advantage will involve both macro- and micro-economic policies. The scope of macro-economic policy covers the exchange rate, domestic interest rate, fiscal policy and government budget, and banking policy. Micro-economic policy involves developing superior commodities, increasing production and productivity, improving promotion and providing investment incentives.

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INTRODUCTION

Agriculture is one of the most important economic sectors of the Islamic Republic of Iran as it provides 25 percent of GDP, 25 percent of non-oil exports, 25 percent of employment and more than 80 percent of the food needs of the State.

The country's agriculture sector has undergone many remarkable developments during the past two decades with regard to increases in land use, new resources and crop yields, human resources development and the optimal exploitation of production resources, and the improvement of agricultural infrastructure. Agricultural production capacity has risen more than threefold during the past two decades. For instance, in 1987, around 38 million mt of field crops and 6 million mt of horticultural crops were produced, which increased to 48.38 million mt and 12.32 million mt, respectively, in 1999. The average growth rate of the agriculture sector in 1998 was estimated at 8.1 percent.

The basic resources for agricultural production have potential for expansion beyond current capacities. Therefore, the continuation of that growth offers the promise of strong achievements for the agriculture sector. Based on the forecasts for the different objectives of the development options, the country could attain a minimum of 141,000 mt and a maximum of 335,000 mt in 2021.

Parallel with the growth of the agriculture sector, it will be necessary to expand activities related to the provision of inputs (fertilizers, pesticides, mechanical processing industries and storage facilities). The significance of such activities, particularly in the food and agricultural processing industries, and the crucial role of those industries in reducing food waste, increasing food product durability, improving the supply of goods, export promotion, and increasing the economic value of agricultural commodities has become clearly evident.

GENERAL INFRASTRUCTURE

The Islamic Republic of Iran enjoys a highly diverse climate and a rich variety of flora. With 12 types of climate and 12,000 different varieties of flora, the country is able to produce a wide range of temperate, subtropical and tropical crops. Equally important, there is often a temperature difference of 40-50°C at any given time between some areas, making it possible to produce a variety of crops throughout the year. Owing to ample sunshine (an average of 300 days, excluding the Caspian coastal region), agricultural products, especially garden produce, are of high quality with regard to color, texture and taste. In addition, recent attempts by the government to get farmers to reduce their use of pesticides and chemical fertilizers are having very promising results. This is resulting in the production of wholesome

products in compliance with international standards. Table 1 shows some major crops produced in excess of domestic consumption.

	Production Volume — (000 mt)	Export		
Product		Volume (000 mt)	Value (US\$ million)	
Apples	2,137	158.0	16.6	
Dates	908	101.0	22.8	
Grapes	2,342	96.0	54.0	
Pistachios	131	101.0	315.0	
Saffron	0.182	0.082	34.0	
Tangerines	760	55.0	5.5	
Potatoes	3,400	46.0	5.3	

 Table 1. Production and Export of Selected Crops, 1999/2000

Sources: Foreign Trade Yearbook of the Islamic Republic of Iran (Export), 1378 (1999) (Persian); and Ministry of Agriculture, Agriculture Statistic Yearbook, 1377-78, 1999 (Persian).

Note: Iranian year: 1378 beginning 21 March 1999.

SHARE OF FOOD INDUSTRIES IN VALUE-ADDED AND EXPORTS

Agricultural Potential and Agro-industry

In recent years the Islamic Republic of Iran has encouraged the expansion of agroindustry in order to supplement the oil industry as a source of export products. This policy is based on the availability of a wide range of high-quality food crops in the country.

According to the Ministry of Industry, in 1995-98 the manufacturing value-added generated by the food industry amounted to US\$2,335 million, 13.2 percent of the total manufacturing value-added generated in that year. Thus, the food industry is the second most important source of value-added after the petroleum refining industry.

The food processing industry's dependence on imported inputs is 10.7 percent compared with 45.6 percent for the metal industry. As indicated in Table 2, in 1999 the total revenue earned from exports by the food industry amounted to US\$199 million, which was 6 percent of the total non-oil exports.

Product Export Value (US\$ milli			
Meat and fish product	27.00		
Sugar and sweet products	16.00		
Cacao and its products	2.70		
Flour and grain products	71.00		
Vegetables products	67.00		
Food by-products	6.20		
Beverages	3.50		
Reminder of food industries	0.77		
Tobacco	4.80		
Total	198.97		

Table 2. Exports of Food Industry Products

Source: Foreign Trade Yearbook of the Islamic Republic of Iran (Export), 1378 (1999) (Persian).

Food Processing Plants

Food processing plants operating in the Islamic Republic of Iran fall within the following three categories:

- C Plants operating under acceptable standards and practices. These are owned and operated by able entrepreneurs, and their products comply with national and international standards and requirements. However, since most of these plants have been operating for more than 15 years, some need to be renovated. In particular, the equipment in many of the plants needs to be modernized and upgraded in order to ensure that output meets international standards and quality requirements;
- C Plants that can be assisted in undertaking renovation as well as encouraged to upgrade the quality of their products in order to comply with international requirements and standards; and
- C Small-scale plants and workshops, which are mainly of two types:
 - (a) Workshops operating with government permits and which can be renovated and assisted in complying with national standards and codes of practice, so that they can adequately supply local demand. In most cases, they are not suited to undertake export-oriented production because of their small size, limited output and frequent inability to meet external quality requirements; and
 - (b) Unlicensed workshops, which need to be shut down or properly licensed to ensure that they do not pose a hazard to the safety and health of consumers.

Based on the above categories, at the end of 1997, 2,100 industrial plants were engaged in beverage and agri-food production. Of that total, 1,871 units were privately owned and 229 units were public operations, employing a total of 119,027 persons.

Also, from 1994 to 1998, 11,987 permits for establishing food industry units were issued, of which 3,228 units received exploitation licenses and the remainder recorded a physical growth rate of between 0 percent and 75 percent. Due to lack of funds, many of the exploited units have since been closed.

FORECASTS OF FOOD INDUSTRY DEVELOPMENT BY 2001

In a recent survey conducted by the Ministry of Agriculture on 19 groups of horticultural and field crops, extensive efforts were made to provide a panorama for future development of agricultural processing industries and export promotion through the provision of forecasts based on the steps detailed below.

The survey projected the situation of processing industries by the horizon year of 2021 within the categories of (a) accessible, (b) desirable, and (c) ideal, with the inclusion of estimates related to capacity, number of required new units, value-added, employment generation and foreign exchange earnings.

It should be noted that differences exist in the projections for the above categories with regard to production levels and export capacities of certain agricultural commodities. The forecast for the above categories is summarized below:

1. Accessible Category

In view of the anticipated production level in the accessible category of the abovementioned crops in 2021 production (107 million mt), and taking into account the present total capacities of existing industries (24 million mt) and units under construction (3.6 million mt), it will be necessary to construct some 42 million mt of additional capacity.

2. Desirable Category

In view of the anticipated production from 19 crops in the desirable category in 2021 (179 million mt), and taking into account the present total capacities of existing industries (24 million mt) and units under construction (3.6 million mt), it will be necessary to construct some 61.4 million mt of additional capacity.

3. Ideal Category

In view of the anticipated crop production in the ideal category in 2021 (287 million mt), and taking into account the present total capacities of existing industries (24 million mt) and units under construction (3.6 million mt), it will be necessary to construct some 175 million mt of additional capacity.

PROBLEMS AND CONSTRAINTS

Most of the food processing plants in the Islamic Republic of Iran are at least 15 years old, and are using equipment that was either imported or copied from older models. This is particularly true of the country's sugar beet and edible oil refineries, wheat silos and flour mills, many of which were established more than 25 years ago. These plants are mostly obsolete. They use excessive fuel and energy, and have comparatively low levels of efficiency. The sugar beet factories have a maximum yield of 8 percent, while the corresponding figure for European factories exceeds 10 percent. The Islamic Republic of Iran also has some more modern plants that were established after the Islamic Revolution. A small number of the more modern plants, which are used for date packing, the production of fruit juice and concentrates, and the manufacturing of potato crisps, were established between the early and mid-1990s.

The development of the food processing industry in the Islamic Republic of Iran is not constrained by the lack of technical know-how and skilled manpower. There has been an outpouring of food technologists from the country's colleges and higher institutes in recent years. A number of graduates have joined the food industry, while others have found jobs in government departments or the non-food sectors.

In order to reduce production costs, however, some food factories avoid employing highly-trained and experienced staff. In particular, almost all food processing plants lack experts in the fields of automation, packaging, instrumentation, bio-environmental matters and food engineering, partly because of a shortage of these skills and partly because the owners of the plants do not recognize the need for such expertise. Moreover, in some plants, food technologists confine themselves to food laboratories or engage in managerial work. The production line is consequently left more or less in the hands of technicians and foremen, who lack the skills and experience to be able to handle the job well.

The following points are other problems facing the development of food industries in Iran.

- C Many plants utilize only 50-60 percent of their nominal capacities, owing to the shortage of liquidity, the age of some plants, inadequate local supplies of raw materials and, in some cases, a lack of incentive for the owner to enter competitive international markets.
- C In general, state-owned plants and those run by foundations and quasi-governmental organizations enjoy government support and subsidies, which private entrepreneurs are

denied. That creates economic imbalances that discourage private processors from fully utilizing their productive capacity.

- С Many plants limit themselves to the processing of one product, which means that they operate at most for three months at any time, even though this constraint can easily be overcome. A fruit juice concentrate plant can add a few pieces of equipment to produce reconstituted juice as well as pectin, essential oils, essences and animal feed, for example, while a date packer can easily be equipped to produce liquid sugar, marmalade, syrup and animal feed.
- С A number of plants are located far from agricultural areas. This raises the cost of transport, creates uncertainties concerning the supply of raw crops and, above all, increases post-harvest losses.

SUPPORTIVE POLICIES

The government, in recognizing of the severity of post-harvest losses, is taking appreciable measures to prevent those losses by promoting the development of the food processing industry. The following promotional benefits, in particular, are worth mentioning:

- С Investors in the food processing industry are granted long-term loans with easy terms and low interest rates (8-9 percent, compared with the 20-25 percent commonly charged).
- С Agro-industries are exempted from paying customs duties on imported inputs as well as income tax for the first five years of their operations.
- Land used for agro-industries may be leased for 15 years at very low rents.
- C C C Agro-industries are granted discounted rates for water, fuel and power.
- In recent years several higher institutes for teaching food science and technology have been established. Existing colleges and universities have also included these subjects in their curricula

Other steps are being taken by the government to help the food industry with regard to standardization and supervision. The Institute of Standards and Industrial Research of Iran, which is responsible for formulating and enforcing national standards, has established a total of 1,295 wide-ranging agricultural and agro-industrial standards, which account for 37.4 percent of the 3,456 national standards currently in effect. In addition, food processors and cold storage owners are encouraged to obtain ISO certificates, although only a few have so far attempted to do seek certification.

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INTRODUCTION

The food consumption pattern in the Republic of Korea has recently changed significantly as a result of increases in leisure opportunities and incomes, and a preference among the population for high-quality, convenient, and diversified products. Demand is rapidly growing for more processed food products rather than raw products, resulting in the development of the food-processing industry.

Because the major inputs of the food-processing industry are raw agricultural inputs, demand for agricultural products is expanding and support prices of agricultural products are growing. Rural food-processing enterprises, in particular, are having a positive impact on unemployment in rural areas, providing off-farm income sources. However, the liberalization of international markets, including those for agricultural products, has weaken the relationship between rural food-processing enterprises and agricultural production. This negative impact has created a need to develop rural food-processing enterprises, using price-competitive agricultural products to support farm income and stabilize the prices of agricultural products. These reasons have led to government support for rural food-processing enterprises.

Between 1989 and 1998, the government provided subsidies totaling US\$156 million ($\forall 121,700$ million) and loans amounting to US\$243 million ($\forall 189,800$ million) to 1,395 enterprises. This development program will be extended to 2,000 enterprises. According to the data from the Ministry of Agriculture and Forests, total value-added created by the supported enterprises reached US\$78 million in 1995. In terms of investment program is proving effective. However, some of the supported enterprises have suffered a deficit in their operations, and concern has focused on normalizing the management environment of those firms. This paper examines the present situation of rural food-processing enterprises and the management problems associated with insolvent firms. This paper also proposes development programs based on the current business environment in the agricultural food-processing industry.

PRESENT SITUATION AND DEVELOPMENT PROGRAMS IN THE RURAL FOOD-PROCESSING INDUSTRY

Economic Status of the Food-processing Industry

1. Production

In 1995, the agriculture, forestry and fisheries sector accounted for 3.8 percent of GDP, followed by mining (0.4 percent), manufacturing (47.6 percent), power/gas/water/

construction (11.6 percent), and the service industry (34.1 percent). The weighting of the food-processing industry in the manufacturing sector was 5 percent, which was slightly higher than the 4.5 percent recorded in Japan (Bank of Korea, 1998). In terms of foodprocessing product value, between 1985 and 1995 the amount increased; however, the component ratio of the industry declined.

2. Employment

In 1995, the total number of employees in the Republic of Korea was 17,197,000. comprising 14.4 percent in the agriculture, forestry and fisheries sector, 0.3 percent in mining, 24.0 percent in manufacturing, 8.4 percent in power, gas, water and construction, and 53.0 percent in the service industry. The trend between 1990 and 1995 shows that the number of employees in agriculture, forestry and fisheries, mining and manufacturing declined, while the number of employees in power, gas, water and construction increased. From 1990, the employment component ratio of the food-processing industry underwent a declining trend, to reach 2.1 percent in 1995 (Bank of Korea, 1998). The number of employees also declined from 442,000 in 1990 to 363,000 in 1995.

Government Development Programs for Rural Food-processing Enterprises

1. Government Development Programs

The government is attempting to stabilize agricultural prices, increase off-farm income, and activate the rural economy through the development of rural food-processing enterprises. The government also expects these programs to benefit the rural economy with the opening up of international markets to agricultural products.

The government's development programs are based on two expectations:

- Although the country's agricultural raw products are not competitive in international (a) markets, the export conditions can be improved through value-added processed food commodities. The global consumption pattern is changing to oriental and natural foods, and these changes could lead to the globalization of traditional Korean food; and
- (b) Changes in living environments (such as the trend towards smaller families as well as apartment living and urbanization) will increase demand for processed food. The domestic consumption rate for processed food was about 35 percent in 1995, which was still low compared with 70-80 percent in the developed countries. This statistic implies that there is significant potential for growth in the food-processing industry.

2. Legal Background for Development Programs

Since 1989, the government has been developing the food-processing industry with the introduction of the Development of Agricultural Food Product Processing and Product Quality Management Act in 1993.

The Act contains the following elements:

- Development of traditional food processing
- C C C C C C C C An approval system for traditional food products
- Standardization of traditional food
- A quality approval system for special and traditional foods
- Certification of origin for agricultural products, including processed products.

3. Basic Objective of Development Programs for the Food-processing Industry

The government's basic objective is to make farmers, fishermen, and producer groups the main subjects of the food-processing industry. Under that approach, individual farmers and fishermen focus on simple processing and small-scale production of traditional foods while producer groups operate medium- and large-scale processing enterprises and other related processing firms, leading to high-quality processing enterprises. The target of the government plan is to support 2,000 food-processing enterprises until 2004.

4. Support Plans and Systems by Program

The government has prepared support plans including assistance to processing facilities, packaging improvement and raw material purchases. However, most of the plans have so far focused on assisting processing facilities. In 1998, the specific activities under the plan were:

- (a) the provision of ₩250 million per enterprise to cooperation groups or producer groups using domestic agricultural raw products or traditional food products in their processing. Other processing enterprises could receive up to ₩1 billion per unit;
- (b) the provision of a subsidy amounting to 40 percent of the financing and 20 percent of production costs, up to a maximum of ₩20 million per enterprise; and
- (c) the provision of a subsidy for purchasing raw materials up to 70 percent of the costs, with a maximum of ₩1 billion per enterprise.

To carry out the program efficiently, the Ministry of Agriculture and Forests is responsible for policy design, enterprise selection, and funding. The Agricultural and Fishery Marketing Corporation evaluates the economic feasibility of new businesses and their operational conditions, while the Korea Food Research Institute develops new products and solves technical problems.

Rural Food-processing Enterprises: Support and Operations

1. Support by Enterprises

Between 1989 and 1996, the government provided support to 1,395 enterprises amounting to \$311.6 billion (Table 1). A total of 1,086 traditional food-processing enterprises and 309 general rural food-processing enterprises benefitted. Table 1 also shows support by type of operation. In the case of traditional food development businesses, 489 enterprises received support for rural and fishing village cooperation. In addition, 120 and 477 enterprises received support as producer groups and special food complexes, respectively.

Classification	Number of	Support (₩ million)		
Classification	Enterprises*	Subsidies	Loans	Total
Traditional food development business	1,086	51,000	74,700	125,700
Rural and fishing village cooperation	489	41,200	32,800	74,000
Producer groups	120	9,800	7,900	17,700
Special food complex	477	0	34,000	34,000
General rural food-processing business	309	70,700	115,100	185,800
Producer groups	153	70,700	57,000	127,700
Other enterprises	156	0	58,100	58,100
Total	1,395	121,700	189,800	311,500

Table 1.	Current Situation of the Support Program on Food-processing Enterprises
	(cumulative, 1989 and 1998)

Source: Ministry of Agriculture and Forests.

Note: * Based on cumulative records for January 1989 to December 1998. The exchange rate was different for each year. The average exchange rate between 1989 and 1997 was ₩781 per US\$1. The exchange rate for 1998 has not been applied due to the abnormal financial conditions that resulted from the economic crisis in Asia.

2. Operational Conditions

This section deals with current operational conditions by operational category. According to data from the Ministry of Agriculture and Forests, 95 out of the 1,231 supported enterprises (7.7 percent) have converted their businesses (Table 2). A total of 53 enterprises (4.6 percent) are insolvent and 200 enterprises are under construction. The remaining 883 enterprises are operating normally.

Category	Traditional Food	General Food- processing	Special Food Complex	Total
Supported enterprises (A)	481	273	477	1,231
Business conversions (B)	1	19	75	95
Operating enterprises (A - B)	480	254	402	1,136
Operational condition:				
Normal operation	336	162	385	883
Insolvent operation	14	22	17	53
Under construction	130	70	-	200

Table 2.	Current	Situation	of Rural	Food-	processing	Enterpr	ises
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Source: Ministry of Agriculture and Forests, December 1996.

(a) Agricultural Cooperative Processing Factories

Agricultural cooperative processing enterprises currently operate 182 factories that produce 850 products (Table 3). Their sales of major products comprise *kimchi* (26.2 percent) and beverages (23.5 percent) and hot pepper powder, soy sediment/hot paste and tea (3-5 percent). However, total sales value is \$127.6 billion, which is only 53.1 percent of the total investment (\$240.3 billion) and hence does not reach the break-even point.

Classification	No. of Factories (A)	Investment (₩ million) (B)	Total Sales (₩ million) (C)	B/A (₩ million)	C/B (percent)
Beverages	12	79,358	30,016	6,613.2	37.8
Kimchi	13	38,383	33,382	2,952.5	87.0
Hot pepper powder	8	14,244	6,923	1,780.5	48.6
Soy sediment and					
hot paste	13	15,040	4,347	1,156.9	28.9
Salted products	17	11,389	3,445	669.9	30.2
Vinegar	5	3,194	4,130	638.8	129.3
Tea	10	4,770	5,270	477.0	110.5
Others	104	73,961	40,117	711.2	54.2
Total	182	240,339	127,630	1,320.5	53.1

Table 3. Current Situation of Agricultural Cooperative Processing Factories

Source: National Agricultural Cooperative Federation, internal survey data, December 1996.

Note: The exchange rate in 1996 was ₩805 per US\$1.00.

Investment per enterprise is about $\forall 1.3$ billion, but average sales amount to $\forall 700$ million. Investment efficiency is generally low for soy sediment/hot paste (28.9 percent),

salted products (30.2 per cent), beverages (37.8 percent) and hot pepper powder (46.8 percent).

Total sales value of processed food products is \$127.6 billion, and has been increasing since 1993. A 23-percent growth rate was recorded between 1994 and 1996. The insolvent operation rate also decreased from 45 percent in 1995 to 36 percent in 1996. However, a number of processing companies continue to suffer business difficulties. Major investment has been made in beverage processing, but 60 percent of the factories are insolvent. (b) *Other Rural Food-processing Enterprises*

Current rural food-processing enterprises are characterized by partnership operations with farmers and fishermen in village units. Their main products are derived from traditional food processing (Table 4).

Category	Producer Village Group Cooperation		Farm Management Cooperatives	Total
Traditional food enterprises	120	489	0	609
Rural food-processing enterprises	153	0	156	309
Special food complex	-	-	-	477
Total	-	-	-	1,395

 Table 4.
 Current Situation of Rural Food-processing Enterprises

 by Subject and Support Pattern

Source: Ministry of Agriculture and Forests, 31 December 1998.

Table 5 summarizes the current state of rural food processing by product and operation. There is a tendency to concentrate investments on certain commodities, such as salted products (19.96 percent) and tea products (18.21 percent), because markets for those commodities are easy to enter. Also, those products do not require specialized labor. In terms of investment, enterprises with more than \$1 billion account for only 6 percent of the total. In contrast, enterprises with under \$250 million and \$100 million account for 58 percent and 20 percent, respectively, of total investment. Distribution of employees shows that only 6.8 percent of the enterprises have more than 30 employees, while 71.7 percent and 49.9 percent of the enterprises have under 10 and 5 employees, respectively. Because most enterprises are small-scale operations in terms of size and employment, problems exist that are associated with the treatment of polluted water, product quality management and the accounting process.

PROBLEMS ASSOCIATED WITH RURAL FOOD-PROCESSING ENTERPRISES

Initial Problems

Sufficient examination is rarely made of a proposed business, although a feasibility study of a new business is necessary to ensure a successful outcome. A major cause of insolvency has been identified as the failure to undertake a feasibility study in the first stage of setting up a new business. This fact implies that many processing enterprises have launched their businesses with investment problems existing right from the start.

Product*	Traditional Food Enterprises		Special Food Complex		Rural Food-processing Enterprises		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Salted products	30	9.87	61	46.21	23	17.04	114	19.97
Теа	68	22.37	14	10.61	22	16.30	104	18.21
Kimchi	29	9.54	14	10.61	24	17.78	67	11.73
Soy sediment and hot paste	39	12.83	4	3.03	10	7.41	53	9.28
Beverages	19	6.25	1	0.76	33	24.44	53	9.28
Traditional alcoholic liquor	29	9.54	0	0.00	10	7.41	39	6.83
Noodles	21	6.91	12	9.09	5	3.70	38	6.66
Rice cake	32	10.52	3	2.27	1	0.74	36	6.31
Vinegar	26	8.55	2	1.51	7	5.18	35	6.13
Acorn processing	11	3.62	21	15.91	0	0.00	32	5.60
Total	304	100.00	132	100.00	135	100.00	571	100.00

 Table 5.
 Present Situation of Rural Food-processing Enterprises by Product and Support Patterns

Source:

Ministry of Agriculture and Forests, 1998. * Livestock, marine and forestry products are excluded. Note:

1. Lack of Business Plans

Most enterprises recognize that raw materials can easily be supplied locally. The selection of products is easily made, using only with their traditional skills and knowledge, rather than based on raw inputs and market conditions. Professional institutions are rarely involved when examining market conditions. Individual owners tend to make business decisions based only on their experience.

Because most enterprises do not possess specialists in business planning, it is not easy to formulate a business plan. In fact, the lack of specialists leads to the formulation of non-feasible business plans. In other words, enterprises tend to start operating without even a basic knowledge of business/marketing or a long-term vision.

2. Excessive Production Scale and Facility Investment

As a result of non-feasible business plans, most enterprises tend to operate on an excessive production scale and make excessive investments in facilities. They base their decisions on the scale of production, using the maximum limit of government support and subsidy as a guideline. Their excessive facility investment gives bad results which is another major cause of insolvency.

Problems at the Production Stage

1. Low Rate of Operation

A low rate of operation (actual production versus production capacity) is a common problem that is found in both deficit and balanced enterprises. This problem typically arises from inadequate supplies of raw materials or poor product marketing, which were not given proper consideration during the planning stage.

2. Lack of Ability to Develop New Products

Most enterprises recognize the need to develop new products. However, they are rarely able to develop new products or improve quality and marketing conditions, mainly due to poor management systems. Therefore, enterprises with research and development facilities are rarely found, and such businesses usually depend on the owners' experience and knowledge.

3. Problems with Raw Input Supply

The food-processing industry is heavily affected by the cost of raw materials. This is also a significant factor in whether a business achieves success or meets with failure. The main difficulties with raw materials are excessive costs and unstable financing.

4. Labor Problems

Most enterprises recognize the need to secure skilled or specialized workers as well as ensuring a stable source of labor. For example, enterprises may suffer labor problems during the farming season, the burden of high wage levels and difficulty in finding skilled or specialized workers. Farm housewives are sometimes hired, but they are not a source of skilled labor.

5. Facility Investment Problems

The purchase and installation of machinery and facilities are done by: (a) an enterprise owner's own design and order; (b) on the recommendation of a manufacturer; (c) through Korea Food Research Institute recommendations and extension; or (d) imports. The following problems may result from the above methods:

(a) When the owner of an enterprise designs and orders specific machinery, it is difficult to ensure consistency between one machine and the next during the production process;

- (b) When recommended by manufactures or the Korea Food Research Institute, the operation of machinery and facilities might be very complex. In such cases, it is necessary to hire maintenance specialists, thus creating additional costs. In other words, a stable production system will be at risk if specialists are not hired;
- (c) When importing machinery and facilities, it is difficult to ensure an adequate supply of parts and components. Operating the machinery is also difficult due to the high costs incurred by bringing in specialists from overseas to maintain the systems; and
- (d) Difficulties can occur with financing and as a result of failure of projected demand to materialize.

Marketing Problems

Rural food-processing enterprises with a deficit operation have difficulties in establishing a sales network due to low rates of sales. Other difficulties may exist with sales, although well-balanced enterprises have relatively stable sales networks.

1. Lack of Product Discrimination

The primary reason for a poor sales network is low product quality, especially in terms of poor packing, design and quality management. Therefore, consistent efforts are needed to improve product quality and achieve diversification.

2. Limitations on Establishing Retail Sales Networks

In the case of the food-processing industry, difficulties exist in establishing retail sales networks. The difficulties are mainly due to high prices, small-scale production systems, a lack of funding, and strong competition.

For example, general retail marketing firms such as department stores, which are popular food markets in the Republic of Korea, require high marketing margins and large quantities of products. Rural food-processing enterprises therefore experience difficulty in entering those types of markets due to the small-scale production systems being used. Department stores sometimes require sales persons specialized in food marketing, which means extra costs for rural food-processing enterprises. Generally, the preference is to avoid those producers charging high prices and supplying small volumes of products, both for wholesale and retail stores.

In the case of direct transaction groups or large retail outlets, negotiating power may be a problem. Because competitive firms are continually entering the market, buyer groups often change business connections in order to keeping prices low, resulting in delayed purchases and discontinuance of orders.

3. Weak Sales Promotion Activities

Rural food-processing enterprises prefer cost-effective methods for their sales promotion campaigns. Most promotional activities depend on local newspapers, agricultural journals, pamphlets, brochures, leaflets, and exhibitions. Local mass communication channels such as television and radio can provide alternative advertising sources, but are usually avoided due to the high costs involved.

4. Heavy Marketing Costs

Because limited quantities of products from small-scale producers are sold to a wide range of markets, the unit cost of marketing is relatively more expensive than for large-scale producers. Small retail stores, in particular, usually order small quantities, which increases marketing costs (including the cost of transportation).

Other Operational Problems

1. Bottleneck in Financing

The lack of capital is a major bottleneck for rural food-processing businesses. Specific causes of the bottleneck are poor sales, wage and input cost increases, debts owed by related firms going bankrupt, a lack of mortgage facilities, and the need for investment in additional facilities.

2. Lack of Management Ability

Most managers of rural food-processing enterprises have neither adequate know-how for their new business environment nor long-term vision. Accounting systems are not properly kept by most rural food-processing enterprises, and they do not actively collect information on consumers' responses to, or satisfaction with, the products. Most managers normally obtain such information from their business partners and food-related or agricultural journals.

MANAGEMENT ACTIVATION PLANS FOR RURAL FOOD-PROCESSING ENTERPRISES

The bottlenecks in rural food-processing enterprises are complex, as discussed above. That is, the bottlenecks are caused by problems with ensuring appropriate levels of investment, product discrimination, effective ways of cost saving, and securing markets and skilled management. Therefore, the establishment of a comprehensive system is required at each stage of the business, in order to ensure good management.

Product Discrimination

This is an era of producing commodities in order to sell, not selling in order to produce. That is, it is a consumer's market, not a producer's market. It is important to recognize consumer preference and to develop products that satisfy those preferences. Appropriate pricing, market networking, and promotion and advertising are other important aspects of business strategy that must be considered in order to survive in competitive markets.

Seen from another perspective, this is an era of choice, not one of quantity-based marketing. In this era of choice and preference, an important factor is target marketing aimed at specific consumer groups and areas of business.

Product discrimination should be based on processing safe and superior food products that satisfy consumer preferences. Specific local markets should also be identified as target markets.

Cost Saving

1. Stable Supplies of Raw Materials

Stable and cheap raw materials can be supplied through imports, the development of new varieties and contract production. However, in the long term, raw materials must be supplied by the domestic market due to the uncertainty of international markets. In terms of eliminating uncertainties and ensuring stable supplies of raw materials, contract production is recommended. However, in such cases, partnerships between related firms are important as they increase bargaining power. Joint purchases with related firms could help to lower costs through purchases of raw materials in large quantities.

2. Supporting Production Automation and Utilizing Unskilled Labor

Supporting automation of production facilities could be one solution to manpower problems. For example, local governments could provide "employment services for housewives and aged labor" as a way of supplying stable and flexible labor resources. Local community colleges also need to expand their food-related departments, in order to provide adequate numbers of well-trained specialists.

3. Enhancing Business Management Ability

Few managers of rural food-processing enterprises have adequate expertise or knowledge for the new business environment or long-term vision. This situation requires that they be given more intensive and solid education covering, for example, changes in business environment, tax, and financing. The forms of education may be flexible, taking into consideration the schedules of managers, and could include correspondence courses, for example.

Activation of Cooperative Marketing

Inactive sales are mainly the result of poor product quality. However, inactive sales can also be due to a weak marketing infrastructure such as a low rate of brand-name perception and a lack of individual sales networks. However, small processing enterprises face limitations in building sales networks that can compete with large firms, due to capital and labor shortages, and a lack of economies of scale. Therefore, the former needs to be able to obtain benefits from economies of scale through cooperative marketing.

Cooperative marketing implies that two or more firms are cooperating in creating the same product, services and ideas. They also cooperate in deciding on a price level and sharing information, thus satisfying each firm's business goals. Cooperative marketing begins from the development of a common brand and extends to cooperative production, sales networks, promotion and advertising.

To activate cooperative marketing, priority should be given to the efforts of the participating enterprises. However, currently cooperative marketing is facing the problem of a lack of business resources (capital, labor availability and management ability). Hence, support from central and local government should be harmonized with the efforts of cooperative marketing groups in order to encourage cooperative marketing.

Enhancing the Functions of Local Governments

Activation of rural processing factories implies activation of the local economy. This requires local government or related institutions to prepare and implement appropriate plans.

It is recommended that local governments proceed with comprehensive plans in accordance with local development, rather than following a uniform and rigid plan of the central government. That is, responsibility for the supervision of rural food-processing enterprises should be given to local government. The central government can then focus on subsidizing the general business environment. In particular, it is recommended that the Ministry of Agriculture and Forests establish a nationwide master plan for the planning, installation and operation of processing facilities. The next step would be to specify local plans for each province (local government level).

CONCLUSION

Because the major inputs of the food-processing industry are raw materials, the industry needs to simultaneously expand in order to meet demand for agricultural products

and to provide price support for agricultural products. Rural food-processing enterprises in particular have a positive impact on unemployed labor in the rural areas by providing off-farm income sources.

However, the liberalization of international markets, including those for agricultural products, has weaken the relationship between rural food-processing enterprises and agricultural production. This negative impact has created a need for developing rural food-processing enterprises that provide price-competitive agricultural products, in order to support farm income and stabilize prices of agricultural products. These are both reasons for the government to support rural food-processing enterprises.

Between 1989 and 1998, the government provided subsidies totaling US\$156 million (\$121,700 million) and loans totaling US\$243 million (\$189,800 million) to 1,395 enterprises. This development program is being extended to a total of 2,000 enterprises.

The present situation among government-supported rural food-processing enterprises and the management problems associated with insolvent firms have been examined in this paper. In addition, development programs have been examined, based on the current business environment of the local food-processing industry.

Each stage of rural food-processing enterprises has been examined, including start-up, production and marketing.

The establishment of local processing factories implies the stimulation of the local economy. This requires local governments or related institutions to provide the appropriate functions. Local governments should proceed with comprehensive plans in accordance with local development, rather than following uniform and rigid central government plans. That is, responsibility for supervising rural food-processing enterprises should be given to local government. The central government should then focus on subsidizing other areas of general business.

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INTRODUCTION

Malaysia has, for several decades, been making great efforts to enhance the agriculture sector. However, of late, the country has been moving towards becoming an industrial nation through Vision 2020. As a result, the manufacturing sector has surpassed agriculture as the economy goes through its transition to that of an industrialized state. The share of agriculture in total GDP declined rapidly from 20.8 percent in 1985 to 13.5 percent in 1995. It is expected to decline further to 7.2 percent by 2010, according to the Third National Agricultural Policy, 1998-2010 (NAP3). However, the agriculture sector will remain important to the Malaysian economy. In 1998, Malaysian Science and Technology Indicators reported that in terms of output structure the agriculture sector still contributed a relatively high share of 12 percent of total GDP compared with 35 percent held by the manufacturing sector.

To ensure that the contribution of the agriculture sector remained important to the national economy and its global competitiveness in the future, the federal government formulated NAP3. The objective of the plan is to maximize income through the optimal and efficient utilization of existing resources. NAP3 strongly emphasizes product development and agro-forestry approach. The government hopes to attract greater participation from private sector companies and individual farmers.

This paper discusses the prospects and the challenges facing agribusiness products with special reference to the experiences of the Farmers' Organization Authority (FOA). The input has been prepared using existing data and analyses from the FOA Planning and Evaluation Division. In the first section, the paper considers the national scenario, the background of the agriculture sector and its contribution to the Malaysian economy. The paper then focuses on some of the major FOA agribusiness achievements followed by the challenges in further developing agricultural products and businesses. Finally, the paper examines the experiences of the Farmers' Organizations (FOs) (Annex I) in their efforts to enhance agribusiness productivity.

The total land area of the Malaysia is about 330,000 km² of which 14.75 million ha or 42 percent are suitable for agriculture. Being close to the equator, the Malaysian climate is humid with rainfall throughout the year. The monsoon season occurs from October to December and the driest season normally from January to March.

The population of Malaysia, estimated at 22.71 million, comprises many ethnic groups such as Malays, Chinese, Indians, Ibans, and Kadazans among others. The Malays are the major ethnic group, making up approximately 50 percent of the population. Bahasa Malaysia is the national language but English is widely used commercially.

Malaysia is basically an agricultural country, being one of the largest producers of rubber, oil palm, cocoa, pepper and tropical timber in the world. Agriculture in Malaysia is dominated by oil palm as a major crop that covers approximately 2 million ha, followed by rubber plantation (1.8 million ha) and cocoa plantation (400,000 ha). Paddy is the main food crop, accounting for 650,000 ha. A variety of miscellaneous crops such as fruit, vegetables, flowers, tobacco and tapioca are also grown on small areas.

In recent years, the Malaysian agriculture sector has declined due to a shortage of labor, exhaustion of land resources and increasing emphasis on industrialization. The rapid expansion of the manufacturing sector has altered the relative importance of agriculture in the Malaysian economy, particular with regard to output and employment.

GOVERNMENT MINISTRIES INVOLVED IN AGRICULTURAL AND RURAL DEVELOPMENT

The principal government ministries involved in the administration and development of the agriculture sector are the Ministry of Agriculture, the Ministry of Primary Industries, the Ministry of Land and Cooperative Development and the Ministry of Rural Development.

The objectives of the rural development programs in Malaysia are poverty eradication and restructuring of society. In 1990, poverty was still prevalent among 22 percent of the rural population compared with 8 percent in the urban areas. To eradicate poverty among the rural population, the government is carrying out various development programs with special emphasis on agriculture. The focus on agriculture is understandable as approximately 80 percent of the rural population are involved in agriculture and agriculturally related activities.

NAP3, which guides the national development of agriculture, was founded on a vision of sustainable development of a dynamic agriculture sector. Under NAP3, the growth of agriculture was seen as being market-driven, commercialized, efficient and competitive. The overriding aim is to maximize income through optimal utilization of resources.

GOVERNMENT POLICIES IN AGRICULTURAL COOPERATIVES

In order to accelerate the development of rural cooperatives, the government established statutory bodies such as FOA and the Fisheries Development Authority (FDA) to enhance the development efforts. Since then, through concerted efforts, attempts have been made to identify the farmers' needs and develop them via the principle of self-help cooperation.

Under NAP3 the government has underlined several policies to enhance the prosperity of farmers institutions including:

- (a) self-help, self-improvement and change to spearhead innovations and active participation of FOs and agro-based cooperatives in the modernization process of agricultural development;
- (b) the establishment of a financial institution to effectively meet the current and prospective credit needs of farmers' institutions;
- (c) the introduction of a human resources development program specific to farmers' institutions. The objective is to meet the increasing need for capable management and technical personnel for managing the institutions on a self-reliant and self-financing basis; and
- (d) the formation of a federation of farmers' institutions.

ROLES OF THE FARMERS' ORGANIZATIONS AUTHORITY

Registrar's Function

The FOA Director-General acts as: (a) the Registrar for all FOs in Peninsular Malaysia as well as Sabah and Sarawak; and (b) the Registrar-General of agro-based cooperatives in Peninsular Malaysia.

Corporate Plan/FOA Vision

The corporate plan enables the execution of the planned programs and projects according to the work philosophy of FOA, which is "to manage FOs for the betterment of farmers". FOA is entrusted with the mammoth task of elevating the economic and social status of farmers. The objective is to develop the FOs into a strong movement that is able to encourage the farmers to undertake various activities while instilling cooperative principles and business culture.

FOA focuses its efforts in turning FOs into business entities in close association with its members. Basic activities undertaken by FOs to fulfil members' needs include the supply of agricultural inputs, credit, savings, marketing, processing, farm mechanization and farm production in order to assist them in their economic activities.

FOA places strong emphasis on turning members of FOs into modern and enterprising farmers, able to lead and perform farming activities on a commercial scale as well as produce sufficient food for the nation.

FOs will be the main producers of food for the nation once they can all carry out farming activities and food production effectively.

Agricultural Scenario Related to Agricultural Cooperatives

The contribution of the agriculture sector to GDP has continued to decline. In 1995, it was 13.5 percent, down from 14.6 percent in the previous year. That contribution was projected to decline further to 12.8 percent in 1996 and 10.3 percent in 2000.

Area Farmers' Organizations (AFOs) have played a beneficial and effective role in providing agribusiness services to farmers actively involved in agricultural production. It is clear that AFOs play a major role in the area where intensive agriculture is implemented. In some cases, the farmers depend solely on AFO services to market their agricultural products.

In areas where agricultural activities are less intense, the volume of AFO agribusiness is comparatively small and farmers' participation is slightly lower. This is normally only the case with limited cash crops or where farmers are less active, such as in areas covered by mature rubber or oil palm plantations.

BRIEF OVERVIEW OF FARMERS' ORGANIZATIONS

The structure of FOs forms a three-tiered organization comprising the National Farmers' Organization (NAFAS), which acts as the apex, 12 FOs and a number of AFOs in each State. FOs are established along the principles and aspirations of cooperatives. Through FOs, farmers are mobilized, organized and activated to form a strong, viable and self-supporting national farmers' movement.

It is a common misconception that FOs are actually not part of the government bureaucracy, but are merely cooperatives. They appear to be a unique body because their management practices are similar to those of cooperative institutions. They are owned and administered by the members themselves. The FOA relationship with FOs is considered to be essentially that of a Registrar and as a top management group. FOA support is provided for developmental functions such as training, project financing, infrastructure provision and staffing of FOs in the initial stages until the latter becoming self-supporting.

Currently, there are 200 AFOs, 12 State Farmers' Organizations (SFOs) and one NAFAS in Peninsular Malaysia, the Federal Territory of Labuan and the State of Sabah under direct FOA supervision. In addition, there are 68 AFOs and one SFO for which responsibility has been delegated to designated authorities. The total tally is 282 FOs throughout the country.

A committee headed by a unit chief manages each farmer's unit. The function of the unit is to facilitate socio-economic development as well as liaison work for easier interaction among the FO members and the local management. To further strengthen management and development of the unit, the members are categorized under one of three major groups: women, youth and production. Recently, the unit members have also been grouped in terms of their commodity base such as paddy, vegetables, cash crops, animal husbandry and other agribusiness activities.

ROLE OF FARMERS' ORGANIZATIONS

From now on, FOs will have to perform a more extensive role. It is hoped that the well-established FOs will help the nation remain strong in facing the challenges of the future global economy. The government will not be able to keep pumping millions of ringgit into FOs, so they urgently need to:

- (a) increase farm and food productivity;
- (b) expand agricultural production through commercialization and diversification of smallholding agriculture;
- (c) strengthen the economic position of the farming communities through the expansion of agribusiness activities;
- (d) establish agro-based industries and create employment opportunities in the rural sector; and
- (e) enhance the socio-economic development and welfare of farm families through villagebased human development and entrepreneurial development projects.

Each AFO is established and organized in a selected priority area based on the concept of area development, i.e., where concentrated agricultural development is to be promoted.

Essential services required by farmers are undertaken by the multipurpose FOs in order to promote a dynamic and commercialized form of agriculture. The services include:

- (a) agricultural extension services to enhance expanded agricultural production;
- (b) credit services that provide production loans and promote rural savings for farmers and farming families;
- (c) supplying activities that make available essential agricultural inputs such as fertilizers, insecticides and other agrochemicals, planting materials, seeds and daily necessities at fair prices;
- (d) mechanization services that provide farmers with reliable and efficient tractor services for land cultivation;
- (e) warehousing facilities to assist farmers in storing farm products;
- (f) processing facilities to enable farmers to process their farm produce;
- (g) transportation services that provide farmers with efficient, economic and reliable transportation of their products from the farm-gate to markets and mills; and
- (h) marketing services that assist farmers in the marketing of farm produce while also ensuring good prices and seeking new market outlets for farm produce.

PROGRAM AND ACTIVITIES

The development programs and projects under the Seventh Malaysia Plan (1996-2000) can be grouped under the six broad areas consistent with the vision of sustainable development, the mission and objectives. Those areas are discussed below.

Implementation of Agriculture Production Projects, Especially Organized and Market-driven Food Production

In line with NAP, projects that increase the production of food commodities are given priority. Expanding the commercial production of food commodities is essential to implementing import substitution, meeting export requirements and catering for the raw material requirements of industry. Efforts are being concentrated in areas where FOs have demonstrated a competitive edge, such as experience and skills (e.g., organizing paddy and oil palm cultivation). FOs also plan to increase their share in the production of vegetables, animal produce, fruit and horticultural products.

The main strategies that have been formulated for the above area are:

- (a) to elevate the role of FOs in organizing the participation of farmers in agricultural production activities and in motivating commercial and market-oriented production. This approach will facilitate FO efforts in providing credit services, supplying agricultural inputs, and mechanical and marketing services; and
- (b) to intensify the involvement of FOs in the implementation of agriculture projects as corporate and investment portfolios of FO businesses. These projects are to be managed profitably and organized as integrated farms in crop zones, estates and miniestates, or through the development of unutilized land.

Propagation of Small- and Medium-sized Industries

The agriculture sector needs to be modernized and its value-added increased through the processing of agricultural produce with better packaging. This includes paddy, oil palm, cocoa, vegetables, fruit, fruit juices, meat and fisheries products. The strategies are identified as:

- (a) encouraging FOs to participate in the industries sector, especially agro-based industries and downstream industries. Emphasis needs to be placed on agro-processing and nonfood, agro-based manufacturing; and
- (b) promoting the participation of individual entrepreneurs and the private sector together with FOs in setting up small-scale industries.

Marketing: the Basic FO Activity

A primary objective is to build FOs up as important and effective marketing organizations for fresh agricultural produce and agricultural food products by taking advantage of existing marketing channels. SFOs and NAFAS are to undertake the roles of wholesalers, manufacturers and exporters. The main strategies are to strengthen the linkages among FOs as well as between FOs and the private sector.

Implementing a Savings and Loan Scheme

Since all FOs provide savings facilities and short-term production loans to their members, FOA intends to strengthen this activity by setting up a scheme to ensure better mobilization and management of members' resources.

Encouraging Farmers Entrepreneurs

This strategy involves motivating individual farmer members and transforming them into entrepreneurs who will undertake business activities in partnership with FOs as a means of further commercializing agriculture and fulfilling the government objective of developing a *Bumiputra* commercial and industrial community. FOs will concentrate on those members who possess the traits necessary to succeed in business, have the potential to progress in the production of agricultural produce and services, and have the inclination to work with FOs to expand their business. The entrepreneurs' activities need to have synergy with FO activities, whether in production, processing, marketing, manufacturing or services, and are to be undertaken as joint ventures. The strategy is aimed at:

- (a) expanding and diversifying the business activities of members while encouraging them to cooperate with FOs;
- (b) undertaking entrepreneurship training in order to elevate the skills and expertise in technical and managerial aspects; and
- (c) establishing contacts with government and private agencies in order to increase the business volume of the entrepreneurs and FOs. The setting up of franchises and vendor manufacturing are possible options.

Improving FO Management Effectiveness

FOA has placed 65 percent of its professional staff in FOs to administer and manage FO activities. The FOs' own staff members are being given training with the objective of upgrading their skills and expertise.

PROGRESS IN ACTIVITIES IMPLEMENTED BY FARMERS' ORGANIZATIONS

The AFO activities predominate in agribusiness ventures such as input supply, marketing of agro-productions, development of government-alienated land, the provision of production credit to members, and mechanization services. The SFOs are concentrating on development, trading of farm inputs, marketing and general business. NAFAS business is predominately concerned with fulfilling government contracts for fertilizer and poultry supplies, land development, supplying agricultural machinery, etc.

Organizing farm production can be broadly categorized into two areas. The cultivation of land along the lines of the estate concept is being carried out either on the FO land or on

land leased out by farmers to FOs. The second category involves group farming on an organized basis, with farmers continuing to work their own land but with the management of activities being undertaken by FOs. At the end of 1998, FOs were cultivating 25,511 ha of land on an estate basis and 109,837 ha on a group basis, while also managing 38 aquaculture and 85 animal husbandry projects.

FOs are also involved in small-scale industrial projects on a commercial basis. In 1998, FOs were managing 98 such projects involving 62 farming projects. The business volume from small-scale industries amounted to RM103.1 million. The major contributor was the palm oil mill owned by the Johor State Farmers' Organization, with a business volume of RM78.89 million. In 1998, the total agribusiness volume of FOs was RM1,011.2 million, which was an increase of 24 percent over the 1997 figure. The agribusiness activities included agro-inputs, marketing of agro-produce, retailing of consumer goods, agriprocessing and farm mechanization services.

Non-agricultural businesses were operating petrol stations, construction projects, furniture workshops, etc. In 1998, a total of 1,479 such projects were being implemented with a business volume of RM460.24 million. In addition, FOs undertook credit service activities for 81,835 members to a total of RM139.63 million, and savings services amounting to RM12.15 million for 90,338 members. The total business volume of FOs under FOA jurisdiction amounted to RM1,471.49 million, with AFOs contributing RM731.24 million, SFOs contributing RM412.26 million and NAFAS providing RM327.99 million. This gives an average business volume of RM6.9 million per FO.

In 1998, FOs under FOA recorded a net profit of RM65.81 million, while AFOs recorded RM27.04 million, giving an average of RM135,200 each.

PROSPECTS AND CHALLENGES IN AGRIBUSINESS

Small Size of Farms, Demography of Farmers and Uneconomic Production

The average individual farm size is very small and uneconomical in cultivation. A total of 58 percent of the farmers own less than 1 ha, and each farmer grows produce using his own method.

There are two categories of farmers in Malaysia. Subsistence farmers, who account for 80 percent of the farming community, comprise the older and more traditional generation. Only 20 percent are commercial farmers who have a more modern, profit-oriented outlook. Youths with better education search for better occupational prospects in the manufacturing sector. The migration of youths from the rural areas to the cities is another problem, as it has considerably reduced the pool of farm workers and increased the area of unutilized land. Meanwhile, FO members involved in food production face low returns because of: (a) low productivity and the consequent inability to meet market demand; (b) inconsistent standards of quality; and (c) high operational costs due to high wages.

<Solutions>

In order to overcome the above challenges, the government has taken the following steps:

(a) The provision of government grants – FOs need a longer time frame to make use of modern technology in food production. They need the support of the government in getting loans to cover development and operating costs as well as to enable them to channel funds to the farmers for rehabilitating their farms. In addition, joint ventures are necessary with the private sector and entrepreneurs who have the technology, marketing outlets and capital/resources to increase food production. Special attention is being given to paddy, fruit and vegetable production. The state government is expected to allocate land to FOs for food production; and

(b) Effective organization of farmers' groups – Farmers are being encouraged to become members of FOs. Several incentives have been introduced to attract the younger generation to take up membership. Currently, there are approximately 500,000 farmers involved. Youths should be persuaded to stay in the agriculture sector to operate the agro-based industries and other agriculturally related activities. They need to be trained as new highly potential entrepreneurs. The Ministry of Agriculture organizes a Malaysia Agricultural, Horticultural and Agro-tourism Show each year as a platform to promote appreciation of the most successful farmers of the year as well as to update them on the latest global agricultural technology.

Information and Communication Technology to Increase Productivity

Recently, the government proposed a comprehensive *e*-agriculture scheme to encourage information and communication technology (ICT) usage in the farming sector, especially in the case of small-scale farmers. However, FOs do not have the expertise, experience and capabilities for venturing into this sector. Therefore, it will be necessary for the government to support FOs in obtaining ICT facilities to enable them to improve their efficiency and effectiveness in agricultural business activities. In addition, the farmers also need to be educated and trained in computer usage and how the Internet can help them to be competitive in their business.

<Solutions>

Under the initiative of the National Information Technology Council (NITC) *e*economy working group, a proposal was presented to the government to kick-start the project. It is now waiting for the allocation of funds to implement it. Three major areas are covered by the pilot plan, i.e., the farmers' network, the resource center and the trading exchange network, with a special target of selected fruit and vegetables in the initial stage.

Requirement for Competent and Experience Staff to Manage the Farms

A large plantation farm requires a competent staff to manage it on a cost-efficient basis. Since the returns from agricultural projects are unpredictable, FO members hesitate to invest large amounts of capital in this sector. As a result, they have limited sources of funds to run their farms and hire competent management personnel.

<Solutions>

In order to overcome the above constraint, the government has continued to invest in agricultural schemes. Under the Eighth Malaysia Plan, several development schemes have been approved for the implementation of food production projects.

Weaknesses in the Marketing System

The lack of funds and marketing outlets has restricted the FOs in the marketing of agricultural products to the consumer. Most FOs depend on wholesale markets as outlets for their products. This has resulted in price instability, due to the influence of supply and market demand.

<Solutions>

Cooperation between the government agencies and departments involved in research and other support services needs to be enhanced, so that transfers of technology can be effectively channeled to the target group.

Adequate funding has been provided to FOs and entrepreneurs to assist them in setting up factories or agro-based industries to produce value-added products and in establishing marketing outlets.

Greater incentives and support services have been provided to FO members so that they can continued farming on a commercial basis and become the major supply source of the country's food requirements.

AGRO-INDUSTRY AND FRUIT INDUSTRY POTENTIAL

Malaysia has recognized that the fruit industry is extremely important to agricultural business. Statistics shows that the production of fresh fruit increased from 638,100 mt in 1985 to 1,019,900 mt in 1995. The total export value of fresh fruit increased from RM72.3 million in 1985 to RM170.2 million in 1995. Major fruit exports included melons, durian, papaya, bananas and star fruit. Malaysian exports of processed fruit also increased from RM110 million in 1985 to RM165 million in 1995. Canned pineapple comprises the major share of processed fruit and juice exports, which account for 60-80 percent of total exports. However, Malaysia imports fresh fruit, processed fruit and juices amounting to some RM445 million annually. Thus, Malaysia is still a net importer of fruit and fruit products.

Prospects

In response to rising demand for tropical fruit, especially in export markets, and favorable government policies and incentives, the hectarage and production of fruit in Malaysia have increased dramatically in recent years. The total hectarage under fruit cultivation will be expanded from 260,000 ha in 1995 to 375,000 in 2010 while fruit production will be increased from 1.02 million mt in 1995 to 2.23 million mt in 2010.

Per capita consumption of fruit increased steadily from 39.7 kg in 1985 to 49.5 kg in 1995. A further increase to 65.1 kg is expected by 2010. On the export front, traditional markets are expanding while new markets are emerging in countries such as China, the Republic of Korea and East European nations.

The output of processed fruit products such as juices, puree and concentrates will be expanded significantly in the next decade or so. Based on production capability and demand, the potential exists for the country to enhance its production of selected fruit to cater for demand in the domestic market as well as create a niche in export markets.

Challenges and Constraints

Several challenges and constraints face the Malaysian fruit industry including:

(a) the general characteristics of Malaysian fruit industry, which mainly comprises mixed and unorganized small orchards. As a result, the sector is currently plagued by inefficiency, an uneconomical scale of operation, low technology and inefficient marketing systems. The collection of fruit from the scattered farms results in higher transportation costs and a high degree of post-harvest losses. Institutional support is generally ineffective due to the multitude of fruit crops and the scattered nature of the farms. These problems are further compounded by the seasonality of fruit production, which leads to oversupply during the peak season and *vice-versa* during the off-season. The problems are having a profound impact on the Malaysian fruit processing industry; and

(b) pest and disease problems, which plague fruit production and result in significant additional costs for implementing control measures.

In view of the above constraints, concerted efforts by both the government and the private sector must be made to strengthen research and development activities in the area of fruit production. Intensive market research and aggressive promotional activities should also be undertaken to ensure that Malaysian fruit production remains competitive.

NEW PRODUCTS

Recent advances in technology have created new speciality natural products, derived from herbs, medicinal plants, spices and aromatic plants. Global demand is increasing for natural products such as food and health-related herbal products, cosmetics and toiletries, aromatic and industrial products. Given the wide diversity of herbal and aromatic plant species and natural resources available in Malaysia, the potential for discovering useful and valuable products is good.

The main challenges faced by this industry are: (a) inadequate supplies of local raw materials for the production of speciality natural products; and (b) a lack of know-how regarding modern methods of production and processing.

To make Malaysia a major regional production center of new speciality products, research and development activities should be strengthened and intensified, particularly in areas such as the development of improved and cost-effective production technology for raw materials and end-products. Attractive incentives to promote the development of this industry by the private sector must be provided. In addition, aggressive marketing efforts must be undertaken in order to penetrate export markets and position these products favorably.

CONCLUSION

The Malaysian agriculture sector still has very good potential despite the shortage of workers and trade liberalization under the World Trade Organization agreements and the Common Effective Preferential Tariff scheme of the ASEAN Free Trade Area. However, to maintain the viability and competitiveness of the sector, the public and private sectors need to implement a number of changes. Policies and practices that promote growth and efficiency must be promoted while those that hinder progress must be discarded. Research and development activities and extension services must be strengthened in order to help the country increase crop production. Farming costs need to be lowered, product quality needs to be improved, and greater efforts made to ensure the sustainability of the environment.

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Subject	Achievements			
Subject	1998	1999	Increase	
Total farmers' organizations	282	282	-	
Total number of farm families	783,535	783,535	-	
Total membership of area FOs	651,965	664,295	12,330	
Percentage of farm families as				
members of FOs	83	85	2	
Paid-up capital of FOs (RM)*	67,876,932	72,985,134	5,108,202	
Average shares per member (RM)	104	110	6	
Assets (RM)	882,907,719	971,198,490	88,290,771	
Net profit (RM)	48,383,253	50,858,560	2,475,307	
Net worth (RM)	309,983,227	340,981,549	30,998,322	
Volume of business (RM)	1,748,270,110	1,362,974,659	-385,295,451	
Transport and mechanization (RM)	39,921,626	66,147,203	26,225,577	
Agro-industry (RM)	97,760,784	126,068,322	28,307,538	
Contract farming (RM)	67,234,629	25,041,402	-42,193,227	
Contract work (RM)	80,248,579	102,529,695	22,281,116	
Farm nurseries (RM)	1,372,718	2,650,885	1,278,167	
Building materials (RM)	3,697,115	2,433,594	-1,263,521	
Special projects (RM)	242,618,792	206,144,901	-36,473,891	

Note: * Malaysian Riggit.

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INTRODUCTION

Agriculture is the main sector of the national economy of Mongolia. The agriculture sector has two main subsectors; livestock, based on an essentially nomadic trans-human system, and cereal crops, potatoes and other vegetables. The livestock sector produces an estimated 88 percent of agricultural output and is characterized by movement over great distances and poor communications, making both the provision of services and marketing difficult. The cereal sector, which contributes the remaining 12 percent of gross agricultural output, is far more organized. It is based exclusively on rainfed production of spring wheat during the frost-free months of May to September from a potential arable area of 1.3 million ha. The traditional occupation in Mongolia is animal husbandry.

Mongolia has a population of 2.3 million, of which 43 percent are working directly or indirectly in agricultural production. The current land use is shown in Table 1. Natural grassland comprises 78 percent of the total land area.

rable 1. Lallu Ose ili Moligolia, 1998.					
Land Category	Area (000 ha)	Ratio (percent)			
Agricultural land	129,132	79.6			
Arable land	1,347	0.8			
Natural pasture	127,785	78.8			
Forest	14,400	8.9			
Others	18,650	11.5			
Total	162,182	100.00			

Table 1. Land Use in Mongolia, 1998.

AGRICULTURAL PRODUCTION

The land area in Mongolia suitable for agricultural production is large. According to the statistical information on Mongolia about 16 percent of total production comes from the agriculture sector. Before the 1960s Mongolia was a major cattle-breeding country. Since the 1960s, land distribution was initiated by the government and farm crops and vegetables are now extensively grown. The value-added of the agriculture sector is 35.7 percent of Mongolian GDP.

Livestock Sector

Livestock production is the mainstay of the national economy of Mongolia. It comprises two principal branches: extensive (pastoral) and intensive. About 95 percent of

total livestock in Mongolia is local indigenous species; camels, horses, cattle, sheep and goats. The extensive livestock sector serves as an important living source for rural people and it supplies animal produce to settlements and much raw materials to local industry.

Traditional livestock production has played a crucial role in the economy, both directly and indirectly employing approximately 43 percent of the population. Almost 73 percent of gross agricultural output comes from pastoral livestock production. Livestock reached 33.6 million head in 1999.

The main part of agricultural production comes from pasture cattle breeding, which is very much a seasonal occupation. Because of the breeding period of animals, winter and the beginning of spring are times of very hard work for cattle breeders. From spring until autumn the cattle graze in wide pasture areas in the order to fatten up for the cold winter. Major products harvested in spring include goat cashmere and hair, male camel hair, horse and cattle hair, followed in summer by milk, sheep wool, fall wool and camel body hair. The most preferred food among Mongolian people in summer is milk and other milk products, while they tend to consume more meat in the cold season. Meat is available in all seasons, provided animals are well-fattened. Moreover, cattle breeders collect food, specially milk products, for the winter. The overwhelming proportion of energy and vitamins are provided by dairy products. The most exportable livestock products are now goat cashmere, sheep wool, hides and skins and meat.

The main difficulties faced in cattle breeding are heavy snow in winter, very strong winds in spring and aridity in summer. In addition, there are other difficulties which have been brought about by the poor infrastructure in the rural areas and the shortage of petroleum. One of the significant changes in the lifestyle of the Mongolian people is increased urbanization. Urban dwellers now account for 50 percent of the population in Mongolia, of whom about 30 percent live in the capital, Ulaanbaatar.

Crop Sector

In 1999, crop sector output consisted of 169,400 mt of wheat, 63,800 mt of potatoes, and 39,000 mt of vegetables, among others. Although the country covers a vast land area, agricultural production is limited because of adverse natural climate, conditions and soil structure. In order to cope with such conditions and achieve good harvests, the latest technology is needed. Since the variety of plants in Mongolia is relatively limited, it is necessary to change plantings from field to field.

In Mongolia, where soil moisture content is low, and the planting season is short, it is important to begin planting at the proper time. This varies from year to year. In general, however, it is done between 10 and 20 May, or else the harvest cannot be carried out before the temperature drops to freezing in autumn. Vegetable cultivation is divided into two types, consisting of open field cultivation and greenhouse cultivation. The main vegetables grown by open cultivation are cabbages, carrots, onions, leeks and garlic. Other vegetables such as cucumbers, tomatoes, watermelons and melons are cultivated in greenhouses with heating. In open cultivation, planting or sowing are practiced from the beginning of May to the beginning of June when the risk of frost damage is lower. In protected cultivation, sowing and nursing start at the end of March. The cultivation of potatoes and vegetables is mainly concentrated in the areas surrounding the cities where there is enough soil moisture and relatively good soil.

Agricultural extension differs from region to region. For example, 50 percent of the grain harvest comes from the Central and the Northern districts, while 40 percent of the fodder harvest comes from the Central and Northwest districts.

In the past decade, Mongolia has changed from being a centrally planned economy to a free market economy. Moreover, state and collective farms have been privatized. Consequently, central government aid has been discontinued. The new structure of cooperation between private farmers is not vet well established.

After the dissolution of 19 state cooperatives in 1992, about 95 small companies were formed. There are vegetable companies that were privatized from state farms, each with 50-60 ha. In addition, the number of some small-scale private farms with 1-3 ha has recently been increasing. However, it will be years before they are able to increase the harvest and introduce new technology. Structural factors detracting from the efficient completion of tasks during the preparatory phase have a significant impact on the area sown, yield and returns. These factors include: a decreasing number of serviceable tractors; a decline in the quality of cultivation equipment; a lack of timely access to fuel; and a decline in the efficiency of management practices. Such factors are also symptomatic of the greater malaise of unavailability of funding. Inherited indebtedness, high interest rates, comparatively low farm-gate prices for wheat, poorly negotiated and utilized loans resulting in creditors seizing equipment, and slow repayments are the root of many of the problems that have emerged since liberalization. Mongolia's sustainable agriculture and rural development strategy must therefore be to:

- promote sustainable growth of agricultural production;
- CCCCCC reduce the risks of agriculture;
- enhance food security;
- target primary regional export markets for processed agricultural products;
- improve the agricultural management system;
- create an environment that is conducive to a more modern market-based agricultural system involving value-added processing and product manufacturing, sales and distribution:
- С fully encourage the agriculture sector to increase the volume and quality of food production in order to fully satisfy domestic food and raw material needs; and
- С protect and improve methods of traditional animal husbandry, and create financial guarantees to assist efforts within the sector to adopt a market system approach.

NATIONAL POLICY ISSUES AND OPTIONS

The government program of action includes basic policies on the livestock and crop industries, and research development in the agriculture sector.

The action program of the Government of Mongolia towards agriculture is aimed at stopping the decline in the farming industry by:

- C C creating a favorable legal and economic environment to ensure stable growth;
- improving arable land utilization and ownership through the increase of the fees for neglected arable land, and exempt companies, organizations and individuals from the land fee provided that they harvest a stable crop and efficiently utilize fallow and arable land;

- C meeting domestic needs for high quality grain seed through support for seed production businesses and research institutions;
- C increasing the utilization of irrigated arable land;
- C supporting initiatives and activities to produce fertilizer; C formulating and implementing a constructive credit pol
- C formulating and implementing a constructive credit policy for promoting the crop farming industry;
- C supporting efforts to establish business entities that provide technical services to crop farming companies and individuals;
- C intensifying the implementation of the "Green Revolution" national program;
- C accelerating the implementation of the "White Revolution" national program and improving the supply of dairy products to the urban population; and
- C improving food production standards and quality control system, and creating an environment that ensures food security.

The economy will be developed according to regional requirements, and the necessary infrastructure will be set up in the rural areas. Rural-oriented taxation, investment and credit policies will be implemented, which should create favorable conditions for people in each region to continue to live and work there. Towards that end, the government will:

- C implement a differentiated tax and customs policy designed to encourage investment and industrial growth in the rural areas;
- C set up a network of wholesale traders of raw materials, goods and foodstuffs in each region, and take measures to supply herders and the general rural population with cheap but good quality food and consumer products;
- C regulate by law the economic and legal relationships between herder households and farmers, and support initiatives by herders to improve their livelihood and business through the establishment of cooperatives and farms;
- C improve the system of maintaining herds under state protection in conformity with market forces, direct government policy towards supporting veterinary services, provide irrigation for pastureland and create buffer fodder stocks;
- C introduce a livestock insurance system;
- C take measures to recover within the next 2-3 years from the damage of 1999-2000. Under community scrutiny and participation, measures will be implemented on restocking herder households whose income level has dropped below the poverty line;
- C promote cooperation between herders, farmers, business entities and research institutions, and support initiatives designed to foster close cooperation between production and science;
- C improve the quality of work on fighting animal diseases (brucellosis, glanders, tuberculosis, leukocyte and anemia in horses), build up the capacity of veterinary laboratories and support efforts to intensify animal husbandry;
- C improve water supply on not less than 70 percent of the pastureland in the desert and steppe regions by constructing new wells and repairing damaged and abandoned ones;
- C expand the rights of citizens to land ownership and utilization and, on this basis, the relevant legal environment will be streamlined to ensure that citizens reap the benefits of the land for a long period;
- C raise interest in employing land for business purposes and improve land utilization, in order to ensure that citizens and organizations have long-term ownership of land;

- С streamline the mechanism of long-term land entitlement to attract foreign investment and ensure stable operation of foreign invested entities;
- С improve water supply and public services in *aimag* centers, introduce a set of measures on supplying the population with clean and safe water that meets hygienic and health requirements. Stage-by-stage measures will be taken to soften and purify for human consumption, water that has a high level of mineralization and hardness;
- С renew diesel generators in more than 80 soums, hook two aimag and soum centers to the central power grid; and
- С supply renewable sources of energy to large consumers in *soum* centers.

Better scientific and technological guidance will be provided for improved utilization of locally available resources, and modern techniques will be widely introduced into agricultural production through the mobilization of research institutions involved in agricultural research.

1. National Policy

National policy includes:

- С the provision of independent status to research institutions;
- C C C tax-free land possession and livestock activities;
- the introduction of yearly-based planning of research and extension;
- the implementation of a new operational scheme of research-experimentationproduction-business;
- С priority-based organization and financing of research and extension projects and programs:
- С more applied research in the agriculture sector; and
- С the mobilization of the scientific and physical capabilities of research institutes on enduser-oriented research for improved utilization of local resources.

2. Sectoral Policy

Sectoral policy includes:

- С an increase in the proportion of applied research (70-80 percent) to enhance its role in agricultural development;
- С improved undergraduate and postgraduate training and retraining of specialists working in the countryside;
- С strengthening the linkages between production and education through better extension and technology transfer;
- С more end-user-oriented research and scientific guidance in agricultural production; and
- С effective utilization of scientific capabilities in order to improve the technological and technical basis of agriculture.

PROBLEMS TO BE SOLVED FOR INCREASING AGRICULTURAL PRODUCTIVITY

The solutions to problems that are facing agricultural production to be increased are:

- C C improved livestock feed supply;
- better livestock disease control and eradication;
- С increased animal fertility and productivity through improved nutrition;

- C improved hygienic control and quality certification of animal originated products;
- C the development of new technologies in crop production; and
- C the introduction on new early ripening drought-resistant varieties.

With the objective of solving the above problems, Mongolia has implemented many national programs and projects supported by donor agencies (Table 2).

Tabl	e 2.	National	Programs

Program Title	Period
National program for improved livestock breeding	1998-2010
Pilot projects, "Daily Production", "Beef", "Improved Feed Supply"	1998-2005
National program "Animal Health"	1998-2010
Special projects, "Eradication of Bovine Brucellosis, Leucrosis and	
Equine Infections Anemia"	2000-2010
National Green Revolution program	1998-2004
Crop production survival program	1999-2005

BRIEF OVERVIEW OF DEVSHIL-TRADE COMPANY

Devshil-Trade is a vegetable production and trading company. Its first glasshouse was constructed in 1972 with technical and economic assistance from Bulgaria. The main objective of the company is to supply the residents of Ulaanbaatar with fresh cucumbers and tomatoes throughout the year.

The company currently produces 170 mt of tomatoes and 280 mt of cucumbers per year. Customers can be supplied with these products from 15 February to 10 November annually. At present, the company has three greenhouses on 6 ha and more than 100 employees, 10 of whom are management personnel.

Seventy percent of the output is sold in the local market as follows: 50 percent to local markets, 10 percent to grocery shops, 5 percent to restaurants and bars, and 5 percent to supermarkets. Another 20 percent is exported to the Russian Federation while 5 percent goes to permanent clients and 5 percent is sold to other buyers.

In an effort to increase the harvest of cucumbers and tomatoes, and to produce additional crops for supply during the winter, in 1994 the Government of Israel donated a drip irrigation system, fertilizer and various types of tomato seeds. As a result, the company has been able to reduce the amount of water used for irrigation by 300 percent, and the amount of fertilizer used as well as manual labor by 60 percent. In addition, output of cucumbers and tomatoes has increased by 40 percent and 30 percent, respectively.

The largest portion of the company's total expenditures comprises heating costs, salaries and product losses. In order to lower those expenses, the company undertakes many activities using its own resources. Construction began in November 2001 of a summer greenhouse, which will cover between 4,000-6,000 m², and the company plans to install a 30-mt underground storage facility for vegetables and fruit.

The government has provided agricultural enterprises with a 50-percent tax discount as a way of promoting the vegetable cultivation subsector. This means that only 7.5 percent of the company's profits are liable for tax.

Arjun Prasad Aryal Acting Marketing Manager Kalimati Fruits and Vegetable Wholesale Market Development Board Kathmandu

INTRODUCTION

The Nepalese economy is primarily an agricultural economy. The agriculture sector contributes 39.2 percent of total GDP. The real growth rate of the economy has been low because of the slow growth rate of the agriculture sector. In 1999/2000, the growth rate of real GDP was 6 percent. With the improvement in the global and regional economies, and political stability in the country, the growth of the Nepalese economy remained satisfactory with several economic indicators signaling positive development.

Agriculture is the main contributor to GDP in Nepal, as well as the main source of income and employment generation. Income generated through the industrial sector as well as internal market expansion of the non-agriculture sector depends upon the development of the agriculture sector. As such, a market-oriented approach and the commercialization process have been initiated in the agriculture sector. The goal of the Ninth National Plan is to attain higher economic growth, and thereby help to alleviate poverty through commercial farming, develop the industrial base by safeguarding and promoting agro-based enterprises, and the promotion of employment. The production of principal food crops and cash crops was projected to rise by 8 percent and 7 percent, respectively in 1999 and 2000; in 1996, the figures were 2.4 percent and 4.5 percent, respectively. This growth is attributed to the favorable climate, an adequate supply of agricultural inputs, an increase in cropped land area, and pest control.

Development of the industrial sector is equally essential to the rapid economic development of the country. Given that the majority of the population is dependent on agriculture, there is a need to create job options for them in the non-agriculture sectors through the development of productive industry.

In view of the share of agriculture in GDP (39.2 percent) and labor force engaged in the sector, it is evident that the productivity and the per capita income of labor engaged in agriculture is much lower than those in the non-agriculture sectors. Therefore, the incidence and depth of poverty is greater among workers in agriculture sector.

Ninth Plan and Agriculture Perspective Plan

The Ninth Plan and the Agriculture Perspective Plan (APP) form the basic policy document that guides the agricultural development programs in Nepal. It has adopted the policy of building a foundation for the development of agro-based industry through agricultural diversification and commercialization.

APP aims at intensive agriculture with strong complementarity among the priority inputs particularly irrigation, fertilizers, technology, roads in the Terai for cereal grains

concurrently with traditional cash crops and fertilizer, technology and high-value crop production in any given area in the Hill and Mountain regions. Central to the Plan is the expansion of commercial agriculture with maximum partnership of the private sector and cooperatives at all levels.

Expansion of livestock production for meat, eggs, dairy products and high-value commodities (fruit, vegetables, vegetable seeds, silk, honey, cut flowers, etc.) for export promotion, together with some traditional crops such as lentils, sugar cane, tea, ginger and cardamon, are expected to entail the parallel development of agribusiness. Further policy reforms are required to ease restraints on agribusiness growth.

APP has adopted a long-term strategy of changing the traditional subsistence farming system to a market-oriented or agribusiness-oriented farming system. It has formulated the strategy in order to provide required services and facilities, as well as a conducive policy for linking non-traditional cash crops to agro-based industries. Some areas of the strategy are detailed below.

1. Research

Agriculture research will be directed towards increasing the productivity of crops that are identified as having a high potential for achieving diversification and commercialization. 2. *Extension*

The scope of agricultural extension is being expanded to promote non-traditional cash crops that have a comparative advantage and market opportunities, as well as agribusiness promotion and agricultural marketing. The necessary extension and communication programs are being launched to reduce post-harvest losses and improve packaging, handling and grading.

3. Credit

Agricultural credit is being mobilized in such a way that production credit is integrated with marketing and agribusiness.

4. Training

Training courses are being provided that are aimed at enabling farmers to adopt appropriate land-use patterns that offer comparative advantages through agricultural diversification, based on the physical condition of the land, soil capability and soil conservation requirements.

Agribusiness Policy

The Ninth Plan categorizes agribusiness and export promotion as "national priority" programs. Accordingly, the necessary support is to be provided for the promotion of agribusiness including agro-industry. The internal and export markets are being continuously analyzed and monitored in order to identify agribusiness opportunities. Rural roads and rural electrification are being expanded to attract private sector investment in agribusiness. The promotion of agribusiness is guided by a strategy of evolving them as the main market for agricultural products. An appropriate insurance policy is being implemented to reduce the risks of agribusiness. As per the program of the Ninth Plan, an Agribusiness Promotion Division has been established in the Ministry of Agriculture and Cooperatives.

1. Agricultural Marketing Policy

APP emphasizes the need to improve the agricultural marketing infrastructure and to strengthen the marketing information system. Emphasis has also been placed on giving a

business orientation to the agriculture sector through entrepreneurship development. Agricultural marketing is considered an integral component of production. A market-led and demand-driven production system is envisaged.

Increasing private sector involvement in agricultural marketing is the basic policy. Efforts are being directed towards:

- C C C C C price information collection, compilation and dissemination;
- the development of rural and urban market infrastructures;
- construction of rural roads through the involvement of local communities;
- the encouragement of private sector participation in the construction, management and operation of market places;
- С government withdrawal from the marketing of agricultural inputs; and
- С assisting farmers' groups and cooperatives in undertaking marketing activities.

2. Agro-industry Promotion Policy

The enactment of the Industrial Enterprise Act, 1992 and the Foreign Investment and the Technology Transfer Act, 1992 were landmark policy steps towards creating a conducive environment for the private sector and foreign investment in agro-industry. The general objectives of the Acts are to achieve higher industrial production, promote local resourcebased and export-oriented industries, and attract private and foreign investment to agroindustries.

Export promotion and import substitution are the major features of the industrial policy. At present, 31 industries are accorded national priority status, nearly half of which are agro-industries. To enhance private sector participation, marketing of most agricultural and agro-industrial products has been liberalized.

A recent amendment of the Industrial Enterprise Act, 1992 (Revision 1997) has given the status of national priority industry to all industries categorized as agro- and forest-based industries. Through the modification of the Industrial Enterprise Act and the Foreign Investment and the Technology Transfer Act, the government has allowed joint ventures in all agro-related industries, with the exception of cigarettes, alcohol, beekeeping, poultry and fisheries

The list of national priority industries under the agro- and forest-based categories includes:

- fruit and vegetable production and processing
- dairy industry, animal husbandry, poultry farming
- tea and coffee plantation and processing
- aromatic and medicinal plant production and processing
- vegetable seed production
- fisheries
- beekeeping and honey production
- integrated sericulture and silk production
- floriculture production
- mushroom production/processing
- tissue culture-based industry and greenhouse farming
- CCCCCCCCCCCCCCC forest-related industries such as leasehold forest, agro-forestry, etc.
- cold storage for fruit and vegetables.

The government has provided some incentives as well as rebates to agro-industries such as:

- С the reduction of interest rates
- С electricity rate rebates for cold storage

- C C C C C C C C customs duty reductions on packaging materials/greenhouses
- a subsidy for packing materials for apples
- a transport subsidy for apples
- export incentives for some agricultural products
- a levy of a 5-percent agricultural improvement tax on agro-products imports.

WORLD TRADE ORGANIZATION AND AGRIBUSINESS OF NEPAL

Nepal's accession to the World Trade Organization (WTO) is under process. The impacts have yet to be seen. It is speculated that both agricultural and non-agricultural policy changes needed for Nepal to access WTO will have important impacts on the rural economy.

It is speculated that accession will add slightly to farm export prospects in the form of guaranteeing MFN (Most Favored Nation) access to WTO members' markets. Some technical assistance is expected in meeting technical and quarantine requirements of export markets. However, under the WTO regime, the actual gain to Nepal will depend on its capacity to formulate and pursue development strategies for agriculture under the WTO framework. Some constraints. inter-alia. are:

- С substantially high local production costs, low quality and irregular supply positions relative to those products coming from India and, to some extent, China;
- С high tariff rates on production inputs, packing/packaging materials, and cold chain/ storage equipment that have to be imported; and
- С the high cost of production and marketing due to, among other things, scale of production, poor support from the government for technology generation/transfer, and market development.

ROLE OF AGRIBUSINESS IN AGRICULTURAL DEVELOPMENT

Manufacturing Establishments

Agribusiness has been playing an important role in the overall economy of Nepal. More than 2 million farm families, thousands of private enterprises including traders, millers, agents, processors, farmers' groups and cooperatives, and a few parastatal organizations are involved. As such, the private sector continues to play a dominant role in agribusiness.

Marketing Institution: A Case of Successful Agribusiness

Before the establishment of the Kalimati Fruit and Vegetable Wholesale Market (KFVWM) in 1980, there were only five major fruit and vegetable wholesalers in Kathmandu. In the initial years of the operation of KFVWM, 80 percent of the wholesalers were Indian, whereas at present 88 percent of the wholesalers are Nepalese. Most of the Nepalese wholesalers now working in Kalimati started as farmers-traders. The majority of them are now well established as wholesalers/commission agents/farmer-traders. The promotion of local wholesalers has helped to establish effective linkages between producing areas and the Kalimati market.

Due to the assured market outlet, vegetable production has increased significantly in adjoining districts of the Hill region as well as the central and eastern Terai region. The total annual supply of vegetables and fruit to Kalimati market rose from 17,837 mt in 1989/90 to 139,000 mt in 1999/2000.

AGRIBUSINESS COMPONENTS

Agribusiness in Nepal consists of the production and distribution of certain agricultural inputs, the distribution of imported inputs, and marketing and processing of outputs. The linkages between those components varies according to the different commodity subsectors. In general, the linkages are very weak or limited, particularly between the input and output handling agribusinesses. There are few input producing or distributing agribusinesses such as the poultry, apiculture and floriculture subsectors, which link activities to output marketing or processing. In those commodity subsectors, agribusinesses produce and supply inputs such as chicks, feed, some medicines and extension services for the producers, as well as giving buy-back guarantees and even processing of the output.

Input Production and Distribution

Very few inputs are produced within the country and in such small quantities that they do not meet domestic requirements. Most inputs are imported and sold to the farmers through their distribution channels.

1. Seeds

Nepalese farmers are increasingly using improved seeds as a part of the strategy for increasing production. Farmer-to-farmer exchange (production and sale) of seeds is still the major source of seed supply in the country. The formal sector of grain seed business comprises a large number of seed producers and the government Agriculture Inputs Corporation (AIC) that distributes all over the country through its depots, cooperatives and private dealers. The private sector has recently become a significant player in the supply of vegetable seeds, saplings (fruit trees and some cash crops), and flower seeds and saplings. Most of the grain seeds and vegetable seeds are produced under contractual arrangements while the private nurseries produce saplings often "as and when an order is placed".

2. Fertilizers

All fertilizers are imported either by AIC or private sector agribusinesses, and then sold to the farmers through sales depots and dealers around the country. Previously, the fertilizer business was monopolized by AIC but in recent years the government has increasingly involved private agribusinesses in the import and sales of fertilizers.

3. Insecticides

The case of insecticides is same as that for fertilizers, but the involvement of private sector agribusinesses dominates this subsector.

4. Credit

The government-owned Agricultural Development Bank is the major source of agricultural credit in the country. In addition, the commercial banks and other financial institutions are providing credit to farmers. In the recent past, "micro financing" became an important source for agricultural credit managed by NGOs and informal "savings groups". The disbursement of agricultural credit in 1999/2000* amounted to NRs.3,881 million. The share of agribusiness and agro-industry, including marketing and godowns, constituted 56 percent of the total agricultural credit.

^{*} First eight months only.

Agricultural Outputs

The production of, and markets for, fruit, vegetables, milk, poultry, tea, fish and cash crops have, over the years, increased significantly in Nepal. The contributing factors are the rising population and growth in incomes, urbanization, the increasing number of tourists/ visitors and the export potential of processing industries. The national production levels of some selected agricultural products in 1991/92, and 1999/2000, as well as planned production in the Ninth Plan (1997-2002) are shown in Table 1.

C			(Unit: mt)
Cron	1991/92	1999/2000	1997/2002
Стор	Actual	Estimated	Planned
Cereal grains	5,821,000	6,985,000	8,242,000
Oilseed	88,000	123,000	155,000
Sugar cane	1,291,000	2,103,000	2,100,000
Legumes	161,300	237,330	300,000
Potatoes	773,000	1,183,000	1,300,000
Fresh vegetables	1,128,000	1,482,000	1,712,000
Fruit	502,000	446,670	500,000
Milk	871,820	1,097,020	1,326,000
Tea	n.a.	4,500	4,100
Coffee	n.a.	110	110
Meat	148,420	189,160	235,000
Fish	15,200	32,900	35,000
Spices	n.a.	95,000	90,000
Cardamon	n.a.	5,300	4,700
Silk	n.a.	46	44
Vegetable seeds	300	800	800
Eggs ^a	368	481	595

Table 1. Agricultural Production

Sources: FNCCI, 1999; and unpublished reports by the Agro Enterprise Center and selected commodity associations.

Note: ^a Million units.

Output Marketing

The agricultural (output) marketing system of Nepal during the past decade or so has changed. There is every indication that it is being transformed from a "traditional" way of catering to the "subsistence production" system towards the "modern organized" system catering to the market-led, private sector-driven and export-oriented production system. Converging towards an appropriate form of linkage between agribusiness and farmers is the basic aim of this emerging system. Contractual production, buy-back, cooperative marketing, and vertical as well as horizontal integration are the most important arrangements being applied in different commodity subsectors. Other than these, the farmers are involved in trading their products individually, through farmers' groups and cooperatives in such ways as:

- C directly to wholesale markets or retailers;
- C selling the products to assemblers, wholesalers or their agents at the farm gate or at assembly rural markets; and
- C retailing directly to consumers.

1. Grain

Transportation facilities changed the grain markets and the marketing system during the past decade. The advent of small sheller-type rice mills has complemented the changes in the traditional grain marketing system. As a result, the oligopolistic and often monopolistic paddy market in the Terai region has been transformed into a competitive market.

2. Fruit and Vegetables

The marketing system for fruit and vegetables is characterized by frequent market gluts, resulting in price crashes. A few wholesale and retail markets of varied size and nature have come into existence in some urban centers. This has helped the farmers and organize the marketing system for fruit and vegetables to some extent.

3. *Milk*

Marketing in the dairy subsector is still dominated by the Dairy Development Corporation (DDC) with a network of six milk supply schemes, 45 cheese production units and a chain of 39 chilling centers. The private sector network consists of 60 private dairies of different sizes, handling more than 19 million liters of fresh milk annually.

4. *Meat*

Meat marketing is completely handled by private sector agribusinesses. The live animal and meat marketing system is still very traditional and slaughterhouses have yet to be constructed. There are a few live animal markets that are the main supply source for butchers. Poultry breeders have adopted the buy-back system by the cold storage businesses that supply chicks, feed and medicines.

5. Cash Crops

Traditional cash crops such as sugar cane, tobacco, mustard seed, cardamon and jute have an established marketing system that in most cases link the farmers directly to the millers. The mills procure either directly from the farmers at the mill gate or through collection centers and often with prearranged prices.

The marketing system for non-traditional cash crops such as flowers, coffee, sericulture products, vegetable seeds, honey and angora wool is different. Because the crops were more recently introduced and the volume of transaction is relatively small, the marketing system cannot be generalized. Because these products are perishable and/or of a non-subsistence nature, there is a tendency by both farmers and agribusinesses to ensure markets (by farmers) and supplies (by agribusinesses). Thus, different types of linkages between the farmers and agribusinesses are taking shape in the marketing of non-traditional cash crops. The marketing of vegetable seeds, for example, mostly occurs in the form of a contract production system, while honey producers have adopted a buy-back system with agribusinesses that supply inputs as well as extension services.

MARKETING INSTITUTIONS

Public Institutions

Although the private sector continues to play a key role in agricultural output marketing, there are still some parastatal/public sector corporations such as the Salt Trading Corporation, the Nepal Food Corporation, DDC, AIC and the Agri-lime Industry.

Cooperatives

There are more than 3,000 primary cooperative societies in Nepal, which deal basically with agricultural inputs and production credit. Some of them are also involved in output marketing.

Support Institutions

A number of government and NGOs support agricultural produce marketing/trading and processing activities. The most important of these, in terms of creating market infrastructure and providing market information services, is the Marketing Development Directorate. Other institutions providing direct support include the Department of Food Research and Quality Control, Department of Measurements and Standards, Department of Cottage and Small Industries, and the municipalities. Their roles in some cases are those of service provider and in other cases as a law and regulation enforcing agency such as for food law, weights and measure, and sanitation.

Similarly, FNCCI, which is the apex body of private sector institutions, has also a technical wing called the Agro Enterprise Center (AEC). AEC focuses mainly on promoting and facilitating private agribusiness enterprises. It has been active in the trade/market promotion of many high-value products such as flowers, vegetable seeds, silk, fruit and vegetables, angora wool, tea, cardamon, coffee and dairy products.

The United Nations Development Programme (UNDP)/Nepal, in collaboration with the government is implementing the Micro Enterprise Development Programme (MEDEP), which is directed towards linking farm produce with micro-agribusiness. MEDEP is supporting micro-businesses in gaining value-added and/or processing agricultural as well as non-agricultural products.

There are nine commodity associations composed mainly of agribusinesses and some farmers. The associations do not carry out any marketing functions. In addition, there are commodity/function-based all-Nepal associations (about 10), which are involved in lobbying and not in marketing outputs.

MARKETING INFRASTRUCTURES

The government, with the support of FAO, UNDP and United Nations Capital Development Fund (UNCDF) has constructed 19 market places of different sizes. A wholesale market for fruit, vegetables and fish has also been established in the capital. Six other wholesale markets and 132 *Haat Bazaars* have been developed by the government, and an additional 924 *Haat Bazaars* are operational through local initiatives in different parts of the country. Most of the *Haat Bazaars* are facilitating the procurement of inputs and consumer goods as well as selling farm products.

AGRO-INDUSTRIES

Cottage and Small Industries

Despite the limited infrastructure, the number of processing units for raw materials and intermediate products is growing. Their number in 1998/99 was expected to reach 10,000 units with a total fixed capital investment of NRs.9.6 billion. These cottage and small-scale industries are the main sector providing processing services to farm products as well as value-added, and mainly include the production of bakery and dairy products, candy, pickles,

dalmoth/chips, ketchup/squash/jam, noodles, bamboo products, herbal/medicinal plant extractions, honey processing, floriculture nurseries and Nepali paper.

Medium and Large Industries

The number of agro-industries is increasing gradually. To a greater extent, these industries are absorbing local agricultural produce as raw materials or for value-addition activities. They maintain rural connections. More than two decades ago, primary processing industries such as rice, flour and oil mills were the predominant industries together with a few jute, sugar and beverage producing units.

In recent years, more diverse and bigger agro-industries have emerged to produce sugar, milk products, tea, beer, animal feed, vegetable ghee, tanned leather, dal, fruit and vegetable products, cigarettes, etc. By 1998/99, there were 142 medium and large agroindustries in operation while a further 27 were under construction.

Agro-industrial Production

These industries are contributing significantly to the production of agro-products for domestic demand as well as export. Most of these industries, except a few such as soft drink producers, breweries and vegetable ghee manufacturers, use locally grown primary produce as their raw materials to the extent possible.

By early 2000, 38 joint ventures industries based on agriculture, forestry, food and beverages, and tobacco products had been established and six were under construction. Investors from 17 different countries are involved in these joint ventures. Nearly 50 percent of the joint ventures are with Indian business partners while others have partners from Japan, the United Kingdom, Thailand, France, the United States, Germany and Switzerland. Most of the joint ventures so far are in industries related to alcoholic beverages, instant noodles, tea, sugar, vegetable ghee, cigarettes, leather, herbs and medicinal plants, dairy products and animal feed. However, in the case of a number of other products. Nepal is still dependent on imports.

INVESTMENT OPPORTUNITIES IN AGRIBUSINESS

The Ninth Plan is a landmark in agricultural development planning in Nepal. It has given due recognition to the importance of agribusiness and the needs for the diversification and commercialization of agriculture for overall growth. Such policies have opened up vast opportunities for agribusiness and linked it to the production system.

Based on market potential, the present development status and the varied agro-climatic conditions in the country, the government has identified commodity subsectors with high potential for achieving agricultural diversification and commercialization. Agribusinesses are being encouraged to invest in such enterprises and link them to small-scale farmers. The commodities include.

- * floriculture
- lentils
- * vegetable seeds
- * honey
- *
- apples
- * processed food
- * spices *
- * tissue culture
- herbs and essential oils * vak cheese

- orthodox tea
- sericulture
- angora wool and products
- * niger seeds
- * coffee

Experience suggests that strong links between agricultural production, agro-industry and related services are crucial to the commercialization and diversification of the agriculture sector. Agro-industry thus becomes important as a catalyst and promoter of those links. For agribusiness development, small-scale and marginal farmers have to be able to adopt highvalue crops with high-yielding varieties and to increase cropping intensity. Thus, credit must be easily available, access provided to irrigation and necessary extension services. As agricultural growth picks up, incentives will be needed to generate remunerative employment in agribusiness.

Agro-based Industries Suitable for Foreign Investment

The Foreign Investment and the Technology Transfer Act, 1992 does not permit foreign investment in poultry farming, fisheries and beekeeping. Potential areas in the agribusiness sector that are suitable for foreign investment include:

- С cultivation of vegetables (tomatoes, eggplant, broccoli, cabbages, lettuce, okra, sweet peppers, carrots, green chilies, cauliflower, snow peas, French beans)
- vegetable processing
- tomato production and processing
- mushroom cultivation
- cultivation of flowers (roses, carnations, orchids, chrysanthemums)
- ornamental plants
- cultivation of fruit (grapes, apricots, peaches, mangoes, avocados, lychees, oranges)
- processing of fruit (dried mangoes, dried apples, jams, jelly, squash)
- production of flower seeds
- production of vegetable seeds
- cultivation and processing of herbs
- cultivation and processing of soybeans
- cultivation and processing of tea
- cultivation of sugar cane and processing sugar
- cultivation and processing of fresh and dried ginger
- cultivation and processing of garlic
- integrated livestock industry
- milk production and processing
- baby food and nutritious food production
- animal feed
- poultry foundation stock with hatcheries and food mills
- aquaculture
- oilseed processing and oil extraction.

CONSTRAINTS ON AGRIBUSINESS DEVELOPMENT

The small-scale farmers lack access to the appropriate and improved technology needed to achieve production efficiency and cost reductions. They cannot compete in the market because of the input constraints. As a result, some processing industries rely on imports for their raw material supplies. The major constraints to the development of agribusiness and its links with farmers are discussed below.

Inadequate Infrastructure

Storage facilities, market centers, weighing facilities, and transport and communication systems form the basic infrastructure essential to agribusiness development. Inadequate infrastructure has resulted in high collection and transportation costs, high spoilage and wastage, and a lack of awareness of, and inability to, exploit market opportunities.

Inconsistent Legislative Framework

Some inconsistent Acts, rules and regulations constitute threats to private sector investment in agribusiness. Those laws act as brakes on policies oriented towards private sector development by restricting and delaying the movement of produce and the stocking of agricultural commodities. Some examples are:

- C the Essential Commodities Act, 1961 in relation to free movement of goods;
- C the Black Marketing Act, 1976 in relation to stocks and profit; and
- C the Local Governance Act, 1997 in relation to local taxes.

In addition, the following supportive Acts need to be introduced in order to promote private sector initiatives:

- C An Agriculture Marketing Act; Grades and Standardization Regulations; Contract Rules;
- C An Antidumping Act; and
- C A Safeguard Act.

Ambiguous Policies

Some policies are inconsistent or unfavorable to domestic agribusiness growth. Favored treatment to parastatal corporations and cooperatives, such as subsidies and remission on taxes and fees, has hampered private sector investment in agribusiness.

Poor Information Flow

A lack of appropriate and reliable information on technology, raw material supply, market opportunities and public policies is having a detrimental effect on agribusiness development.

High Production Costs

Small-scale production, sub-optimal management, low levels of technology, and less support and more control by the government has resulted in high costs of production in the agriculture sector. This results in costly and inconsistent production of raw materials and expensive transportation costs. Ultimately, agro-based industries cannot get sufficient and regular supplies of raw materials needed for enlarging the scale of production.

STRATEGIES TO OVERCOME CONSTRAINTS

For overcoming the above constraints, one of the objectives of agricultural development in the Ninth Plan is "to strengthen the foundation of agro-based industry and

industrialization through diversification and commercialization of agriculture". To meet that objective the government has adopted the strategy of:

- C formulating an appropriate policy and service, and initiating a support program to link cash crop development with agro-based industry;
- C encouraging the private, non-government and government sectors to supply agricultural inputs by making the market mechanism effective;
- C providing direct agricultural information and extension services, especially with regard to comparatively beneficial production, agribusiness promotion and market potential;
- C undertaking regular monitoring and interaction to solve agribusiness problems and extending support through proper initiatives; and
- C developing agro-industry as a major market outlet for agricultural products.

Recognizing that the commercialization and diversification of the agriculture sector are possible only through the promotion of agro-based industry, the Ninth Plan has formulated a separate agribusiness promotion program with the strategy of:

- C implementing overall economic policy adjustment and service-oriented programs for the promotion of agriculture and forestry-based industry;
- C providing and expanding markets for agricultural products by analyzing the potential of domestic and export markets;
- C developing market infrastructures in the potential pocket areas with close participation by private, cooperative and farmers' groups;
- C launching an education and training program through the cooperative mechanism in order to promote cooperative-based agro-industry; and
- C enhancing women's participation to improve activities such as harvesting, grading, packing and storage in order to produce quality products.

AGRIBUSINESS DEVELOPMENT PROGRAM

The government has initiated changes in the composition of agricultural production and the development of agribusiness to provide value-added through different programs. These changes are detailed below.

A market-led production strategy has been adopted as a new approach to agricultural development. This is a fundamental step in the new direction with institutionalization of "backward and forward linkages" under the aegis of the private sector, but complemented and supported by government policies and programs. Such efforts will make agribusiness much more competitive in the present-day context of the liberalized and globalized market environment. The government is slowly changing its agricultural strategy by confining itself to the implementation of the appropriate policy measures and the establishment of a partnership with the private sector in its production and marketing programs.

The extension system, training, marketing and promotion programs and other services are being mobilized to include the needs of commercial farmers and their groups.

Programs are being implemented that increase the involvement of the private sector, cooperatives, farmers' groups and NGOs in agro-processing, marketing and input distribution at the local level. In addition, their involvement in commercial production of identified potential products is supported through the provision of an integrated package.

Technical and credit support is being provided for establishing agro-based industry in selected areas with the objective of the procurement, semi-processing and processing of commercial products. The Ninth Plan target is to provide credit of totaling NRs.2,736 million to promote agro-industry in the private sector.

Support is being provided for utilizing opportunities within the South Asian Preferential Trade Arrangement (SAPTA) and South Asian Free Trade Area (SAFTA).

Alternative uses of food products are being publicized to encourage increased production on a commercial scale, diversification, value-added and employment promotion.

The programs focus on appropriate technology development in food processing and food quality control. Likewise, efforts are being made to increase the credibility of Nepalese products in domestic and international markets with the aim of promoting agribusiness. In addition, programs are being launched for developing technology for food industries in the areas of collecting, grading and marketing. For that purpose, coordination is being sought between producers, agribusiness and research institutes.

Programs are being implemented to increase productivity and bring about reductions in the costs of raw material supplies and export-oriented agricultural products.

Research activities are being undertaken with the aim of developing post-harvest technology, preservation and storage technology, and agricultural equipment.

Contract production is being used as one of the main vehicles for strengthening linkages between small-scale farmers and organized agribusiness/processing units. In addition, the government has adopted the policy of enhancing contract production for at least high-value cash crops.

A policy on deregulatory reform that will increase domestic trade by reducing production, marketing and transaction costs is being adopted through:

- C lower tariffs on key agribusiness inputs such as packaging materials, farm greenhouses, implements and cold chain equipment;
- C lower interest rates and strengthened credit guarantee systems; and
- C liberalized transport systems including deregulated shipping, movement of goods and vehicles, and the elimination of widely prevailing cartel systems.

CONCLUSION

The diversification and commercialization of agriculture is crucial to overall growth. Close linkages with the production system are also needed. Contract production is one approach for linking production, processing and marketing. The prospects of agribusiness depend on the successful implementation of the production programs.

For agribusiness development, small-scale and marginal farmers have to be able to adopt high-value crops and high-yielding varieties, and to increase cropping intensity through easily available credit, access to irrigation and necessary extension services, and other inputs. Infrastructure, legislative framework and an information system are prerequisites for agribusiness development.

Active participation of private, cooperative and farmers' groups with development agencies is important to the development of market infrastructure. To link cash crop development to agro-based industry, the formulation of conducive laws and appropriate policies is necessary. Agricultural information and extension services need to be directed towards raw material production, agribusiness technology and market potential.

The market-led production strategy must be adopted efficiently. This is a fundamental step in a new direction with the institutionalization of backward and forward linkages under the aegis of the private sector. Such efforts will make agribusiness much more competitive in the liberalized and globalized market environment. Programs need to be designed to increase the involvement of the private sector, cooperatives, farmers' groups and NGOs in agro-processing, marketing and input distribution.

Technology development in food processing and food quality control is indispensable. In addition, programs need to be launched for developing technology in the areas of collecting, grading and marketing agro-products.

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INTRODUCTION

Pakistan has 79.61 million ha of fertile land, a large network of irrigation canals, and a climate that is favorable to the cultivation of all types of food and non-food crops. The agrarian economy of the country can broadly be classified into two main activities: farming and agribusiness. Farming in Pakistan is largely carried out by the private sector. Agribusiness is operated by both private and public enterprises and includes the collection, storage, manufacturing and distribution of farm and forestry products and inputs. A brief review of the two sectors is given below.

Farming Sector

Previously, the sector was discriminated against and initial development efforts were directed entirely towards industry. But agriculture is the single largest sector in Pakistan and the driving force of the national economy. At present, it accounts for 26 percent of GDP. It provides a livelihood for 68 percent of the rural population, employs 46 percent of the workforce, and has a 60-percent share of export earnings, including processed agricultural exports. The sector also serves as the base for major industries such as textile and sugar production.

Agriculture will continue to be a dominating sector of the national economy, providing food for the people, raw materials for industry, and exportable surpluses of agricultural commodities. Future agricultural development strategies will be geared towards attaining high growth rates in agriculture by providing the right policies and institutional support to enable the sector to move forward and further enhance its contribution to the economy. Accelerated growth and development of the agriculture sector will not only improve the income, employment opportunities and living standards of the people in rural areas but also provide a base for increasing production of agro-based industries.

Agricultural Growth

The agriculture sector achieved a growth rate of 7.2 percent compared with 1.9 percent in 1998/99. The production of rice increased to 5,156,000 mt compared with 4,674,000 mt (1998/99), while the production of cotton rose to 11,240,000 bales from 8,790,000 in 1998/99, an increase of 10.3 percent and 27.9 percent, respectively. The production of sugar cane was an estimated 46,363,000 mt, which is a decline of about 16 percent compared with figures for 1998/99. The production of wheat during 1999/2000 totaled 21 million mt, an increase of 10 percent over the 1998/99 production of 17,856,000 mt. This increase was attributed to the enhancement of the wheat support price from PRs.240-300 per 40 kg, or a 25-percent increase, as well as the timely disbursement of agricultural credit to growers. The

production of onions, potatoes, mung beans and lentils also increased, which helped to maintain stable prices of those essential food items.

Agricultural credit amounting to PRs.27,912,600 was disbursed between July 1999 and March 2000 compared with PRs.30,652,000 during the corresponding period of 1998/1999. representing a decline of 8.9 percent. The decline was mainly due to lower demand for production loans. The fertilizer offtake during 1999/2000 was 2,818,000 nutrient tons, compared with 2,595,000 nutrient tons in 1998/1999, representing an increase of 8 percent.

Agribusiness/Enterprises

1 Current Status

The term "agribusiness" is normally defined to include the three functions of supply of farm inputs, farm production, and marketing and processing of farm products. Given the dominance of agriculture in the economy of Pakistan, there is enormous scope for the development of agribusiness and agro-industries. This situation is reinforced by the facts that agriculture and agribusiness products account for 80 percent of the country's total export earnings and that the sector supplies many of the major industries with raw materials in addition to consuming 33 percent of the output of finished industrial goods. Thus, the agribusiness and agro-industry subsectors have the potential for: (a) improving agricultural productivity, both qualitatively and quantitatively; (b) generating employment, particularly in the rural areas; and (c) creating a viable export base through development of forward and backward linkages with the farm production system.

2. Problems

The sector is, however, faced with many physical, policy and financial constraints. The lack of infrastructure in rural areas, particularly power, gas and water supplies, communications and roads, have hampered efforts to achieve a major positive impact on industrial dispersal. Public sector dominance of agro-industry has discouraged private sector growth in key agribusiness areas, i.e., the production of industries of fertilizer, farm machinery, edible oil and feed.

Promotion Policy

Realizing that the involvement of the private sector is essential to rapid industrial development, the government reviewed its policies and deregulated agribusinesses such as sugar, fertilizer and farm chemicals, farm machinery and implements, seed production, edible oils, fruit and vegetable processing, and animal and poultry feed.

The current government policy is designed to encourage foreign investment in industrial projects. The government supports the development of small-scale industries, which encompasses a wide spectrum of agriculturally-related businesses. At the same time, it has simplified the investment promotion program, sanctioning procedures, location policy, taxation policies, and incentives.

AGRO-INDUSTRIES AND AGRIBUSINESS IN PAKISTAN

Pakistan has a large number of large-scale agro-industries including:

- C C textile industry – 442 textile mills
- jute industry 12 jute mills
- C. fertilizer industry – 10 fertilizer units

- С sugar industry – 78 sugar mills
- C. vegetable ghee industry – 166 units.

Performance of Large-scale Agro-industries

The performance of manufacturing in general, and large-scale manufacturing in particular, appears weak as recent data show their growth was only 1.6 percent and 0.04 percent, respectively. However, their performance is, in fact, not too bad. The apparent weak performance is mainly due to a 24-percent decline in sugar production. Excluding sugar, large-scale manufacturing grew by 6.4 percent in 2000 compared with 3.5 percent in 1999. In fact, the performance of large-scale manufacturing, excluding sugar, has been by far the best in the past five years.

Agro-food Industry

The following industries are considered to be agro-food processing industries:

- Agriculture
- C C C Horticulture
- Cattle and sheep farming, and the production and processing of meat, milk, and related dairy products
- C C Processing, canning, packing, grading, and preservation of fruit and vegetables
- Inland farming and the preservation of fish, particularly in waterlogged and saline areas
- C C C C C C C C C The production and multiplication of high-vielding seed varieties
- Edible oil extraction
- Poultry farming, processing and feed production
- Cattle feed production
- Milk processing.

PERFORMANCE OF THE SMALL-SCALE MANUFACTURING SECTOR

A recent Federal Bureau of Statistics survey showed that since 1997/98 the growth of small-scale manufacturing had declined from 8.4 percent to 5.3 percent. Almost all investment in small-scale manufacturing has come from the private sector.

Importance of Small-scale Industries

It is generally recognized that economic growth of the developing countries crucially depends on development of small- and medium-sized enterprises (SMEs). They provide employment at lesser cost and their capital requirements is also low. They provide 80 percent of employment in manufacturing sector and generate one fourth of the export earnings.

POLICY MEASURES FOR THE PROMOTION OF SMALL-SCALE AGRIBUSINESSES

The growth of small-scale industries is mainly hampered by the non-availability of credit facilities. Realizing this constraint, in 2000 the government established a Micro Credit Bank for facilitating and promoting agribusiness. The Small and Medium Enterprises Development Authority (SMEDA), which was established in 1998, was also reorganized to provide technical assistance to potential small investors. In addition to the Agriculture Development Bank of Pakistan, the National Development Finance Corporation (NDFC), Regional Development Finance Corporation (RDFC) and commercial banks are also

promoting SMEs. In the provinces, the following organizations are involved in the promotion of small- and medium-sized industries:

- The Punjab Small Industries Corporation
- C C C C C The Sindh Small Industries Corporation
- The NWFP Small Industries Corporation
- The Directorate of Small Industries. Balochistan.

Technical/Vocational Training

The Ministry of Labour, Manpower and Overseas Pakistanis has established Skill Development Councils to assess the training needs of each geographical area, set priorities based on market demand, and facilitate the training of workers through training providers in the public and private sectors. In addition, the Technical/Vocational Training System will be modernized according to demands for new technology.

Small Business Finance Corporation

The Small Business Finance Corporation (SBFC), as a development financial institution, has been providing credit facilities since 1984 to small-scale borrowers for small and cottage industries. The initial lending operations of SBFC were later shifted towards self-employment schemes. From 1986/1987, SBFC began providing loans for the education of unemployed youth under the name of the Youth Investment Promotion Society. Between July 1999 and March 2000, SBFC disbursed PRs.202.49 million for 492 cases, thus generating employment for 1,476 persons. In addition, under the small-scale industries category, PRs.3.28 million was also disbursed during the 1999/2000 financial year.

FUTURE PLANS FOR AGRIBUSINESS ENTERPRISES

In order to promote small- and medium-sized agribusinesses, SMEDA is planning to develop a prototype of input supply companies, along the lines of support services for agricredit.

Commodity-based Value-added Chains

Through a more direct approach, SMEDA has set priorities for a few areas where it is working on the development of completely new value-added chains for certain agricultural products, by formulating strategies for:

- improving Lahore's milk market; (a)
- the production of beef specifically for export markets in collaboration with McDonalds (b) and the Livestock Department:
- boosting exports of mangoes and kinnoos; and (c)
- (d) vegetable production and the export of potatoes.

This approach is part of the introduction of value addition through processing technology that is being introduced in Pakistan.

The Pakistan Agricultural Research Council (PARC) in Islamabad, which is under the Ministry of Food, Agriculture and Livestock, has carried out a number of agribusiness projects in collaboration with the private sector (Tables 1 and 2).

Company/PARC Department	Technical Assistance	Duration
STEDEC, Lahore/GSRI, Karachi	NIMBOLI (Neem-based household insecticide)	Five years (1996-2000)
STEDEC, Lahore/GSRI, Karachi	NIMBOKIL (Neem-based crop protection pesticide)	Five years (1996-2000)
Mega-Agro (Pvt.) Ltd., Lahore/ ABI, NARC, Islamabad	Virus-free potato seed production and marketing	Three years from 10 June 1998
Vety-Care (Pvt.) Ltd., Rawalpindi, AHI, NARC, Islamabad	Poultry disease diagnosis and influenza vaccine development	Two years (renewed) from 1 February 1999
Bio-Lab (Pvt.)/AHI, NARC, Islamabad	Development and production of hydropericardium vaccine	Two years (renewed) from 3 February 1999
PHP* and Progressive Farmers, Swat/FMI, NARC, Islamabad	Solar dryer	Two years from 3 June 1999
Agritec Industries (Pvt.) Ltd. Multan/FMI, NARC, Islamabad	Sunflower thresher	Three years from 1 September 1999
Islamabad Feeds, Islamabad/ ASI, NARC, Islamabad	Improvement of poultry feed	Three years from 23 October 1999
Tapal Tea (Pvt.) Ltd./NTRI, Mansehra, PARC	Production, processing and marketing of tea	Ten years from 28 September 2000

Table 1. Ongoing Agreements between the Directorate of Agribusiness, PARC (HQS) and the Private Sector

Note: * PHP = Project for Horticulture Promotion.

Company/PARC Department	Technical Assistance	Duration
Greenland Engrs., Daska/FMI, NARC Vandana (Pvt.), Ltd. United Agro Engs., Daska/FMI, NARC ENGRO Chemical Pak. Ltd./Metrobiology, NARC, Islamabad	Low-cost, no-till drill Animal feed processing: urea molasses, block formulation Sunflower thresher Legume rhizobium technology (bio-fertilizer)	Five years (1992-97) Three years (1992- Five years (1993-98) One year (1998-99)
Zubair Associates, Karachi/FMI, NARC	Rice thresher	Five years (1993-98)

Highlights of Investment Policy, 1997

The new Investment Policy, announced on 21 November 1997, comprises three parts: policies, incentives and facilitation. The following measures have been taken in these three areas.

1. Investments

Foreign private investment in the manufacturing sector is already allowed on a 100percent foreign equity basis.

2. Policies

Repatriation of foreign investments is now allowed in the agriculture, services, infrastructure and social sectors.

3. Incentives

To keep Pakistan competitive in international markets, the following incentives have been implemented:

(a) Priorities

The manufacturing sector has been prioritized in four categories: (i) value-added or export industries; (ii) hi-tech industries; (iii) priority industries; and (iv) agro-based industries.

(b) Tariffs

Tariffs on imported plant, machinery and equipment are zero rated for agro-industry. (c) *Tax Relief*

A first-year allowance is allowed for each of the above categories.

Facilitation

In order to provide support services and utilities under one umbrella and remove procedural and operational bottlenecks, a range of reformative measures have been taken. These measures include establishment of national industrial zones, and development of transport and communication infrastructure.

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INTRODUCTION

The Philippines comprises an archipelago of 7,100 islands. The country is subdivided into three mainland geographic boundaries: Luzon, Visavas and Mindanao, with a total land area of 30,018,000 ha. About one-third of that area, or 10,336,000 ha, is agricultural land, of which only 1.3 million ha are irrigated farmland. In 1999, the population of the country was an estimated 74.70 million, with 15.56 percent (11.62 million persons) employed in the agriculture sector.

AGRIBUSINESS DEVELOPMENT IN THE PHILIPPINES

Philippine Agribusiness Sector

Agriculture, forestry and fisheries form the core of Philippine agribusiness. The sector also includes those enterprises in the manufacturing sector that are engaged in agro-based industry, as well as the portion of the service sector that deals with agricultural/agribusiness activities.

The majority of Philippine agribusinesses are small- and medium-sized enterprises They comprise 99 percent of the total manufacturing establishments, while (SMEs). contributing 54.9 percent of the employment opportunities and 28.1 percent of value-added in production.

SMEs can be classified under either of two types: (a) by asset size, excluding land value; or (b) by number of employees (Tables 1 and 2).

Table 1. Enterprise Classification by Asset Size				
Category	Asset Size			
Micro enterprises	₽150,000 and above			
Cottage type	Above ₱150,000 to ₱1.5 million			
Small enterprises	Above ₽1.5 million to ₽15 million			
Medium enterprises	Above ₽15 million to ₽60 million			
Large enterprises	Above ₽60 million			

Small and Medium Enterprises Council. Source:

Classifying agribusinesses by asset size is more difficult due to confidentiality/ protectionism. Classification by the number of employees is more transparent.

Table 2. Enterprise Classification by Number of Employees

Category	Number of Employees
Micro enterprises	1 - 4
Cottage type	5 – 9
Small enterprises	10 - 99
Medium enterprises	100 - 199
Large enterprises	200+

Source: University of the Philippines, Institute for Small-scale Industries, 1997.

Number of Agribusiness Manufacturing Firms and Employees

Based on the latest statistical survey carried out in 1995 by the National Statistics Coordination Board (NSCB), of a total of 10,219 manufacturing firms, 6,222 (61 percent) were agribusinesses that were employing 505,786 (76 percent) of the national workforce. Food manufacturing accounted for a 40.31 percent share of the total number of agribusinesses, while in terms of employment their share was 18 percent.

Performance of Agriculture

At 1999 constant prices, agriculture grew by 6.70 percent, a turnaround from the negative performance in 1998 of 6.56 percent. The figures include crops, livestock, poultry, fisheries, and agricultural activities and services. The crop subsector contributed the highest share at 10.62 percent (1999).

The trends in agricultural production from 1995 to 1999 were, by sector: cereals, 4.47 percent; major crops, 2.62 percent (other crops declined by 2.51 percent); livestock, 4.73 percent; poultry, 5.53 percent; egg production, 3.38 percent; and fisheries, 0.28 percent (Table 3).

					(Unit: 000 mt)
Item	1995	1996	1997	1998	1999	Growth Rate (percent)
Cereals						
Palay	10,540.6	11,283.6	11,269.0	8,554.8	11,786.6	5.15
Corn	4,128.5	4,151.3	4,332.4	3,823.2	4,584.6	3.27
Sub-total	14,669.1	15,434.9	15,601.4	12,378.0	16,371.2	4.47
Major Crops						
Coconuts	12,183.1	11,368.1	13,182.5	11,587.6	10,504.0	-3.04
Sugar cane	17,774.4	23,142.2	22,273.1	17,333.4	22,292.9	8.22
Bananas	3,499.1	3,311.8	3,773.8	3,492.6	3,727.4	1.97
Pineapples	1,442.8	1,542.2	1,638.0	1,488.7	1,518.5	1.50
Coffee	134.0	119.0	130.0	122.2	115.9	-3.28
Mangoes	593.5	897.7	1,004.7	932.1	800.2	10.45
Tobacco	63.7	64.9	65.3	62.0	56.1	-3.02
Abaca	64.8	70.4	78.1	71.2	74.0	3.50
Rubber	181.6	192.7	221.3	222.8	214.6	4.49
Cacao	7.9	7.9	7.8	7.4	7.7	-0.58

Table 3. Agricultural Crop Production in the Philippines, 1995-99

... To be continued
Item	1995	1996	1997	1998	1999	Growth Rate (percent)
Cassava	1,905.9	1,910.8	1,958.0	1,733.8	1,793.6	-1.32
Camote	667.9	654.2	631.4	554.7	550.9	-4.59
Peanuts	36.2	33.5	25.8	24.7	25.3	-8.07
Mangoes	26.7	26.8	27.5	28.5	29.1	2.18
Onions	88.4	83.3	85.4	87.0	85.1	-0.89
Garlic	17.2	18.6	20.2	12.8	8.8	-12.79
Tomatoes	155.8	162.6	166.4	133.0	143.7	-1.33
Eggplants	130.7	157.6	195.0	163.8	159.2	6.38
Cabbages	130.0	98.1	65.9	85.8	87.5	-6.30
Citrus fruits	100.6	139.7	143.0	133.5	146.8	11.14
Sub-total	5,254.4	5,281.2	5,315.6	4,955.6	5,029.0	2.62
Other Crops						
Other fiber crops	11.8	10.1	7.2	6.2	6.0	-15.06
Other root crops	236.0	290.7	287.8	220.3	202.7	-2.32
Tubers	46.1	48.4	47.8	47.5	49.2	1.68
Spices	58.5	66.6	67.6	57.1	58.8	0.70
Fruit-bearing vegetables	280.8	298.7	312.8	276.1	269.0	-0.80
Leafy/stem vegetables	140.2	155.2	182.4	165.3	168.6	5.21
Other legumes	52.6	56.1	57.4	51.8	53.6	0.67
Other fruit	670.3	568.3	705.2	686.1	497.3	-5.34
Others	6,795.1	8,197.4	5,319.6	5,755.5	5,721.3	-1.72
Sub-total	8,291.4	9,691.5	6,987.8	7,265.9	7,026.5	-2.51
Grand total	62,164.8	69,128.5	68,271.4	57,921.5	65,739.0	2.10
Livestock (live-weight)						
Carabao	104.0	99.3	106.1	113.1	119.0	3.54
Cattle	213.1	232.3	251.5	260.8	271.2	6.24
Hogs	1,213.1	1,296.5	1,357.8	1,406.6	1,466.7	4.87
Goats	70.7	70.2	70.9	72.0	73.9	1.12
Dairy cattle	12.1	11.5	10.2	9.2	9.8	-4.89
Sub-total	1,613.0	1,709.8	1,796.5	1,861.7	1,940.6	4.73
Poultry						
Chickens	747.9	851.8	929.7	919.4	929.2	5.75
Ducks	47.4	51.0	50.8	51.3	51.2	2.00
Sub-total	795.3	902.8	980.5	970.7	980.4	5.53
Egg Production						
Chickens	199.9	205.6	222.9	227.0	229.9	3.60
Ducks	47.7	54.5	53.0	53.1	52.6	2.69
Sub-total	247.6	260.1	275.9	280.1	282.5	3.38
Fisheries						
Commercial	893.2	879.1	884.7	940.5	948.7	1.56
Municipal	972.0	909.2	924.5	891.1	918.8	-1.32
Aquaculture	<u>919.8</u>	980.8	<u>957.4</u>	<u>954.</u> 7	<u>949.</u> 0	0.84
Sub-total	2,785.0	2,769.1	2,766.6	2,786.3	2,816.5	0.28

Continuation

Source: Department of Agriculture, Bureau of Agricultural Statistics, Philippines, 2000.

Gross Value-added of Agribusiness Enterprises

In 1999, the gross value-added of agriculture amounted to some P528 billion or 17.63 percent of GDP and 16.74 percent of GNP. These figures show that agriculture is still a major economic factor in the Philippine's economy. In 1999, the industrial sector recorded a 28.87-percent share of GNP. Manufacturing firms (largely small- and medium-sized food processors) accounted for 20.41 percent. On the other hand, the service sector under which agricultural and agribusiness services were lumped, recorded a remarkable share of 49.34 percent of GNP. At constant prices (1995-99), agriculture, forestry and fisheries grew by 1.61 percent, while the growth of the industrial sector registered 2.77 percent and the service sector accounted for 4.84 percent.

In 1998, based on value-added (current prices), the significant players were leather and leather products (15.8 percent), footwear apparel (14.0 percent), paper and paper products (13.8 percent), furniture and fixtures (13.0 percent) and food manufacturers (11.2 percent). In 1999, rubber products drastically increased their share by 19.1 percent over the previous year's -4.4 percent. Food manufacturing increased slightly with a 15.0-percent share, up from the previous level of 11.2 percent. The other players declined. In 1999, the gross value-added of agribusiness enterprises totaled about P399.1 billion (NSCB, 1999).

Agribusiness Trade Performance

1. Exports

Except for mangoes, which replaced abaca, the basket of commodities comprising the top agricultural exports had remained the same for a decade. In 1999, the top 10 agricultural products generated total earnings of US\$1.29 billion or 73.4 percent of the total receipts from agricultural products (Table 3) (Bureau of Agricultural Statistics, 2000). Coconut oil is the premier agricultural export product. It constitutes 19 percent of the total agricultural exports. The major markets for this product were the United States (48 percent, US\$167.81 million), the Netherlands (29 percent, US\$98.48 million) and Japan (7 percent, US\$22.7 million).

Fresh bananas are a consistent second to coconut oil, with a value of US\$240.70 million, FOB. The bulk of fresh Philippine bananas was shipped to Japan (64 percent), China 10 percent), the Republic of Korea (9 percent), the Republic of China (7 percent), and the United Arab Emirates (7 percent).

Pineapples and pineapple products ranked third with a value of US\$137.32 million, FOB. Major markets for Philippine pineapples were the United States (53 percent), Japan (18 percent), the Netherlands (6 percent), the Republic of Korea (4 percent); and Canada (3 percent).

Tuna took fourth place with a value of US\$129.65 million, FOB. Its major markets were the United States (26 percent), Japan (20 percent), Canada (10 percent), Germany (6 percent), and South Africa (69 percent).

Shrimps and prawns ranked fifth with an export value of US\$127.61 million, FOB. The bulk was channeled to Japan (78 percent), the United States (13 percent), the Republic of Korea (3 percent), Canada (1 percent), and Hong Kong (1 percent).

Sixth were desiccated coconut exports, valued at US\$89.18 million, FOB. The bulk of the exports were to the United States (44 percent), Germany (8 percent), the Republic of China (8 percent) the United Kingdom of Great Britain and Northern Ireland (6 percent), and Canada (6 percent).

Seventh was seaweed and carrageenan, which contributed US\$85.59 million. The major markets were Denmark (15 percent), the United Kingdom (14 percent), the United States (13 percent), France (13 percent), and China (4 percent).

Sugar exports, which ranked after carrageenan at US\$62.62 million, were all to the United States. Fertilizer was exported mainly to Vietnam (59 percent) and Indonesia (36 percent).

Fresh mangoes took tenth place, replacing abaca, amounting to US\$32.34 million, FOB. The top markets for mangoes were Hong Kong (59 percent) and Japan (39 percent). 2. *Imports*

In 1999, the top 10 Philippine agriculture imports (value in FOB price) were: (a) wheat and meslin, US\$351.53 million; (b) milk and cream products, US\$ 261.04 million; (c) rice, US\$218.49 million; (d) soybean oil cake, US\$114.88 million; (e) soybean, US\$103.78 million; (f) raw tobacco, US\$103.27 million; (g) urea, US\$75.72 million; (h) meat of bovine animals, US\$71.61 million; (i) cotton, US\$69.09 million; and (j) flour, meal and pellets of fish, meat and crustaceans, US\$37.59 million. A huge rise of 87.6 percent in rice imports was registered from 1995 to 1999, while soybean imports grew by 37.5 percent in the same period (Table 4).

In 1999, the overall value of agricultural imports by the Philippines amounted to US\$1.4 billion while exports totaled US\$1.29 billion. The Philippines remains a net importer of agricultural products despite its conducive environment for agriculture. This is attributed to the shift in the pattern of economic activities from agriculture to industry as well as the fast growth of residential development, which consumed a large area of prime agricultural land.

Investment in Agribusiness Enterprises

Based on Board of Investment (BOI) figures, between 1997 and 1999, the highest total investment reached \clubsuit 587 billion in 1997, while the lowest was \clubsuit 116.5 billion in 1999, attributed mainly to the Asian economic crisis. The cumulative value of total investments approved by BOI from 1997 to 1999 was \clubsuit 961.24 billion. The agribusiness subsector contributed \clubsuit 13.4 billion or 11.4 percent. The highest agribusiness investment of \clubsuit 9.56 billion was recorded in 1997.

Investment Priority Plan

Included in the Investment Priority Plan (IPP) for 2000 (which basically contained the list of preferred areas for investment) were agribusiness projects that were export-oriented, in support of Department of Agriculture programs or the Agriculture and Fishery Modernization Act (AFMA), as well as the mandatory list under the High-Value Crops Program (RA 7900), and Commercial Fishing Programs under RA 8550.

A new addition in IPP 2000 was the granting of incentives to registered industry clusters. A cluster is defined as a grouping of companies, together with their ancillary and supporting firms, within an industry in a particular area. Basically, it comprises agribusiness-structured operations wherein all key players are linked vertically and horizontally, supporting and supplying each other's needs.

CHALLENGES AND OPPORTUNITIES IN PHILIPPINE AGRIBUSINESS

Productivity Improvement

The low productivity of agricultural production is attributed to small and dispersed farm landholdings, which hampers operations of economies of scale. Industry clustering and a cooperative system are proposed for efficient and effective operations.

In directory		Growth Rate				
Industry –	1995	1996	1997	1998	1999	(percent)
Agribusiness Core						
Agriculture and fisheries	171,317	177,553	183,676	171,734	182,659	1.74
Forestry	1,527	1,898	1,328	1,372	748	-11.98
Sub-total	172,844	179,451	185,004	173,106	183,407	1.61
Industry Sector						
Mining and quarrying	10,681	10,166	10,338	10,624	9,738	-2.18
Manufacturing	203,271	214,614	223,672	221,151	224,667	2.57
Construction	44,492	49,339	57,322	51,791	50,988	3.97
Electricity, gas and water	26,080	28,006	29,357	30,315	31,259	4.87
Sub-total	284,524	302,125	320,689	313,881	316,652	2.77
Service Sector						
Transport and communications	47,366	50,878	55,067	58,640	61,726	6.85
Trade	123,430	130,247	135,326	138,641	145,406	4.19
Finance	33,852	38,513	43,509	45,445	46,311	8.27
Dwellings and real estate	43,765	45,576	47,297	48,065	48,350	2.53
Private services	55,461	58,231	61,040	63,883	67,582	5.07
Government services	41,644	44,099	45,219	46,244	47,950	3.80
Sub-total	345,518	367,544	387,458	400,918	417,325	4.84
GDP	802,866	849,121	893,151	887,905	917,382	3.42
Net factor income from the rest of the world	22,298	35,105	37,507	46,481	51,174	24.58
GNP	825,164	884,226	930,658	934,386	968,556	4.12

Table 4. GDP and GNP of the Philippines by Sector, 1995-99

Source: NSCB.

Development of Irrigation Systems

Only 1.3 million ha of farmland are irrigated, of which 815,000 ha (40 percent) are serviced by efficient full-scale irrigation. Total area under rice cultivation is 3.12 million ha.

Infrastructure Development

The lack of adequately maintained roads connecting farms to markets limits the mobility of farm product transportation. Investment in road and bridge construction offers opportunities for private investors.

Construction of Post-harvest Facilities/Trading Centers

According to the Land Bank, the post-harvest losses of rice in 1999 were recorded at 14 percent while perishable crop losses ranged from 28 percent to 42 percent.

Institutional Development

Continuous training is vital to strengthening weak farmer cooperative organizations/ associations.

Credit Accessibility

The high cost of borrowing from banks impedes expansion plans of agricultural SMEs. In the case of micro-enterprises, stringent bank requirements and voluminous paperwork discourage small-scale farmers from seeking loans.

Uncompetitive Production Costs

In the Philippines, production costs of agribusiness activities are much higher than its regional competitors (e.g., India, Thailand and Vietnam). The costs of sugar, electricity, fuel, packaging materials, transport and labor in the Philippines are high.

Uneven Product Distribution

The producers are not properly linked to SMEs (processors, exporters) because of erratic raw material supplies. Further, it is difficult to create a "win-win zone" between suppliers and buyers, which results in "pole vaulting".

Product Quality Standards

There is a need to improve quality production in order to meet market specifications/ requirements of global markets.

Policy Reforms

Unstable government policies discourage agribusiness investments.

GUIDING PRINCIPLES IN PHILIPPINE AGRIBUSINESS DEVELOPMENT

Market-led Development

From past lessons learned by the Philippines, agribusiness development projects now operate with preferential consideration for market opportunities, market specification and possible niche markets.

Private Sector-led Development

The government will not compete with, or crowd out, the private sector. Rather, it supports agribusiness entrepreneurs through market identification, institutional development, product promotion, and investment matching/promotion.

Advanced Technology-based Development

The initiatives of research and development institutions are geared towards product extension through continuous innovation, in order to expand agribusiness industries and provide convenient, ready-to-cook, attractive, high quality and nutritious consumer items.

Minimal Government Subsidy

The government, through the departments concerned, will focus on public investments in infrastructure such as irrigation systems, farm-to-market roads, post-harvest facilities, terminal markets and essential "public goods".

Trade Liberalization

In compliance with policies of the World Trade Organization, the Asia-Pacific Economic Cooperation forum and the Asian Free Trade Area, the Philippines is liberalizing trade in agribusiness.

Broad-based and Transparent Program Implementation

The Department of Agriculture initiates and mobilizes the participation of private organizations, NGOs, Agriculture and Fishery Councils, and the state colleges and universities in order to integrate the involvement of key sector players.

AGRIBUSINESS ENTERPRISE SUPPORT PROGRAMS

To face the challenges of globalization, the Department of Agriculture is implementing seven MAKA-Masa Programs: (a) grains program (rice and corn); (b) livestock program; (c) fisheries program; (d) high-value commercial crops program; (e) abaca program; (f) coconut program; and (g) sugar program. In support of these programs, the Agribusiness and Marketing Assistance Service (AMAS) of the Department of Agriculture undertakes the ongoing projects described below:

Market Promotion Activity

This is a proactive partnership between private sector/agribusiness entrepreneurs and AMAS in collaboration with other department units. Activities include regional agri-fairs (15 regions) and two national agri-fairs (Agri-Aqua Fair in May 2000, and Agrilink in October 2000). Internationally, AMAS regularly participates in the following international exhibitions:

- C Foodex, Japan 2000 (March 2000)
- C SIAL Beijing, China (May 2000)
- C Royal Show, United Kingdom (July 2000)
- C Producers and Supermarket Show, Anaheim, California (October 2000).

In 2000, the Department of Agriculture spent ₱25 million and generated booked sales/advance orders valued at US\$300 million.

Trade and Investment Missions

An inbound and outbound trade and investment mission was facilitated/coordinated, organized and attended by AMAS in tandem with agribusiness SMEs. Promotion collateral materials have been prepared for investment promotion.

Sample results include: (a) A P10-million investment in an ongoing aquaculture in Abra province that is expected to generate annual revenue of some P10 million; and (b) a cassava starch processing plant constructed by Rubicon Holding Corporation in Palawan Puerto Princesa City. The project includes a 500-ha nursery for cassava production.

'Agribusiness Investment Opportunities' Seminar Series

A series of commodity seminars is being conducted in all 15 regions of the country to identify potential investment areas in agribusiness in the rural communities, and link them to possible local and foreign investors. In the same manner, the seminars provide assistance in product development and packaging to existing and potential agribusiness entrepreneurs.

Market Interventions under the National Marketing Umbrella

AMAS is spearheading the establishment of a National Marketing Umbrella (NMU) depicted in Figure 1. It has initiated the creation of commodity councils for 13 priority commodities where the Philippines has comparative advantage: mangoes, abaca, coffee, coconuts, bananas, seaweed/carrageenan, tilapia, broilers, table eggs, onions, cut flowers and palm oil.

Market Information Dissemination

The AMAS web-page features commodity profiles, industry situationers, regional profiles, financial packages, export procedures and technology guides that are very useful to agribusiness enterprises (address: <<u>www.Philonline.com.ph/webdev/da-amas</u>). AMAS also conducts e-commerce awareness seminars.

Value-adding/Processing Support for Farmers/Fisherfolk

Provision of equipment/facilities to enable farmers/fisherfolk to participate in valueadding activities or the semi-processing of products.

Market Infrastructure Support Services

To ensure efficient and effective distribution of goods from the farm to the consumer, the establishment of terminal markets is under study at selected sites around the country.

Agribusiness Park

Strategic Agriculture and Fishery Zones are being promoted nationwide to encourage private investment in agricultural production, agribusiness processing, research and development, aquaculture production and other related agribusiness ventures.

Investment Matching/Market Links

To implement long-term investment matching/market links, area clustering is necessary for sustained operations of possible modalities such as joint ventures, contract growing, cooperative arrangements, etc.



Figure 1. Department of Agriculture-AMAS Market-led Concept on Supply and Demand Chain

Note: * DTI-CITEM = Department of Trade and Industry Center for International Trade expositions and Missions; DOT = Department of Tourism; and DOST = Department of Science and Technology.

Executive Order 133 (Tariff Exemption)

Executive Order 133 provides for tariff-free imports of agricultural inputs and farm machinery, and inputs and processing equipment for fisheries.

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INTRODUCTION

The island of Sri Lanka is located just south of the Indian subcontinent, and covers a land area of $62,700 \text{ km}^2$. With an estimated population of 19.5 million (1999 figure), the land/person ratio is quite low with a per capita cropping area of 0.1 ha. The economy of the country is a relatively open one.

Sri Lanka is an agricultural country. The agriculture sector comprises two distinct subsectors:

- (a) A highly organized plantation sector, producing tea, rubber, coconuts and other minor crops such as cinnamon, cloves, cashew nuts, pepper, fruit and vegetables. Sri Lanka is usually placed in the category of low-income countries in terms of per capita income, which amounted to US\$804 in 1997; and
- (b) A manufacturing sector that mainly consists of factories that process plantation crops (tea, rubber, and other small-scale industries).

CURRENT SITUATION OF AGRIBUSINESS ENTERPRISE DEVELOPMENT

Contribution of Agribusiness to GDP, and Export Earnings

Agriculture makes a significant direct contribution to the GDP of Sri Lanka through links with processing industries, and trade and services activities. Agriculture contributes about 23 percent to GDP (Table 1) and 24 percent to exports.

The agriculture sector performed well in the shifting of cultivation to crops with a higher comparative advantage, in parallel with trade liberalization. By introducing better plantation management under privatization, improved cultivation practices and more efficient distribution systems, the agriculture sector has continued to move away from subsistence production to high value-added products, based on improved technology and rational cultivation practices. This process will lead to the commercialization of agriculture and the development of agro-processing and agro-business activities.

In 1999, value-added in real terms increased as follows: agriculture, 4.5 percent; mining and quarrying, 4.1 percent; manufacturing, 4.4 percent; construction, 4.8 percent; and services, 4 percent.

Sector	Percentage
Food, beverage and tobacco	23
Textile, wearing apparel and leather products	42
Wood and wood products	1
Chemical, petroleum, rubber and plastic	16
Non-metallic mineral products	7
Fabricated metal products, machinery and transport equipment	4
Basic metal products	7

Table 1. Contribution of Difference Sectors to GDP, 1999

Source: Ministry of Industrial Development, Master Plan.

Sectoral Performance

The agriculture sector grew by 4.5 percent in 1999, the highest growth rate achieved since 1993, mainly due to increased production of paddy, coconuts, vegetables and other commodities.

In 1999, output by the "other agriculture" subsector (which consists largely of vegetables, subsidiary food crops, exports of vegetables and subsidiary food crops, minor export crops and animal husbandry) increased by 3.4 percent, accounting for almost one-third of the growth in the agriculture sector (Table 2). Vegetable production grew by 6.4 percent. Processing industries for tea, rubber and coconut kernel products grew by 3.8 percent (Table 3). The impetus to the growth in the processing industry comes from a 43-percent increase in output of desiccated coconut over previous years. The small industry subsector grew by 4.8 percent.

Subcenter	Value-added (1996 constant prices, SL Rs. million)					
Subsector	1997 ^a	1998 ^a	1999 ^a			
Vegetables	31,676	33,126	35,234			
Subsidiary food crops ^b	18,501	15,577	15,871			
Minor export crops ^c	7,874	7,875	7,666			
Sugar cane	1,203	1,202	1,281			
Tobacco	1,553	1,569	1,484			
Animal husbandry ^d	6,293	6,560	6,597			
Other	8,263	8,837	9,192			

Table 2. Composition of the "Other Agriculture" Subsector

Notes: ^a Provisional figures.

^b Subsidiary food crops mainly include potatoes, chilies, red onions, big onions, green gram, cowpea and kurakkan.

^c Minor export crops mainly include coffee, pepper, cinnamon, cloves, cashew nuts and betel leaves.

^d Animal husbandry comprises milk, eggs, poultry and other meats.

Itam	I Init	Prod	uction	Percent Change		
Item	Unit	1998	1999	Production	Price	
Tea	000 mt	280	284	1	-14	
Rubber	000 mt	96	97	1	-9	
Coconuts	Million nuts	2,552	2,808	10	12	
Paddy	000 mt	2,692	2,868	7	18	
Sugar	000 mt	61	65	7	-12	

Table 3. Production and Price Changes of Major Agricultural Items

In 1999, export earnings from foliage plants and cut flowers amounted to SL Rs.573 million. Chilies, black gram, sesame and green gram production levels were lower than in 1998. The production of poultry and sugar also improved in 1999.

Other export crops include: (a) spices such as cloves, nutmeg and mace, pepper, cardamoms; (b) commodities such as coffee, cocoa, sesame seeds, cashew kernels; and (c) other agricultural products such as areca nuts, betel leaves and essential oils. Unprocessed tobacco and pepper were also important items. In 1999, these commodities together contributed 65 percent of the earnings from the export crop sector (Tables 4 and 5).

	1	Ĩ	(Unit: mt)
Crop	1997	1998 ^a	1999 ^b
Coffee	2,165	2,343	2,422
Cocoa	1,709	1,904	1,538
Cinnamon quills	11,453	10,813	11,503
Cinnamon leaf oil	100	120	139
Pepper	2,912	3,776	4,557
Cloves	2,333	1,744	1,902
Cardamon	75	60	70
Nutmeg	1,108	1,257	1,335
Citronella	210	102	108

Table 4. Production of Other Export Crops

Source: Department of Agriculture.

Notes: ^a Revised; and ^b provisional.

Among other export agricultural crops, cinnamon accounts for the largest contribution by a single crop. Sri Lanka is the largest producer of cinnamon in the world and contributes about two-thirds of the total global production. About 90 percent of production is exported.

Currently, production of cinnamon leaf oil and citronella oil has increased, and exports of small quantities of other varieties of essential oils from spices such as pepper, nutmeg, mace, cardamom, mustard and cloves, are growing. The disaggregated export performance is shown in Table 5. Approximately 7,000 mt of fresh and dried fruit, including tamarind, were exported in 1999. The export value was SL Rs.476 million.

	Value (US\$ million)						
Product Sector/Subsector	1997	1998	Growth (percent)	1999	Growth (percent)		
Tea	718.47	826.81	7.31	658.29	-20.44		
Natural rubber	77.74	42.51	-45.32	32.35	-23.90		
Rubber products	100.11	112.42	12.30	105.53	-7.13		
Coconuts products and by-products	111.98	90.25	-19.41	125.01	38.52		
Food, beverages and tobacco	18.44	17.40	-5.64	18.15	4.31		
Wood and wood products	14.86	10.91	-26.58	10.38	-4.86		
Paper and paper pulp	11.19	11.52	-2.95	9.18	-20.31		
Other export crops	136.74	161.99	18.47	156.68	-3.28		

Table 5. Overall Export Performance, January to December 1997, 1998 and 1999

CURRENT STATUS OF INFRASTRUCTURE

The availability of common facilities such as roads, water and electricity supplies, and telecommunications to rural agro-enterprises is very poor. Although better roads are available in all the main cities in Sri Lanka, roads in the rural areas are poorly developed. The condition of the roads in rural areas is too poor to permit much agro-produce to be transported to the cities. Among the common facilities, telephones are the least available facility in the rural areas, which has hindered the growth of competitive agro-industries.

The main roads from Colombo (the commercial capital) to other provinces are well developed. Colombo international airport is very close to the export processing zones in Katunayake and Biyagama. While domestic air travel is possible through Ratmalana, Hingurakgoda, Koggala, Jaffna and Trincomalee airports, no commercial flights are available from those airports. Colombo harbor is the main port and small vessels can be anchored in Galle and Trincomalee harbors of the southern and eastern provinces, respectively.

TRENDS IN EMPLOYMENT

Approximately 72 percent of the population live in rural areas, and 40 percent of the workforce of 5.6 million are engaged in agriculture and related activities. The principal method of establishing an agribusiness is self-starting (80 percent). According to a recent survey of the workforce, the overall rate of unemployment had continued to decline from 15.9 percent in 1990 to 9.5 percent in 1998. Agro-industries have shown employment growth rather than decline during the past few years. Only 16 percent of the agro-industries recorded an employment decline, while 10 percent reported stable employment and almost 75 percent showed employment growth. The majority (70 percent) of agro-industry entrepreneurs in Sri Lanka reported a low rate of absenteeism among their employees.

Gender composition of the workforce in agro-industries is about 57 percent female and 47 percent male. The average wage for labor in the agriculture sector is around SL Rs.250 per day, whereas in the agro-industry subsector it is around SL Rs.300.

GROWTH IN AGRIBUSINESS ESTABLISHMENTS

Commercial cultivation of foliage and cut flowers has increased in recent years and exports of those products have good potential as a source of foreign exchange. Major markets for live plants are the Netherlands and Japan. Cut flowers such as carnations, roses and anthuriums are exported to Japan and the Middle East.

Some local fruit is processed into jams, cordials, chutneys, ready-to-serve drinks, etc. in order to cater to the domestic market (Table 5). There is very good potential for expanding fruit and vegetable processing, both for the domestic and export markets. In 1999, sugar production totaled 65,220 mt, which was an increase of 6 percent over the previous year. Sugar is produced by the Sevanagala and Pelwatte factories.

The livestock sector mainly comprises the dairy and poultry subsectors. In the dairy subsector, both cows' milk and buffalo milk production increased by 2 percent to 260 million liters and 82 million liters, respectively. At present, the country's milk supply is only sufficient for meeting about 20-25 percent of the total requirement. The balance is imported, mainly in the form of powdered milk. Milk collection by the milk processing companies (Kiriya Milk Industries of Lanka Ltd, Nestlé Lanka Ltd, International Dairy Producers Ltd and other producers) amounted to 109 million liters.

National egg production during 1999 rose by 3 percent to reach 898 million eggs. A major problem faced by small-scale poultry producers in Sri Lanka is the high cost of feed. Poultry meat production during 1999 increased by 10 percent to approximately 57,000 mt. Livestock is an essential component of agricultural activities.

The forestry survey of 1992 revealed that home gardens and rubber and coconut plantations provided 7 percent of the supply of construction and industrial wood. The number of rubber-based industries in Sri Lanka is given in Table 6.

Province	Total No. of Manufactur	Large-scale Industry		SMEs*	Province-wise	
	ing Units	Dry Rubber	Latex	Large-scale Dry Rubber	Latex	(Percent)
Western	268	38	14	182	34	80.48
Southern	27	5	1	15	6	8.11
Central	9	3	-	4	2	2.70
North Western	8	1	1	4	2	2.40
Sabaragamuwa	16	-	1	13	2	4.81
Eastern	n.a.	-	-	-	4	-
North Central	4	1	-	3	-	1.20
Uva	1	-	-	1	-	0.30
Northern	n.a.	-	-	-	-	-
Total	333	48	17	222	50	100.00

 Table 6. Distribution of Rubber-based Industries in Sri Lanka (on a Provincial Basis)

* SMEs = small- and medium-sized enterprises.

Sri Lanka has a mix of livestock. Currently, the country has around 1.64 million head of cattle, 760,000 head of buffalo, 540,000 goats, 11,000 sheep, 84,000 pigs, 9.14 million head of poultry and 11,000 ducks. Cattle and buffaloes have declined in numbers over the past three years. Poultry production has grown by 6 percent.

The number of registered agro-industries in 1996 is given in Table 7. These statistics have not been updated since 1996, and a survey of agro-industries in Sri Lanka should therefore be carried out.

Agro-industrial Residue

Paddy husk, a by-product of the rice milling industry, is available in abundance in Polonnaruwa, Ampara, Batticaloa, Mahaweli-H and Badulla districts. The annual availability of paddy husk is 470,000 mt. Total national production of sawdust in Sri Lanka is an estimated 100,000 mt per annum. This amount is adequate for meeting the fuel requirements of a 16-MW electrical power plant.

AGRIBUSINESS RESEARCH AND DEVELOPMENT

The annual government allocation for research and development is 0.2 percent, which is very low compared with that provided in other Asian countries. However, research and development for agribusiness is mainly carried out by the Department of Agriculture and the Industrial Technology Institution and, to very small extent, some NGOs. Some thrust areas for which research and development has been carried out are detailed below.

Industry	Product	No. of Establishments
Food manufacturing	Dairy products	51
	Canning fruit and vegetables	28
	Bakery products	498
	Food products	1,310
	Prepared animal foods	9
Beverage industries	Distilling rectifying spirits	17
	Wine industries	16
	Malt liquors and malt	3
	Soft drinks and carbonated waters	14
Tobacco manufacturing	Tobacco	2,379
Manufacture of wood	Sawmills and wood mills	399
and cork products	Wooden and cane products nes*	142
	Wood and cork products nes	108
Manufacture of furniture and fixtures	Furniture and fixtures	413
Manufacture of paper	Pulp paper and paper board	8
and paper products	Containers, boxes and paper board	47
	Pulp, paper, paper board items nes	68
Rubber products	Rubber products nes	936
Total		6,446

Table 7	Number	of Dog	istored /	A ara ind	Instriag	in	Cri	Lonko
	Number	of Keg	ISICICU P	Agro-me	iusuies	ш	SII	Lanka

Note: * Not elsewhere specified.

Rice

Research and development for the introduction of new high-yielding varieties, especially rice and other agricultural crops but excluding rubber, coconuts, tea, forestry and

Ayurvedic herbs, is carried out by the Department of Agriculture. Between 1990 and 1998, the Department introduced 11 new high-yielding, improved rice varieties for commercial cultivation in Sri Lanka.

Other Commodities

High-yielding maize, chilies, legumes, sesame, bananas, and tomato varieties have been introduced by the Department of Agriculture. In addition, the Department of Agriculture has introduced a new variety of papaya called "Rathna" with long-keeping and good transportability qualities.

Mushroom Cultivation

There are about 3,000 mushroom growers in the country and the product is steadily gaining popularity as a lucrative cottage industry. Two seed production organizations – a private organization and the Department of Agriculture – have begun disseminating oyster mushroom (*Pleurotus ostreatus*) seed to growers who are exporting and marketing locally.

Floriculture

The Royal Botanical Gardens has already introduced about 100 varieties of orchid hybrids. Recently, it introduced two new hybrids of *phalaenopsis* for commercial production to supply the export market.

There is strong demand for colorful varieties of anthuriums, and cut flowers and foliage plants for local and export markets have become a good agribusiness. These varieties are mainly produced by the exporters through tissue culture.

The exporters of vegetables use the concept of protected agriculture and hydroponics for vegetables such as capsicum, red radishes and lettuce.

Organic Fertilizer Production

The trend of using organic manure is growing, as it has yielded high harvests of many varieties of vegetables and fruit. As a result, the manufacturing of organic fertilizer is expanding in Sri Lanka.

Post-harvest Technology

With respect to post-harvest technology, the Department of Horticulture has developed technology for preserving chilies, capsicum and bananas during transportation and warehousing.

Ethral has been introduced for ripening fruit instead of CaC_2 . The formula used is 1 mR of ethral in 1 liter of water. Large-scale agribusinesses such as "John Keels" and "Agrisquad" now practice this method. These large-scale agribusinesses now use plastic crates to transport fruit and vegetables. In addition, vermiculture and effective microorganisms are used to produce organic fertilizers.

Currently, some entrepreneurs are exporting tamarind powder and goraka (*garcinia*) powder to the United States as these products have become popular among some Americans for slimming purposes. Modern technology has been developed and introduced to those entrepreneurs.

The technology for fresh-cut jack, tender jack and kohila has been introduced to cottage-level agribusinesses and is available in the market. New technology has also been introduced for mineral- and vitamin-fortified soy flour and mungbean flour blends and

extrusion cooked products. This type of product is now being manufactured by a few food-processing industries in Sri Lanka.

Bottling and canning technology for toddy has been introduced and one enterprise is exporting small quantities to Canada and Europe. Although the cultivation of medicinal herbs and herbal tea has been practiced from ancient days, the technology for packaging ready-to-brew herbal tea was introduced only recently.

The manufacture of geo-textiles from coir yarn to help efforts to prevent soil erosion is another new product that was recently introduced. Technology for producing coir dust blocks, coir dust logs and coir dust mats has been introduced by the Industrial Development Board for use as water retainers in soilless cultivation.

The Industrial Technology Institution has developed technology for making instant hoppers, instant cakes and weaning food. The Industrial Development Board has introduced technology for producing special rice flour for use in instant string hoppers.

Machinery Development

The National Engineering Research and Development Centre (NERD), the Department of Agriculture, the Engineering Division of the Industrial Development Board, the Rice Processing and Research Development Centre, NGOs such as Sarvodaya (which promotes self-help activities including agribusinesses), the Intermediate Technology Group and the Agricultural Machinery Manufacturing Association have all developed various types of machinery for agriculture and agro-industries.

In 1999, the Department of Agriculture introduced a manually-operated lowland paddy seeder, a rice reaper, a rice seeder, mechanical weeders for upland situations, a grain and legume processing machine and a fruit harvester. NERD has introduced dryers for drying genlow and other commodities, and a baking oven, while the Industrial Development Board has fabricated a popcorn machine, a vegetable cutter, a coir yarn-making machine, a noodle-making machine, a press and fitter for cashew apple juice, a coir balling machine and a turbo cleaner.

CONSTRAINTS ON THE GROWTH OF AGRIBUSINESS ACTIVITIES

Most of the agricultural and processed products from small-scale manufacturers are marketed through middlemen. This marketing chain has, in most instances, deprived agroprocessors of the opportunity to purchase safe, quality agro-products at reasonable prices. Therefore, an effective agricultural extension service is required in order to provide technical and marketing information to agro-processors. At the same time, agro-processors should be encouraged to enter into "forward contract agreements", which will benefit both parties.

Another problem faced by agro-industry is fluctuations of agricultural commodity prices due to uneven production patterns in the course of the year. For example, in 1999, the price of tomatoes in the wholesale market varied from SL Rs.7.24 to SL Rs.43.25 per kg. As a result, agro-processors were unable to cost their products properly. Again, if the forward contract agreement concept is implemented, this problem can be solved.

The lack of modern technology has seriously affected production cost levels, both in agriculture and agro-processing. One of the major problems faced by the agribusiness/agroindustry is the non-availability of the right product varieties at the right time for processing. For example, Sri Lankan farmers grow tomatoes, chilies, papaya, etc. that are not in demand by the export market. Major companies have to import tomato pulp from Australia. The government has therefore taken steps to privatize some of the seed production units under the Department of Agriculture, and will soon enact a Seed Act. The lack of quality seeds for suitable varieties is another major constraint faced by papaya growers in Sri Lanka.

Although credit schemes are available, rural agribusiness enterprises cannot obtain loans in time due to delays and strict conditions stipulated by the banks. This has hindered the promotion and development of agribusinesses.

Due to the current unrest in parts of Sri Lanka, the government has been compelled to introduce a 12.5-percent Goods and Services Tax (GST) and a 5.5-percent National Security Levy, which has forced up production costs of the small-scale agro-processors, as they depend on the big companies for various inputs. For example, small-scale yogurt manufacturers have to purchase yogurt containers from plastic cup producers. With the additional tax being levied on packaging materials, the small-scale producers cannot compete with the big producers, who are entitled to reclaim GST.

SUCCESSFUL PROGRAMS FOR PROMOTING AGRIBUSINESS ACTIVITIES

Dedicated Economic Centers

Dedicated Economic Centers are aimed at promoting area-specific activities, taking into consideration the locational advantages of each site and existing infrastructure. In 1998, the government allocated SL Rs.100 million for the establishment of Dedicated Economic Centers. The first center was established at Dambulla, in Matale district, which is centrally located to Central, North Central and Wayamba provinces. Agricultural produce from the rural areas of those provinces is rapidly transported to the center, which has become a hub for fruit, vegetables, onions, grains, spices and other agricultural commodities.

The value-added of all agro-produce – rice, cowpeas, onions, fruit and vegetables – occurs at this center. About 100 agro-enterprises are successfully engaged in different agribusinesses (packaging of grain and vegetables, rice milling and spice processing) at the center, which provides the agro-processors with access to quality raw materials in the required quantities as well as to low-cost infrastructure that is provided by the government.

The highly successful pilot program is handled by the Ministry of Constitutional Affairs and Industrial Development. The concept paper for the centers was submitted to the government by the Industrial Development Board. Other centers will be established in suitable locations around the country in order to promote agribusiness.

Credit Schemes

Credit schemes launched both by the government and various non-governmental agencies have been very successful in promoting the development of agribusinesses in Sri Lanka. The major credit schemes – Small and Medium Industry (SMI) Credit Projects – were launched by the Asian Development Bank and the World Bank. From 1979 to 1996, agribusinesses were developed mainly as a result of these loan schemes. Of the total 16,642 loans, about 5,149 were issued to agro-industries including food processing and other agro-processing enterprises, wood and wood products, and rubber products.

Another credit scheme, initiated and coordinated by the National Development Bank (NDB), was the Small and Micro-industries Leader and Entrepreneur Promotion Credit Scheme (SMILE). This scheme was successful in promoting agro-industries, food processing, horticulture and animal husbandry. This loan scheme has provided interest-free

technical transfer loans to enable borrowers in the above sectors to train staff, purchase quality control equipment, etc.

Other loan schemes have been operated by the Development Finance Corporation of Ceylon (DFCC) (a private bank), including Athahitha (Medium and Small Enterprise Lending Scheme), PRAGMA (Small and Medium Industry Loan Scheme), and the SUHADA Leasing Scheme.

The Pollution Control Abatement Fund (PCAF) is a scheme aimed at funding pollution control investment undertaken by industrialists. This is handled by NDB, DFCC and commercial banks. The fund has been mainly used by the agro-industries such as bio-tea producers, desiccated coconut manufacturers, natural vinegar producers and rubber product manufacturers.

The Regional Rural Development Bank (RRDB) operates a credit scheme through a network of 17 district-based RRDBs and 175 branch offices spread across 17 districts in support of rural enterprises. This scheme has also assisted the promotion of more than 30 percent of the country's small agribusinesses including fruit and vegetable stalls in rural areas.

The Sarvodaya Economic Enterprises Development Service (SEEDS) Programme is a special institution created by Sarvodaya.

The Gemi-Pubuduwa scheme is the result of efforts by the private bank, Hatton National Bank, to promote a wide range of agriculture, animal husbandry, agro-based industries and restaurants.

Other schemes include: (a) Janashakthi Banku Sangam, which is specially aimed at helping women in low income groups; (b) the North Central Province Participatory Rural Development Project Loan Scheme, which is a credit scheme for small and micro enterprises basically in the areas of agriculture and related activities of livestock, fisheries, agroprocessing and storage; and (c) the Perennial Crop Project that is operating in several districts to provide subsidy as well as loan schemes to agriculture and post-harvest processors.

Other leading organizations are the Southern Province Rural Development Project Loans scheme in Southern Province, and Samurdhi and Sanasa development credit schemes in Northern and Eastern provinces for small-scale enterprises and self-starters in agribusiness and other ventures.

Training and other facilities

The Industrial Development Board of Ceylon, through its nine provincial offices and 14 district offices, provides a total package of assistance in most cases as a service to promote and develop agribusinesses and agro-industries throughout the country. The total package includes the identification of investment opportunities, technology training and industrial estate facilities.

The Department of Agriculture, through its nationwide extension services, trains and supports farmers and agro-processors by the provision of agro-processing technology.

The Export Development Board of Sri Lanka, which assists agro-industries in gaining access to foreign markets through "Cyber Traders" and trade fairs, has a grant scheme to encourage product development work by agro-processors. Grants of up to SL Rs.3 million are available to entrepreneurs who develop novel agro-products for commercialization.

Export Village Programs are operated by the Export Development Board in several villages (processing of cashew nuts, chilies and other agricultural products) and have proved very successful in the promotion of agro-industries.

The Industrial Technology Institution (under the Ministry of Science and Technology) also provides technology training on agro-industrial products for entrepreneurs through a feebased service.

NGOs providing entrepreneurs with technology training on agro-processing are Intermediate Technology Group and Sarvodaya. In addition, Ag-Ent (a United States agency) has been providing assistance in agriculture and agro-industry in order to promote agribusiness in Sri Lanka.

A chain of 50 industrial estates has been established as a part of the Industrial Development Program with the objective of attracting entrepreneurs to rural areas of Western, Southern, Central, North Western, Eastern and Sabaragamuwa provinces. The program offers agro-industries good opportunities with access to low-cost infrastructure facilities provided by the government.

FUTURE PROSPECTS OF AGRIBUSINESS ENTERPRISE DEVELOPMENT

Demand for the red and green varieties of pepper (capsicum), cabbages and other vegetables is good, especially in Maldives and countries in the Middle East. Present trends in production, together with the availability of modern agricultural methods such as tunnel irrigation and greenhouses, provide scope for expanding the cultivation of these crops on a commercial scale to supply both for local and export market.

Demand for processing organic fruit and vegetables exists in domestic and export markets. Strong demand also exists for herbal products such as balms, toothpaste, skincare preparations, herbal teas, etc.

The use of organic fertilizer from bio-cultivation is increasing and the potential exists for even greater domestic demand. The prospects for processing coir dust into blocks for use as a water retainer and in soilless cultivation are also very high (Table 5).

Agribusinesses that offer good prospects are listed below:

- Green tea
- CCCCCCCCCC Cashew nut processing
- Fresh fruit and vegetables for export
- Processed fruit and vegetables
- Fresh spices (pepper, cardamoms, mace, cinnamon)
- Processed spices (cinnamon bark oil, nutmeg oil and other spice oils)
- Coconut shell charcoal
- Geo-textiles from coir varn
- Cut flowers and foliage plants (floriculture), including anthuriums (blood red, orange), orchids (arachnis, dendrobium, ascocends, oncidium), and foliage and other plants (dracaena, caladium, Ficus, Plumeria, yucca).

RECOMMENDATIONS

Taking into consideration the various points discussed above, the following actions are recommended.

- C The formation of an organization to coordinate training programs for agricultural and agribusiness activities. A Roster of Training Panels should be established for sector-specific technology.
- C A survey of the number of registered and unregistered agribusinesses.
 C Make credit facilities available at low interest rates and without long p
- C Make credit facilities available at low interest rates and without long procedures and delays.
- C Introduce an award scheme for product development work undertaken by agroindustries for commercialization.
- C Develop infrastructure for rural agribusinesses (roads, telephones, etc.)
- C Make available quality seeds and plant material for commodities that are in great demand for export by the private sector and the Department of Agriculture.
- C Provide market, technology and other information necessary for rural agribusiness entrepreneurs through a technology dissemination and resource center.
- C Enact an agro-industry policy.

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INTRODUCTION

Thailand is divided into four regions – Central, Northern, Northeastern and Southern. The Northern region is cool enough to produce temperate fruit and vegetables as well as vegetable seeds. The Northeastern region is generally very dry, while the Central and Southern regions are humid.

In 1996, the population totaled just over 60 million, 64 percent of which was located in the rural areas. Approximately 90 percent of the rural population, or almost 6 million families, earned a living through subsistence farming, particularly rice cultivation, field crops, fruit trees and perennial crop production. Most farming families grow single crops such as rice, cassava, sugar cane, soybean, corn, mango, rambutan and rubber trees.

The proportion of income per capita of those engaged in agriculture against that of other sectors was 1:13 in 1997. Several development programs have failed because no realistic assessment was made of the limited resource base of small-scale farming systems. The socio-economic survival pattern of householders was not taken into full account. The basic assumption is that small-scale farmers in Thailand will be responsive to development efforts if the technology fits their needs, aspirations and environment.

AGRICULTURAL SITUATION

Thailand covers 321 million rai,² of which some 41.5 percent (21.28 million ha) is farmland. About 17.5 percent of the farmland is currently under irrigation. Both irrigated and non-irrigated farmland is used to produce agricultural commodities for domestic consumption and export.

Among the range of crops of economic significance, rice is the most important and is grown in all regions on about half of the country's total cultivated area. Other major field crops (cassava, corn, sugar cane, oil crops and perennial trees such as para rubber and fruit trees) are cultivated on the remainder of the farmland. The utilization of farmland can be summarized as follows: rice fields, 51 percent; field crops, 24 percent; fruit trees and other tree crops, 17 percent; and other crops, 8 percent. The major crops are rice, maize, cassava and rubber. The cultivation area, yield, production and value of different economic crops in 1997/98 are shown in Table 1.

¹ Mr. Nualvatna was unable to attend the Seminar, but submitted this paper.

² 2.5 rai = 1 acre.

Crops	Area (000 ha)	Production (000 mt)	Yield (mt/ha)	Value (US\$ million)
Main rice crop	9,113.28	18,789	2.06	3,275.39
Second rice crop	1,156.96	4,791	4.14	825.37
Maize	1,396.64	3,832	2.74	421.52
Cassava	1,071.04	15,591	14.56	491.12
Sugar cane	943.52	46,873	49.68	594.12
Para rubber	1,831.04	2,169	1.18	1,262.90

Table 1. Cultivated Area, Yield, Production and Value of Crops in Thailand, 1997/98

Source: Office of Agricultural Economics, 1999.

The National Economic and Social Development Plans (NESDPs) also emphasize the commercialization of agriculture, thus moving away from subsistence farming towards intensive mono-crop production for export. However, the proportion of agricultural GDP declined to almost 25 percent in the third NESDP period and to just over 10 percent in the seventh NESDP period, respectively (Table 2). Table 3 shows GDP value in the agriculture sector from the third to the seventh NESDP, including crops, livestock and fisheries.

Table 2.	GDP Value	Third to	Seventh	NESDP,	1972-96
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					(Unit: Percent)
Sector	Third Plan 1972-76	Fourth Plan 1977-81	Fifth Plan 1982-86	Sixth Plan 1987-91	Seventh Plan 1992-96
Agriculture	25.08	21.39	19.01	14.88	10.30
Non-agriculture	74.92	78.61	80.99	85.12	89.70

Source: National Economic and Social Development Board (NESDB), 1997.

				(Unit: Percent)
Sector	Third Plan 1972-76	Fourth Plan 1977-81	Fifth Plan 1982-86	Sixth Plan 1987-91	Seventh Plan 1992-96
Crops	60.8	60.7	63.2	61.9	61.3
Livestock	8.8	9.9	9.5	10.6	10.7
Fisheries	9.8	9.7	9.7	10.7	11.7
Forestry	10.4	7.7	5.3	3.2	0.6
Simple agriculture pro- cessed products and					
agriculture services	10.2	12.0	12.3	13.6	15.7
Total	100.0	100.0	100.0	100.0	100.0

Table 3. GDP Value of the Agriculture Sector, 1971-96

Source: NESDB, 1997.

Export Earnings Situation

Exports of principal agricultural products in 1997 are detailed in Table 4.

	(emi Binnien)			
Commodity	Export Value			
Rice	65,088			
Para rubber	57,457			
Seafood	49,309			
Chilled shrimp	47,185			
Prawn and lobster	18,388			
Cassava products	14,154			
Refined sugar	11,258			
Fresh chilled and frozen fowl	6,352			
Prepared and canned fruit and vegetables	5,915			
Canned pineapple	5,902			
<i>Note:</i> * Value based on an exchange rate of US \$1 = $B40$.				

 Table 4. Exports of Principal Agricultural Products by Thailand, 1997

 (Unit: B million*)

Employment

The workforce in the agriculture sector of Thailand has steadily declined from 80 percent earlier in the past century to only 40 percent at present. Farm labor undergoes changes on a seasonal basis because agriculture still depends mainly on rainfed cultivation. Thus, the number of those employed in farming activities declines during the dry season and gradually increases during the monsoon season.

AGRIBUSINESS

Agribusiness originated with the use of manmade inputs to take control of the growth of plants and animals, and humans began to consume food and fiber produced by other humans. Subsequently, the chain of industries directly and indirectly involved in the production and marketing of agricultural products became more and more diversified and complex as society developed.

Agribusiness is considered to be an important component of the agricultural system in rural and regional development. It increases market demand for farm products and contributes to employment generation. Therefore, the development of agribusiness has widened the opportunity to increase farm and non-farm labor earnings of farmers and rural residents through the utilization of resources in rural areas.

During the past three decades, national development has steadily grown, particularly in the cases of industries, services and agriculture. Natural resources have been greatly utilized, both directly and indirectly, in production in each sector. Agricultural inputs (i.e., fertilizers and chemical pesticides) have been brought into use. The impact of such development has included deforestation, soil fertility loss, drought, flooding, serious outbreaks of plant pests, and atmospheric pollution, resulting in low production, low prices and high production costs.

In more recent years, agricultural development policy has placed emphasis on increasing production mainly through reliance on natural resources, the transfer of technology and the support of certain production inputs. Such development can achieve the goals of increased production that is sufficient to meet domestic consumption demands, import substitution, export requirements and raw materials for local processing industries. However, such development has had a significant adverse impact on farmers. The income gap between farmers and those engaged in other occupations has widened to the point where farmers are now considered as the poorest group.

The need to alleviate the various obstacles has been recognized. Those obstacles include:

- (a) income problems faced by farmers; and
- (b) the downward trend in the growth of the agriculture sector due to factors such as irrigation water shortages, inconsistent distribution and lower amounts of rainfall, deterioration of farmland, growing competition in global trading of agricultural commodities, and domination through protectionism by several nation groups.

The Ministry of Agriculture and Cooperatives has therefore established a policy of restructuring the agricultural production system with a view to maintaining the growth rate of the agriculture sector and raising farmers' income. The policy will divert emphasis from the promotion of increased production to the increase of farmers' income and the alleviation of prevailing problems of poverty. This will be done by providing the farmers with alternative income-generating opportunities suited to the potential of their area, their readiness to take up such opportunities, and market opportunities. Thus, they will be able to make decisions on restructuring their own production system while balancing the utilization of natural resources.

Problems in Agro-industry

Agro-industry in Thailand is facing several problems, among which the problem of managing raw material quality is the most obvious.

1. Processing Problems

Raw material supply is a serious problem for processing industries, in terms of both quantity and quality. The processing industries have been attempting to solve the problem of unreliable supplies in various ways, which include:

- C direct purchasing during the harvest period at market prices.
- C contractual arrangements with farmers and through middleman.
- C producing raw materials on their own plantations.

Due to the lack of technical expertise and/or adequate capital, some small- and medium-scale factories have installed obsolete or used production machinery imported from closed-down plants. This contributes to low productivity and poor quality of finished products, which adversely affects exports and payments to farmers for raw material supplies.

2. Farmers' Problems

Production schedules appear to be the main factor behind unreliable raw material supplies. Most farmers are unaccustomed to following a fixed schedule of cultivation, such as planting times, irrigation and chemical input application. Moreover, a number of farmers are still applying improper techniques for handling harvested produce, i.e., cleaning, grading, sorting and pre-cooling, etc. before transportation to the collecting houses or factories. This results in the deterioration of raw material quality.

3. Agricultural Marketing Problems

(a) Small-scale production

Most farmers are small-scale operators, with little or no bargaining power. Farmgate prices are determined by the marketing mechanism prevailing during different periods. In addition, the price of produce is an important factor in a farmer's decisions on increasing production and improving quality.

(b) Lack of quality produce and irregular supplies

Although the fruit processing industry in Thailand is highly developed, the lack of high-quality raw materials and irregular supplies has become a primary constraint in preventing the industry from operating at full capacity. This problem also adversely affects exports.

(c) Poor harvest and post-harvest management

Proper harvesting techniques and post-harvest handling are crucial to prolonging shelf life and decreasing losses of agricultural products. Most farmers pay scant attention to harvesting and post-harvesting methods, and many merchants neglect proper post-harvest handling practices.

(d) Poor packaging

Poor levels of know-how as well as the lack of standard requirements for packing container sizes and materials for local use result in crop damage during post-harvest handling and transportation from farms to markets or processing factories. This is particularly the case with horticultural crops.

(e) Lack of marketing facilities and infrastructure

Central wholesale markets are usually located far away and are few in number. There are not enough market facilities (i.e., storage space, drying floor, dryers, weighing scales, etc.) for field crops and horticultural crops. In addition, packaging materials, equipment, cold storage, transportation, etc. are inadequate.

(f) Lack of an efficient marketing information system

Farmers are handicapped by the lack of timely and accurate market information covering production, daily prices and market demand. Such information is necessary for negotiating prices and planning shipments of produce.

(g) Export quality standards

Quality standards set by importing countries for horticultural products differ from country to country. This makes it difficult to manage the quality of such products.

(h) *Competition in international markets*

The trade situation with regard to agricultural products in international food markets appears to be in a difficult situation, due to severe international competition and import-specific trade barriers. In addition, domestic prices of major Thai crops depend on the export volume.

(i) Lack of airfreight space and high costs

The lack of airfreight space and high costs of air shipment are major constraints facing Thai exports, especially in the case of horticultural produce.

AGRICULTURAL EXTENSION POLICY MEASURES

In order to maintain the agriculture sector growth rate, increase competitiveness of agricultural exports, accelerate production for import substitution, create jobs in rural areas

and prepare for global climate change, the Ministry of Agriculture and Cooperatives has adjusted its action plan for the final period of the eighth NESDP to include:

- restructuring of the agriculture sector; (a)
- (b) an increase in production efficiency and a reduction of production costs;
- the improvement of product quality and processing; (c)
- the restructuring of the Ministry of Agriculture and Cooperatives; (d)
- the promotion of rural savings; (e)
- (f) management of chemical fertilizers and agro-chemicals;
- management of forests, soil, water resources, coastal areas and biological resources; (g)
- preparations for global climate change; and (h)
- preparations for meeting the demands of the 21st century. (i)

In adjusting the roles and functions of the Ministry of Agriculture and Cooperatives, the Department of Agricultural Extension has drawn up the following operational guidelines:

- Increase agricultural production efficiency and improve quality.
- Promote and support the crop diversification program.
- CCCCCCC Provide production inputs and agricultural technology transfers.
- Promote agro-industries.
- Promote the raising of farm household income levels.
- Develop the farmers' quality of life.

In accordance with the above-mentioned policy and guidelines, a plan to promote raw material supplies is being introduced for regional implementation. The case of asparagus in Nakhon Pathom province in the western region is one example of successful agribusiness promotion in Thailand. The conditions in the area were typical, with prices of farm produce generally at low levels and fluctuating because most farmers were small-scale producers. The farmers had no facilities for post-harvest storage. Therefore, they were forced to sell their produce at unfavorable prices at the beginning of the harvest season. Prices were determined by middlemen, dependent on the time of year.

Then, after Thai- and Japanese-owned private export companies outlined their requirements for asparagus production to the Department of Agricultural Extension, several meetings were arranged between the private companies and the officials concerned. The meetings discussed the means of cultivation, the suitability of land conditions, availability of water resources, farmers' skills and background, guaranteed prices and farmers' benefits. Finally, the Department of Agricultural Extension approved in principal the proposal by the companies and assigned the officials concerned to inform the asparagus farmers of the proposed plan.

The private companies required both green and white asparagus. After selecting the area for the project and establishing a factory, the companies and the extension service agent arranged meetings with farmers in local villages. At the meetings, the new plan for cultivating the asparagus crop, the benefits and returns, and what the companies would provide in the way of support and prices were explained to the farmers.

Interested farmers were asked to register their requirements in terms of planting and credit support for production inputs. A production agreement was mutually considered and drafted by the private companies, the farmers and the extension service officials. Since the implementation of the project, the Provincial Agricultural Extension Office has been arranging a meeting before the start of each planting season for the signing of a production agreement between the private companies and the farmers.

To alleviate the problem concerning the quality of raw materials, the Department of Agricultural Extension and the private companies have provided a training course and field demonstrations in cultural practices for targeted farmers. Because of the intensive care required in cultivating the high-value crop, the companies provided collection houses that are located around the project area. The harvested asparagus is weighed and checked for quality at the collection houses by company inspectors and transaction documents are issued to the farmers.

CRITERIA FOR SUCCESS

The encouragement of cooperation among all the parties concerned is an important part of the approach to rural and agribusiness enterprise development, as it allows farmers and the private sector to share the role of implementator/manager, with the Department of Agricultural Extension acting as facilitator.

A farmers' production group has been established with a mutual interest in production management. The main activities of the group are:

- (a) participating in annual marketing and production planning, including the proposing of selling prices for the coming season;
- (b) regulating the adherence of production group members to the signed production agreement; and
- (c) acting as coordinator in negotiations with the factories in terms of quality inspections, delivery schedules and payments.

Since the export trend of asparagus is promising, there are a number of proposed company requirements for sharing raw material supplies in the same region. The asparagus production and marketing agreement developed for the western region project has been developed and applied as the standard regulation agreement for all parties concerned. The agreement can be summarized as follows:

- 1. Asparagus Production Groups (APGs) must adhere to the obligations referred to in the contract and they supervise the supply of raw materials by group members to the collection houses.
- 2. The details of the contract are subject to change with the approval of all parties, private companies, APGs and the government agencies concerned.
- 3. Each of the private companies has been provided with specific boundaries and an APG to supply the raw materials. New companies wanting to share the produce must first contact the provincial agricultural extension officer as well as the relevant APG committee to arrange a suitable area and identify interested farmers.
- 4. The companies are advised to purchase the asparagus on a quality basis in order to ensure that the long-term quality improvement plan is maintained.

Major Factors Contributing to the Success of the Pre-program

1. Government Sector

- C The provision of suitable areas and interested farmers for producing raw materials.
- C Arranging meetings to explain the joint raw materials production system to processing companies as well as the conditions set for joining the project.
- C Developing and organizing the training of farmers in agro-industry and post-harvest management.
- C Acting as a coordinator between the private sector and farmers in order to facilitate the contracting of farming management.
- C Monitoring and supervising crop production.

2. Private Sector

- C Supporting and providing supplies of quality production inputs to the farmers.
- C Participating in technology transfer activities, farmers' training activities, demonstration days, etc. in the pilot project area.
- C Providing information on raw material requirements to enable the joint formulation with farmers of a crop production plan.
- C Building up trust and a working relationship with the farmers and other companies in the selected planting area.

3. Farmers' Groups

- C Attending training and study tours organized by the private and government sectors.
- C Maintaining cultural practices and management through production guidelines and recommendations.
- C Strengthening group formulation activities in order to ensure reliable supplies of quality raw materials, and maintain the transaction system.

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PRODUCTION AND TRADING OF AGRICULTURAL PRODUCTS, AND PROBLEMS FACING AGRIBUSINESS ENTERPRISES IN VIETNAM

After 15 years of restructuring, the socio-economic situation of Vietnam has undergone many positive changes. Agricultural production and trade, in particular, has attained relatively strong growth and now contributes an important share of the national economy.

In the year 2000, the total volume of agriculture increased by 4.9 percent compared with the target of 3.5-4.0 percent. Agriculture continues to achieve good results in foodgrain production, the breeding, planting and cultivation of nut-trees, the development of the farming sector, preserving and expanding forestry production, and fisheries production.

The agriculture sector accounts for 25 percent of total annual exports (the major commodities are rice, coffee, rubber, tea, fruit, seafood, pepper and cashew nuts), thus playing an important role in the export extension strategy of Vietnam.

Rice

Rice is the main food commodity of Vietnam. In recent years, the agriculture sector of Vietnam has recorded great achievements. From being an importer of foodgrains, Vietnam is now not only self-sufficient but has also built up national reserves. Also, in recent years, Vietnam has been exporting large quantities of food. However, apart from advantageous elements that have made possible the intensive development of agriculture, the sector in general and rice in particular still face big challenges that include:

- (a) many difficulties, ranging from inadequate and outdated infrastructure to the lack of processing technology, which hamper production. The development strategy and policy regarding such aspects as financial, marketing and export support do not correspond with the scale of demand and development trends;
- (b) extensive demand for training that will provide employment opportunities for the rural workforce. Rural labor accounts for 75 percent of the national workforce, but those who receive specialized training only account for 15 percent of the total skilled labor of the country;
- (c) a relatively small portion of rural land is suitable for agriculture, thus making extensive application of modern technology very difficult;
- (d) poor and inadequate infrastructure and transportation;
- (e) low capacity for post-harvest processing;
- (f) poor availability of consistently high-quality seeds; and
- (g) a lack of modern equipment, requiring farmers to largely resort to manual labor and resulting in low harvest output. In some cases, harvested rice is of very poor quality.

Coffee

Geographic and climatic conditions in some areas of Vietnam are suitable for producing fragrant coffee that is in high demand in export markets. After two decades of development, coffee has become an important export commodity for Vietnam, annually earning some US\$500 million in export revenue.

Vietnamese coffee ranks third in terms of production after India and Brazil, and second in terms of exports after India. Even markets with strict quality standards have become regular customers of the Vietnam Coffee-Cocoa Association. Recently, Brazil, the leading coffee producer, began importing coffee from Vietnam for use in processing activities.

The main problem now facing Vietnam is that storage and processing capacity are unable to keep up with the rapidly expanding output of coffee.

Only a few enterprises have been able to import core coffee-processing lines. The other enterprises are operating equipment that is obsolete and non-standard, and therefore inefficient, as a result of using different supply sources. There are only 50 core coffee-processing lines in the whole country, of which 14 have been imported from Brazil and the United Kingdom. The remaining 36 lines were manufactured domestically, mainly to equip state farms and state-owned enterprises. About 80 percent of the coffee production is processed by the farmers themselves, using small-scale, basic equipment.

Research and development, supervision and exchanges of market information in and between the enterprises are weak. The coordination of information exchange among Vietnamese coffee exporters is still sporadic and out-of-date, and is thus unable to create an impact on the market or protect the benefits of enterprises and farmers. In addition, the competitiveness of Vietnamese coffee enterprises is very low, particularly in terms of financial resources, compared to international companies.

The most prominent feature of the coffee market at present is that supply exceeds demand, and the coffee price is only 30 percent of the price in past years, which is the lowest level in the past decade. This is having an adverse effect on the farmers' income and creating difficulties in maintaining production levels.

In order to improve the market price, coffee-producing countries are planning a temporary coffee reserve. Vietnam had to reserve at least 20 percent of the coffee export volume of the 1999/2000 crop (about 680,000 mt). Therefore, the temporary reserve must be 136,000 mt, which at recent prices will cost US\$80 million. According to Association of Coffee Producing Countries (ACPC), the temporary reserve period will have to be for two years, pushing up the cost of maintaining the reserve to US\$15 million. However, Vietnam can neither meet such a large financial requirement nor provide the necessary storage facilities.

Tea

Tea exports by Vietnam amount to only 3 percent of total production. Tea is exported to only a few countries (France, Hong Kong, Hungary, Iraq, Japan, Libya, Poland, the Russian Federation, the United Kingdom and the United States).

The weak point of tea cultivation in Vietnam is that cultivation and harvesting skills are poor. Many farmers only consider how to gain easy financial benefit and do not follow the standard methods for growing and harvesting tea. Often, they cultivate the wrong type and/or size of tea crop, over-exploit the tea fields, and continue to use bushes that are too old. The result is low levels of productivity. The equipment used in processing tea is mainly too old and inefficient. Tea processing is undertaken as a minor handicraft resulting in low quality. The product is therefore unable to satisfy the strict requirements of export markets and makes it difficult to create a strong market position.

It will therefore be necessary to improve and expand the processing capacity of industrial tea producers. In addition, the size and quality of the area under tea cultivation is a critical factor in the future of Vietnamese tea.

Rubber

According to a Ministry of Agriculture and Rural Development assessment, Vietnamese rubber will become relatively competitive in the next 3-5 years (after rice and coffee) as one of the focus commodities of Vietnam. Since 1990, Vietnamese rubber has been exported to 40 countries (13 in Western Europe, six in Eastern Europe and four on the American continent). For example, in the lowest production year, rubber exports to China still accounted for 32 percent of total rubber exports, while at their peak in 1995 they reached 75 percent.

Rubber production in Vietnam is very small compared with other countries in the region. Of the total production, 80 percent is SVR3L (Standard Vietnam Rubber 3 Light) rubber (not ribbed smoked sheets [RSS] rubber or SR [synthetic rubber] technique rubber). Currently, only 20 percent of dried latex rubber is processed. The low volume of output has considerably limited the ability of Vietnam to attract major customers with stable purchasing power.

The technological level and capacity processing equipment in the factories in Vietnam are still low compared to that of the region and the world. The annual renewal index of equipment is about 7 percent per year, which is equal to between one-third and one-half of the minimum level in other countries.

In order to increase turnover and efficiency in exporting rubber in the coming years, it will be necessary to:

- (a) focus on intensive cultivation and increase productivity of the available area under rubber cultivation in order to reduce the price;
- (b) install new machinery or upgrade current equipment at latex processing factories in order to diversify export products and create market opportunities (e.g., increase exports to the United States and European markets, reducing the dependency on the market in China);
- (c) introduce the right policies for attracting foreign direct investment in rubber processing (at present, in the whole of Vietnam, there is only one rubber planting project, 15 rubber processing projects and four rubber tire manufacturing projects); and
- (d) develop the processing industry, increase production and boost domestic and export market demand (at present, domestic consumption only accounts for 10 percent of rubber production in Vietnam).

Pepper

Pepper production in Vietnam has reached about 35,000 mt annually. So far, Vietnam has exported 34,000 mt a year. The export target is 50,000 mt per year, worth about US\$200 million.

In general, the production and export of pepper is efficient owing to its low price, highly competitive production method, and stable market demand.

Cashew Nuts

In the last nine months of 2000, 150,000 mt of raw cashews were produced, of which 110,000 mt were processed to give 21,700 mt of cashew nuts for export at a value of US\$110 million. This boosted the export earnings of the cashew subsector to US\$165 million for 2000, an increase of US\$45 million over the earnings in 1999.

Ranking fourth among export items after rice, rubber and coffee, cashews have been regularly exported by Vietnam to China, Europe, Japan, the United States and countries in South-East Asia.

Currently, more than 60 cashew nut peeling and splitting plants are in operation in Vietnam with a total processing capacity of 250,000 mt of raw cashew per year, which ensures that the total cashew nut harvest can be processed. Although the peeling and splitting equipment is all manually operated and priced at only one-tenth of similar Japanese equipment, Vietnam is able to process products up to export standard (Vietnam's technology has previously caused great concern among some African partners). In fact, Vietnam's processing technology can satisfy world demand, even in such hard-to-please markets as Europe, Japan and the United States.

At present, the difficulties facing the sector are mostly domestic. One of the main problems is that cashew cultivation is very unpredictable; cashew growers can easily cut down the plants and shift to other types of crops. As a result, cashew supplies are low and unreliable. Other problems include unsuitable selection and development of cashew strains, and inadequate instruction of night-watch techniques, which results in relatively low productivity levels. In addition, cashew fields can easily degenerate under such conditions.

Cashew nuts are a seasonal cash crop, but problems remain regarding the shortage of capital shortage, inadequate storage and drying facilities, inefficient collection methods and a badly organized purchasing system.

Fruit and Vegetables

Vietnamese fruit and vegetables are delicious and very diverse. Due to management improvement, and the upgrading of equipment and plants in recent years, the country's fruit and vegetable products (e.g., frozen and canned pineapple, dried fruit, lichees, longans, banana and pineapple powder, rambutans and fruit juices) are popular among domestic and oversea consumers.

However, because the workforce is not well trained in maintenance, storage, packing and marketing techniques, production and business management efficiency is still low. Production is of a self-supply nature without specialized areas for producing large volumes of export commodities. Production is scattered among households and quality is therefore inconsistent. Consequently, it is difficult to apply modern scientific and technological advances to improve productivity and reduce production costs.

As financial capacity is limited, insufficient capital is invested in post-harvest storage and processing. Meanwhile, fruit and vegetables are highly seasonal products and deteriorate easily, resulting in post-harvest losses of between 20 percent and 25 percent.

At present, there are nearly 20 fruit and vegetable processing factories in Vietnam, but most of them have outdated and obsolete equipment, and use poor quality packaging. For this reason, their products are not internationally competitive in terms of quality. Eighty

percent of the raw materials are supplied by farmers, with the remainder coming from other sources such as plantations. In the meantime, fruit and vegetable strains supplied by farmers vary considerably, leading to inconsistent product quality.

The prices of Vietnamese fruit and vegetables on the world market are currently low despite high production costs and product quality problems arising from manual harvesting. The low prices are also due to weak marketing and advertising strategies that do not include either research and development or the application of advanced technology. Excessive stockpiles of agricultural products are also attributed to weak market forecasts and planning.

Seafood

The seafood industry has been identified by the government as a leading economic sector in the export strategy of Vietnam. The objective of the industry is to get the top position in the region.

However, many challenges still face the industry. The level of investment is inadequate and lacks focus. The fisheries infrastructure is not sufficiently funded, and most of the country's fishing ports and markets are overcrowded and in poor condition. Most fishing boats and ships have low capacity, while the exploitation level and processing capacity are weak.

Superior seafood processing factories need to be constructed, and existing plants need to be upgraded in order to meet hygienic foodstuff and safety standards required by the ISO quality management system. In addition, new fish strains need to be introduced, and current areas used for aquaculture need to be expanded.

Pork

Although the livestock industry, including pig raising, has recorded a relatively high annual growth rate of 4-5 percent, Vietnam's pork exports remain uncompetitive. This is due to following reasons:

- (a) Pig raising is not export-oriented. The method used most widely is household production, which prevents the reduction of costs and wide dissemination of knowledge about methods. Meat quality remains low with a high fat content; and
- (b) The processing technology used is still very unsophisticated. Only two of the many processing factories nationwide meet export standards.

OBJECTIVE ORIENTATION FOR AGRICULTURE AND RURAL DEVELOPMENT

The production value of the entire sector (agriculture, forestry and fisheries) has increased by 4.5-5.0 percent, of which the growth rate of the agriculture subsector is 4.1-4.7 percent. The growth rate of the forestry subsector has risen to 1.7-2.3 percent, while that of the fisheries subsector has increased by 7.2-7.6 percent.

A number of crucial measures need to be taken towards the industrialization and modernization of agriculture and rural areas in general. These measures include:

- C introducing new technology and crop/aquaculture strains.
- C upgrading post-harvest storage, maintenance, processing and advanced cultivation methods.

- C promoting the shift towards an agricultural, forestry and fisheries production structure that is suited to each ecological region.
- C improving the average income per agricultural land unit.
- C investing in new transportation and irrigation infrastructure, electricity and water supply systems, and environmental protection.
- C developing traditional village occupations, and generating job opportunities to attract labor to the areas.

Agriculture

Among the most urgently needed measures that are specific to agriculture are:

- C development of food processing to ensure national food security. It is estimated that the value of major crop output will reach US\$35 million (rice, US\$33 million; and maize, US\$2 million).
- C development of output and specialization of export cash crops to cover a total of 8,000 ha for coffee, 10,000 ha for rubber and 20,000 ha for cashew nuts. Annual output is projected to reach 650,000 mt of coffee, 285,000 mt of dry latex rubber, 70,000 mt of tea, 650,000 mt of fruit and 140,000 mt of cashew nuts.
- C encouragement of livestock raising. Current meat output is estimated to be 2.1 million mt and 57,000 mt of milk.

Seafood/Aquaculture

Among the most urgently needed measures that are specific to seafood/aquaculture production are:

- C development of the seafood industry's advantages.
- C promotion of fish raising as part of the construction program for expanding and improving the infrastructure base, as a way of helping to solve social problems in rural and coastal areas.

Seafood output is projected to reach 2.1 million mt (comprising 1.25 million mt of marine products and 850,000 mt of aquacultural products). The total value of agricultural, forestry and fisheries products is projected to reach between US\$4.9 billion and US\$5 billion in 2001, which is an increase of 19-20 percent over 2000.

MAJOR POLICIES AND SOLUTIONS

As explained above, the two main sources of a negative influence on agricultural performance are internal and external market factors. Solutions to help the agriculture industry overcome difficulties and achieve set objectives are outlined below.

Temporary Solutions

- C Stockpile products when prices are low and hold until prices increase in order to eliminate losses to producers.
- C Encourage production (e.g., the government has adopted a program for stockpiling 60,000 mt of coffee over a six-month period with 100 percent interest support).
Strategic Solutions for Achieving Structural Change and Expanding Production

Several strategic solutions can be applied to achieving structural change and expanding production. These solutions are outlined below.

- C Implementation of government decisions on financing capital, tax cuts, and support in terms of strains and equipment in order to facilitate seasonal production. Of a total investment of US\$90 million in the tea sector between now and 2005, 70 percent will be spent on raw materials. The money will be used to improve tea cultivation areas and to plant an additional 5,000 ha with hybrid tea strains. Productivity is expected to reach 910 kg per ha by 2005.
- C The regular and frequent provision of information on agricultural products in domestic and oversea markets, especially foodstuffs, coffee, sugar and other important food commodities, in order to facilitate access by farmers to inputs and markets for their products.
- C Encourage Commodity Associations to set up risk assurance funds based on voluntary and self-managed principles. Promote activities such as exhibitions, fairs and business interaction centers for commodity exchanges between areas where there is great demand.
- C Develop farming models for large-scale output and product diversification.
- C Make reasonable reallocation of investments for the development of technologies for breeding, post-harvest activities, processing, packaging, handling and, in particular, preservation of food commodities. The objective is to improve productivity and quality in order to boost the competitiveness of Vietnamese agricultural exports.
- C Organize research into, and selection of, plant strains, taking into consideration the soil and climatic conditions of each region; implement material and area planning solutions; and set up specialized areas for producing adequate and stable supplies of a variety of raw materials in order to enable factories to operate at full capacity.
- C Make major investments in updating technology, equipment and diversifying product ranges (including primary and completely processed products) at existing factories in order to meet market demand. Provide supplementary equipment to complete the production line system, and replace manual work with machinery. In the case of coffee, processing should be changed from the currently used wet method to the use of drying machinery, in order to eliminate manual labor. Cashew processing should be upgraded in combination with product diversification such as cashew peel processing. In the case of rubber, the product range should be diversified to include tires, gloves and boots for import substitution. However, implementing such changes will require the construction of new factories equipped with state-of-the-art technology and equipment. In addition, high-quality machinery should be manufactured locally so that it can be made available at competitive prices.
- C Formulate and implement human resource training programs to ensure the availability of sufficient numbers of managers, technicians and skilled workers for the cash crop processing industry.
- C Make extensive investment in research and development associated with agricultural, forestry and fisheries incentive policies, with the aim of speeding up and strengthening the results of research. Apply scientific and technological achievements to agroproduction and agribusiness.

- С Study and plan market strategies to ensure that changes can be rapidly made in production infrastructure in order to keep pace with market demand, especially in the case of processed products for export.
- Invest in infrastructure (transportation, irrigation, power and water supply networks).
- C C C C Actively reorganize specialized areas under high-quality rice cultivation for export.
- Create and enhance close cooperation between research and agricultural production.
- Train farmers to familiarize them with advanced cultivation techniques, and make stepby-step changes in the traditional method of rice production, which favors quantity over quality.
- С Promote marketing and advertising activities in order to expand market demand.

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2. PROGRAM OF ACTIVITIES

(20 - 24 November 2000)

Date/Time	Activity
Mon., 20 Nov.	
Forenoon	Opening Ceremony Presentation and Discussion on Topic I: Agribusiness Development in Asia and the Pacific – With Emphasis on Indonesia, Malaysia, the Philippines and Thailand by Dr. Hiroyuki Nishimura
Afternoon	Presentation of country papers by participants
Tues., 21 Nov.	
Forenoon	Presentation and Discussion on Topic II: <i>Policies and Programs</i> for Promoting the Development of Agribusiness Enterprises by Dr. Kaman Nainggolan Presentation and Discussion on Topic III: <i>Requisites for Initiating</i>
	Agribusiness Ventures
	by Mr. Thomas Darmawan
Afternoon	Presentation of country papers by participants
Wed., 22 Nov.	
Forenoon	Presentation and Discussion on Topic IV: <i>Marketing Promotion</i> of Agribusiness by Dr. Togar A. Napitupulu Presentation and Discussion on Topic V: <i>Improving</i>
	Productivity/Management of SMEs in the Agribusiness Sector – a
	Practical Approach from the Perspective of a Large Enterprise by Mr. Raymond C. Tan
Afternoon	Workshop
Thurs., 23 Nov	
Forenoon	Visit PT. Tuwuh Agung (mushroom canning company) Visit PT. Sari Husada (dairy milk product company)
Afternoon	Tour to Borobudur Temple and Prambanan Temple
Fri., 24 Nov.	
Forenoon	Evaluation and Recommendation Summing-up and Closing Sessions