

**FOOD POLICY AND SECURITY ISSUES:
THE NEED FOR INCREASE INVESTMENTS**

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**Paper presented at the
WORLD FOOD DAY Seminar
held at
UNIVERSITI PERTANIAN MALAYSIA
16th October, 1986**

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Abstract

The authors, in the first section of this paper, review the world food situation, productivity growth and its determinants. Various features of international agricultural trade policies, the new protectionism and current trade liberalization talks are highlighted. A discussion of some issues of agriculture policies, both macroeconomic and sectoral policies follows. Elements of the National Agricultural Policy are then analysed with regards its direction and rationale. The second section examines the National Agricultural Policy in more detail followed by an overview of investment opportunities in Malaysia.

AL. World Food Situation

FAO's forecast of 1986 world cereal production is 1835 million tons. This is only 9 million tons below last year's record production level. Aggregate output of wheat and rice for the year are expected to rise. Given the current outlook for another large harvest and the high level of carryover stock, supplies of cereals in 1986/87 will reach a record of 2066 million tons. Estimated carryover of cereals, both in absolute terms and percentage of projected consumption at 23 percent, is at its highest. Most carryover stocks are held by the major industrialized exporting countries(Food Outlook).

Food, as well as overall agriculture, production is now outpacing population growth, resulting in unprecedented food abundance. The growth in food production among developing countries was in fact higher than in the industrial and East European non-market economies (see Table 1).

Table 1 Growth of agricultural production by major commodity group, 1961-84
(average annual percentage change)

Country group	Beverages		Food		Raw materials		Total agriculture	
	1961-70	1971-84	1961-70	1971-84	1961-70	1971-84	1961-70	1971-84
Developing countries	-0.4	1.9	2.2	3.2	4.5	2.3	2.4	3.0
Low-income countries	1.9	1.2	1.3	3.2	5.7	3.8	1.9	3.3
Africa	2.3	-0.5	2.6	2.0	6.0	-1.8	3.0	1.2
Asia	1.2	3.6	1.2	3.4	5.7	4.3	1.8	3.6
Middle-income oil exporters	3.5	0.5	3.0	3.1	1.5	-0.9	2.7	2.2
Middle-income oil importers	-2.9	2.8	3.5	3.2	4.8	1.0	2.9	2.9
High-income oil exporters	-6.8	0.6	4.9	14.6	8.0	-0.5	5.0	14.1
Industrial market economies	0.9	0.4	2.9	2.1	-4.9	0.4	2.2	2.0
East European nonmarket economies	5.3	7.0	3.6	0.5	4.3	1.9	3.7	0.7
World	-0.3	1.9	2.7	2.4	2.2	2.0	2.5	2.3

Source: World Development Report 1986

This improved performance have been attributed to the adoption of high-yielding varieties (examples of wheat developed at the International Maize and Wheat Improvement Center (CIMMYT) in Mexico and rice at the International Rice Research Institute (IRRI) in the Philippines), higher and widespread use of fertilizers, pesticides and other farm chemicals, expansion and improved irrigation, government policies and agriculture support programmes.

It is significant that the accelerated growth in cereal productivity resulted more from increases in yield rather cropped area. Empirical evidence shows that yield increase contributed 64 percent to the overall growth rate between 1963-73 and this contribution further increased to 87 percent over the period 1974-84 (FAO). From 1974-84, the amount of land on which grain was planted in the world grew by only 0.2 percent. Yet over the same period, yield increased by 2.4 percent (FAO).

Further technological breakthroughs in biogenetic research in the development of new crop varieties that are more responsive and/or require fewer inputs, are more tolerant of pests and diseases, and more adaptable to adverse weather conditions will lead to higher production levels.

Persistence of Malnutrition and Famine

Despite the abundance of food on a global basis, the problem of malnutrition and famine still exists in many parts of the world particularly in various parts of Africa. A precise estimate of the incidence of chronic malnutrition in developing countries is not possible but a recent World Bank study estimated the number, excluding China, to be between 340 to 730 million. Measures adopted by governments to alleviate malnutrition have been the provision of food grains through programmes such as subsidized food grain with or without rationing, food stamps, food for work, target feeding and disaster relief and rehabilitation. The causes of widespread malnutrition are often not the insufficiency of food production but rather poverty and uneven distribution of income. Problems of food security do not necessarily arise from inadequate food supplies but arise from a lack of purchasing power on the part of households or nations. In the long run, food security can only be assured by raising real income of households so that they can afford to acquire enough food.

II. International Agriculture Trade Policies

Despite the favourable global food outlook and the prospects for further bio-technological breakthroughs, world agriculture, to borrow a phrase from Glenn Johnson, is in disarray. There is a

growing concern in international trade policies of industrial countries, a result of domestic price and income policies and the new protectionism arising out of the current depressed world economic situation.

Agriculture Protection

The problems of international agricultural policy and trade have been (Hillman):

- the long-term excess capacity in agriculture
- lack of adjustment between agriculture and other sectors in major industrial countries
- propensity of nations to use import restrictions and commodity policies to insulate against price fluctuations in world markets
- inclination of nations to use agricultural export subsidies to help solve domestic farm price and income problems.

The disarray in world agriculture is clearly significant because of the distortion of agricultural prices and trade, the large costs imposed on taxpayers and consumers, and the uneconomic expansion of farm output in the industrial countries and associated effects upon the developing countries.

The New Protectionism in Agricultural Markets

A consequence of any depressed economic situation is the increase in trade protectionism. While protectionism has always been a feature of agricultural trade, pressures for more restrictive policies intensified as a result of the 1974-75, 1980-82 and current recessionary periods. Faced with increasing pressures for employment opportunities outside agriculture, major industrial countries resorted to more restrictive market interventions and import controls. High interest rates and depressed world commodity prices resulted in heavy financial losses and foreclosures farms intensified domestic calls for higher agriculture protection.

Agriculture trade policies have always been inextricably linked to domestic policies in response to internal socio-economic problems. Experience has also shown that protective measures, such as export subsidies and import restraints, cannot be easily dismantled once they are emplaced.

The increase of agriculture support and trade control measures has not been limited to the industrialised countries only. Many developing countries adopted tighter restrictions on trade as an inevitable reaction to problems of debt-servicing,

market access and limited capacity to introduce adjustment programmes and austerity measures. The losses with increase protectionism have not been confined to developing countries or traditional developed country exporters, but also those developed countries that have become increasingly dependent on export markets as outlets for excess supplies of food products.

Trade Liberalisation

Unlike agriculture, the unprecedented growth in manufactured exports which benefitted first Japan and later the newly industrialising countries of South Korea and Taiwan amongst others, was made possible because of an open trading system. Considerable progress has been made during the last two decades, in reducing trade barriers facing manufactured goods exported by developing countries. In 1968, the Kennedy Round multilateral trade negotiations concluded with broad agreements to reduce import duties by developed countries by almost 40 percent on average while the Tokyo Round achieved further cuts. Furthermore, the Generalised System of Preferences granted the importation of certain specific manufactured goods originating from developing countries at zero tariffs or bear import duties below the MFN rates.

In contrast, however, little if any trade liberalisation has occurred in the case of agriculture products. To a large extent, this lack of progress is due to some countries' reluctance to deal with the issues of agriculture protection in the MFN. Specifically, the EEC regards the principle and machinery of the CAP as internal problems that "cannot be called into question" and therefore "not a matter of negotiation."

From the start, the General Agreement of Trade and Tariffs (GATT) has treated agriculture as a special case and rules designed to curb unfair trading practices are so loosely drafted as to have little effect. Export subsidies, the single most important source of distortion in world agriculture trade, are permitted, provided they do not exceed an "equitable market share". This is a concept which has proved impossible to define in practice. GATT rules limiting the use of import restrictions are generally ignored.

The latest round of GATT talks will begin soon. Trade ministers of 92 countries met recently at Punta del Este to launch a new round of global trade liberalisation talks. The new GATT talks is designed to liberalise agriculture trade by lowering import barriers and restricting the use of subsidies. A group representing the "non-subsidising agricultural exporters" called for a commitment to phase out export subsidization over a ten year period. The GATT conference ended with a commitment to consider the "possible phased reduction of the negative effects of direct and indirect competition in world markets." The road to the final agreement will be long, arduous and the negotiations intense. The Kennedy Round took 54 months of negotiations and

the Tokyo Round 79 months. Given the consistent failures of previous rounds to make any progress in this area, only time will tell whether the new round will make any progress in this long road of trade liberalisation in agricultural products.

III. Issues in Food Policy

Macroeconomic Policies: Agriculture vis-a-vis Industrialization and Exchange Rate Effects

Many developing countries have promoted and continue to promote industrialisation behind high trade barriers. The initial inward-looking strategy implicitly tax agriculture vis-a-vis industries because it lowers agriculture output prices relative to industries and by increasing the cost of intermediate industrial farm inputs. Several studies have shown how the differential protection of industry has lowered the profitability of agriculture in many developing countries. With the exception of perhaps S. Korea and Taiwan, most developing countries discriminate against agriculture. Several empirical studies have indicated how policies that protect industries lower substantially the prices of agriculture exports relative to prices of protected traded and non-traded goods. In addition, given the generous comprehensive system of incentives to attract investment and coupled with the increasing labour productivity in the industrial sector, such development strategies tend to accelerate the shift of resources out of agriculture, lowering its profitability and worsening its internal terms of trade. As labour and capital move out and technological progress slows, the long term losses can be large.

Such inward-looking policies and industrial protection result in an appreciation of the real exchange rate (the ratio of prices of trade goods to the prices of non-traded goods) which means that traded goods become even less profitable than non-traded goods causing more adverse consequences on developing countries' agricultural exports.

Sectoral Policies

Sectoral policies such as agriculture trade duties and/or subsidies can mitigate or exacerbate the implicit taxation caused by general macroeconomic policies. What is the extent and relative frequency of producer support and taxation among developing countries?

The ratio of domestic prices to border prices or nominal protection ratio is a convenient indicator of trade distortions pursued by individual countries. When domestic prices are kept below world prices at country borders, producers of exports or competing imports are taxed. When domestic prices are higher than border prices, producers are supported. The NPCs computed for a number of industrial and developing countries

(World Development Report 1986) reveal that more of the developing countries tend to tax agriculture commodities, in raw materials as well as food and beverages. They thus discourage exports and encourage imports. The industrial countries on the other hand, exclusively support domestic production of food. They therefore inhibit imports and encourage exports. The effect of the tax on producers in developing countries is even stronger considering the over-valued exchange rate. Even when developing countries attempt to improve sectoral policies, these efforts can easily be outweighed by the exchange rate appreciation. Perhaps the most striking evidence of the cost of export taxation can be found in the reduced market shares of many developing countries in international trade over time.

Food Self-Sufficiency

Food self-sufficiency is an important policy goal among both developed and developing Asian countries. Through the adoption of new high yielding varieties, higher and widespread use of fertilizers and other farm inputs, large government investment in irrigation and rural infrastructure, production techniques and improved policies for agriculture, many are self-sufficient or near self-sufficiency. The record for Indonesia, China and Bangladesh to name a few, have been impressive. Indonesia is now expecting its third successive surplus in rice production. Mindful of the high cost of storage and the 3 million metric tons of rice in government storage, government policy now encourages farmers to shift out of padi to maize production for livestock feed. The dramatic increase in output was the result of high domestic prices, input subsidies, government investments in irrigation projects, credit and marketing arrangements. Much of this was made possible with the high crude petroleum price after 1973. But budgetary constraints may cause the farm input subsidies and level of rice reserve to be reduced. The floor price of rice at Rps. 175 a kilogram of paddy is the same as last year. This is a significant fall in real terms. All these will definitely affect production. Rice procurement by BULOG has also declined.

In the pursuit of self-sufficiency goals, substantial gains from trade can be foregone. In a study on the rationale of rice reserve as part of a food security programme, Reutlinger and Bigman found that stabilization of grain and prices through a large reserve stocks is neither a realistic nor a cost effective means of achieving food security. The cost of a reserve stock, in their view, usually exceeded the benefits. They concluded that most developing countries could achieve a modest reduction in the instability of food prices by operating a small buffer stock and permitting near free trade.

A trade-off therefore exists between the degree of food security and the costs of achieving it. The degree of food self-sufficiency would ultimately depend on the risk perceptions of individual countries. Self-sufficiency, if pursued by most

countries at any cost, would discourage the efficient producers. They are further discouraged, as now, when prices are depressed further by export subsidies from industrial countries where farmers do not respond to global price signals but only to prices determined by domestic considerations. Would the Thai farmers be so dismayed by the prevailing low prices that they will curtail their rice production and therefore exportable surplus? Thailand's Sixth Development Plan already sets out such policy guidelines. If Indonesia, the world's largest importer of rice in recent past, is unable, because of budgetary constraints, to sustain self-sufficiency, and Thailand a major exporter adjusting its production target, would the world rice supply-demand situation be changed considerably in the near future?

No matter, self-sufficiency remains a popular non-economic objective, and some countries have been willing to incur large costs to attain it. It certainly appears to me that the current cost of achieving self-sufficiency is too high. Malaysia, in my opinion, has wisely chosen to reduce its self-sufficiency goals to a more rationale level by choosing to concentrate rice production only in the eight granary areas where irrigation and support services are good and productivity high.

Government Marketing Agencies and Input Subsidies

We have reviewed some of the effects of agriculture taxation, let us examine briefly the suitability of public marketing agencies and the question of subsidies and its related effects.

The objectives of agriculture policies in developing countries include the promotion of a more productive and efficient agriculture sector, increasing rural income, distribution of income, price stabilization and adequacy of food supplies. To achieve some of the above and also to offset the bias against agricultural producers, public sector marketing and input subsidies are common instruments used.

The intent to setting up public marketing agencies or parastatals is to assist producers by preventing monopolistic private traders from exploiting them beside the ability to control producer and consumer prices. Governments often justify their involvement in marketing with the argument that private sector is inefficient and can be monopolised by a small number of private traders. There is little evidence to support this. In contrast, marketing is an intrinsically difficult task for public agencies to perform well. These parastatals therefore can be relatively inefficient. Numerous studies have indicated this (Abbot). For example, when a single price for all grades of rice is offered, farmers would want to sell to it only the lowest grade. Often, other factors such as eating quality, with its differential demand, are not considered. Only weight is. Pricing policies may not provide the incentive for operations such as drying. A recent study (Chew and Fatimah Arshad) revealed that farmers do not dry their padi because it does not pay them to do

so. If farmers cooperatives can profitably take over some of these functions, perhaps the problem of bottle-necks that often arise of padi waiting to be processed will be alleviated.

Governments have an important role to play in encouraging markets. The record of these marketing parastatals suggests that the task can better be performed by competitive private markets. It is important that when public marketing agencies is unavoidable, policies should not discourage private sector participation.

Much of the growth in agriculture production in many developing countries have been attributed to the large government investment in irrigation projects, provision of input subsidy especially fertilizers, subsidies for mechanization and credit. Besides the objective of increasing productivity, the distributive element in rural areas is also important. But these programmes are a big strain on the government budget and questions on whether such funds can be more effectively spent on other programmes often arise. When subsidies are given as income transfer, more often than not, studies reveal that it is often the better-off farmers who are the beneficiaries. If income transfer is the objective, programmes other than subsidized inputs may be more effective. For example in fertilizer subsidies, there is perhaps only justification for temporary subsidies. This is the learning by doing rationale. However, long term subsidies could result in non-optimal output mixes especially when subsidy is provided for priority crops such as padi. If fertilisers are mainly provided through public distribution systems, apart from the inefficiencies that entail the enormous task of physical distribution, policies may curtail private sector competition with dire consequences as in public marketing agencies.

The National Agricultural Policy

Having reviewed some of the issues of agricultural policy, let us examine how the NAP measure up in terms of the direction and rationale of the policy issues. Going through the Fifth Malaysia Plan, I have extracted from it sections which seem relevant.

Objective of the NAP:

...to maximise income from agriculture through the efficient utilization of resources and the revitalization of the contribution of the sector to overall development. Income maximisation refers to the maximisation of both farm and national income, incorporating the distributive as well as growth aspects of economic development.

The thrust of the NAP:

.. is to increase productivity, efficiency and competitiveness in the development of new resources as well as fuller utilization of existing resources.

Subsidies for crops, livestock and fisheries with the exception of those for some crops, such as padi, pepper and sago, were gradually reduced towards the end of the Fourth Plan. This was in line with the objective of reducing progressively the provision of subsidies and developing a strong a self-reliant farming community.

Where appropriate, subsidies will be gradually reduced and replaced by credit....

... in order to reduce direct public sector involvement in production and marketing, efforts will be made to privatise specific projects and activities as well as encourage direct participation of the producers.

... to stimulate increased private sector investment in agriculture investment tax incentives for agriculture have been improved.....

Sector-wide planning and policy analysis will be improve in view of the major structural adjustments and increasing complexity of the agriculture sector. Accordingly, it will go beyond the commodity approach and will ensure the continuing consistency of policies..

Efforts will also be made to ensure the commodities are developed on the basis of their commercial viability and competitiveness.

From the above, we can make the following comments. The NAP is giving market forces a greater role in determining agriculture prices and farm income. The reduction of subsidies and privatisation of certain functions of FAMA and LPN certainly points in that direction. Input subsidies are not an effective method for offsetting the adverse effects of low output prices nor are they appropriate instruments for income distribution, since the benefits accrue most to better-off farmers. The number of incentives in agriculture has certainly increased to attract private investment. However, the incentives for industries have also similarly increased especially in the recent package of incentives granted. What is of interest is the net or the relative incentives given. This would provide a basis to determine whether agriculture is being discriminated against relative to industries. Further research in this would be enlightening. Private sector participation should be encouraged at all levels of agricultural activities. The NAP sets forth policies that are sectoral specific. The general macroeconomic and multi-sectoral policies have also implications on agriculture. Since macroeconomic policy can introduce bias against agriculture, exchange rates and general patterns of prices and taxes need to treat agriculture relative to industries in an even-handed manner. Agriculture should not be neglected in view of the employment considerations and growth potential.

Unless they recognise this, policy makers will continually be frustrated and disappointed with the results.

BI. The NAP and Investment Opportunities

The need to increase food production in this country is pressing. This has been stressed repeatedly especially when the issues of food self-sufficiency and the population policy are discussed. Since independence, self-sufficiency in food, particularly rice, has been a major objective of national agriculture policy. The reasons are to ensure an adequate supply of food besides a more equitable and desirable income distribution. A large proportion of public expenditure has been allocated for the agriculture sector. There has been extensive development of infrastructural facilities, as well as agriculture support services. The double cropping of padi has in some ways, improved the economic conditions of the farmers. Nevertheless, a high level of poverty still persists among farmers (Chanhuri Siwar).

It is sad to say that even with such public support, the agriculture sector in general, and the food sector in particular, the situation is discomfoting. Productivity has been declining. Due partly to the dualistic nature of our agricultural sector, the smallholding subsector, which are mainly involved with food crops, had been neglected and over-shadowed by the glamour of export crops. It is only now, in view of the economic recession that policy makers realise that something has to be done to improve this situation.

Before going into the ways and means that have to be done to rectify the situation, let us turn to the second policy the government has introduced which makes the role of food industry more crucial. The policy is the new population policy. By the year 2100, Malaysia's population is targetted to increase to 70 million. The main implications from this policy is we need extra food.

To increase production, we can either increase the area of cultivation (extensive margin) which will lead to an increase in land-labour ratio and eventually increase the output-labour ratio or we can concentrate on the intensive margin which involves improving the method of cultivation on existing land, so that higher output per man can be obtained. Fortunately for Malaysia, we can try to solve the productivity problem via both approaches. There is still ample new land as well as substantial idle land.

The National Agricultural Policy which was introduced in 1984, provides basic guidelines for agricultural development. Its objectives are to maximise farm income through the efficient utilization of resources and the revitalization of the agriculture sector. Efforts will be doubled for developing and modernising the unorganised smallholders towards a more commercialised type of holdings. At the same time, active

participation from the private sector is also encouraged, especially in projects that require large capital outlay. The NAP will continue to adopt and strengthen existing strategies as well as introducing new approaches to reach its objectives. Among these are group farming, the establishment of mini-estates and large-scale commercial farming. Involvement of the private enterprises in food sector will broaden the forward linkages through activities such as processing and manufacturing of food. These of course will increase the value-added and therefore national income. Many potential food crops have been identified and commercialised cultivation of these crops will give a larger return to farmers as well as providing an adequate supply of food to meet domestic demand.

All the programmes and strategies related to the industrialization of food sector must be accompanied by effective investment incentives. It cannot be denied that the government has done much to encourage food production, through the provision of credit by agencies such as Bank Pertanian Malaysia and other commercial banks. Investment incentives under the Investment Incentives Act 1968 (IIA) such as granting it pioneer status, investment tax status and export allowance are also granted to investors in the food industry. In 1986, the new Promotion of Investment Act was introduced to further attract foreign as well as domestic investors. Special emphasis is given here to the agricultural sector where for example, an export allowance is given for agriculture produce. The new Act includes Farmers' Organizations, Fishermen's Associations, Sole Proprietorship, partnerships or associations solely engaged in agriculture are eligible for tax incentives for agricultural production. This will encourage business activities among such bodies and hopefully, will eventually change the traditional smallholdings of food crops into a more commercial oriented, dynamic and profit-oriented venture.

To direct the development of new industries until 1995, we have the Industrial Plan (IMP). With this, the government expects to attract more private investment. The IMP puts priority to resource-based industry such as rubber products, palm oil products, food processing and wood products. Nevertheless, the non-resource-based industries will still be encouraged.

On a more practical side, the government through Bank Negara Malaysia, has channeled \$1.0 billion of government deposits to fund new investment in agriculture, manufacturing and tourism. This fund is known as the New Investment Funds (NIF). In addition, we also have the Export Credit Refinancing (ECR) schemes, where credit refinancing is provided to exporters of agricultural food products and livestock. All these are done to encourage more investment in the food industry. Lately, involvement of private enterprises into agro-based and food industries have been encouraging. The following section will discuss examples of these activities. Private investment in food sector has been aided by land development, especially by FELCRA, who has been given the task of developing idle land. FELCRA has

helped to arrange for leasing arrangements between the owners of idle land and investors. Details such as rental rates and time of lease are to be finalised to ensure that both parties obtain an equitable return.

Investment Opportunities

Large estates with financial, technical and managerial skill have long been identified as the moving force in the agriculture sector. Thus their participation in food production will really contribute to national economic development.

The fluctuation of price and unstable demand for our main export crops have forced the estates to look for other alternatives for revenue generation. The avenues of diversification for these plantation companies include large-scale fruit farming and horticulture, aquaculture, animal husbandry and integrated farming.

a. Fruit Farming

Malaysia's import expenditure on fruits in 1984 amounted to 20.8 million with 104 million kilograms of imported fresh fruits. Malaysia has been able to produce about one billion kilograms of fruits. This shortage in local production is one of the reasons why Sime Darby venture into large-scale fruit farming in 1981. The company started with a 200-hectare fruit orchard in Negri Sembilan. There are 17,000 mango trees and 7,000 durian trees. The capital outlay was about \$2.5 million. To date, the company has sold 5,000 kilograms of mangoes while the durian trees are expected to begin fruiting in 1987. The company is looking into the possibility of processing mangoes into juices instead of selling the fruits. At the moment, they found that it is still profitable to sell the fruits to the local market rather than having them canned.

Fruit farming has also been identified as a profitable source of income by Pegi Malaysia. The company has also ventured into horticulture, where they started producing ornamental plants and fresh cut-flowers. Their target is the export market. With this development, it is hoped that the country will have enough fruits to fully support the development of a fruit processing industry.

b. Aquaculture

The Lion Corporation is currently involved in aquaculture. This activity, to be developed on a large-scale, can offer much to the company as well as to the small farmers. In their pioneering step, the company invested more than \$3.0 million to develop a tiger prawn project. This project is new, needs a large area as well as substantial capital. It is more feasible for large companies rather than small farmers to venture into this enterprise due to their advantages of finance, research and risk-

taking ability. The Lion Corporation have set up two research centers in Malacca and Selangor. They have thus spent \$12.0 million in building infrastructure and in developing technical expertise.

Even though aquaculture is a high risk investment, the expected desirable multiplier effects on the economy as a whole makes it attractive. With the technology developed successfully by private investors with government support services and expertise, small farmers could also venture into this industry.

c. Animal Husbandry

Malaysia has not attained self-sufficiency in livestock products. We need about 600,00 heads of sheep or goat annually and of this, only 10 to 15 percent are produced locally. Demand for meat and mutton are ever increasing, due to a rising standard of living, increase in population as well as demands for a wider choice of meat. These factors should provide enough reasons for private enterprise to venture in the livestock industry. One such entrepreneur is Palmco with interest in cattle breeding.

d. Integrated Farming

The activities in integrated farming are animal husbandry, oil palm and rubber cultivation and aquaculture. Two private companies that have been actively involved with such programmes are Kumpulan Guthrie and Lion Corporation.

The concept of integrated farming has been adopted in Southeast Asia, but we in Malaysia have still not attempted it on a large-scale. The integrated farming system could be developed to be a very dynamic industry where the components are complementary to each other. For example, waste from aquaculture could be turned into animal feed, while the waste from animal husbandry could be used as nutrients for the ponds. Waste water from the ponds which contains a high quality of nutrients could in turn be used to water the fruit trees and vegetables and other cash crops. This symbiotic relationship between inputs and outputs must be managed efficiently if the project is to be successful. For private enterprise such as Guthrie and Lion Corporation, this might not pose much of a problem with their expertise and managerial skill. When this concept is transferred to small farmers, we would need the support from the government and its agencies to ensure success.

e. Others

The above are only a few examples of investment opportunities open to private investors, large or small in the agriculture sector. As a developing country, there are still ample areas to be explored such as agro-based industry ranging from production, transportation and distribution, processing, marketing and related activities. It is clear that activities in the agricultural sector, especially the small holders in the

rural areas, are still confined to production and little of anything else. This should provide some ideas to those seeking opportunities in the agriculture sector.

Conclusion

To conclude, we saw that the agricultural growth experiences of developing countries during the past decades have shown it to be comparable to the industrial countries and studies have shown that developing countries as well industrial countries can benefit from a less restrictive system of world trade (Valdes, Tyers and Anderson). The outlook could be much more favourable if trade and pricing policies were improved. If resources were to be more efficiently used, this would require the removal of both the policy-induced biases that generally discriminate against agricultural production and trade in developing countries and the excessive subsidies that generate overproduction in industrial countries. Agriculture goods could then be traded in world markets, providing all countries with opportunities to increase their incomes by specializing in products in which they have a comparative advantage.

We have also seen that the National Agricultural Policy is giving market forces a greater role in agricultural development. Private sector investment is not only encouraged in investment, but also in marketing, distribution, processing and other services-related aspects of agriculture. With the provision of more incentives, increasing opportunities in all stages of the production process exist. There is a positive side effect from the current recession. For amidst the depressed commodity prices and gloomy prospects of other sectors, there is a renewed interest in agriculture and food production. Let's hope that this will not be a temporary trend but remain a permanent feature of Malaysian agriculture.

REFERENCES

- ABBOT, J.C. 1983. 'Agricultural Marketing Mechanism and Institution: their performance and limitations.' World Bank internal paper, Washington, D.C.
- Chamhuri Siwar. 'Impak dan Implikasi Projek-Projek Mambasmi Kemiskinan di Kalangan Petani Padi.' Paper presented at the National Padi Conference, 1986. MARDI, Serdang.
- Chew Tek Ann and Fatimah Mohd. Arshad. 'Comparative Paddy Pricing Systems in ASEAN.' Paper presented at the ASEAN Technical Seminar on Post-harvest Technology, Singapore, 26-29th August, 1986.
- Hillman, J. Non-Tariff Barriers, U. Nebraska Press, 1978.
- Johnson, D. Gale. 1973. World Agriculture in Disarray. London:McMillan.
- Malaysia. Fifth Malaysia Plan, 1986-1990. National Printing Department, K.Lumpur, 1986.
- Tyers, R. and Anderson, K. 'Distortions in World-Food-Markets: A Quantitative Assessment.' Staff Working Paper, World Bank.
- United Nations, Food and Agriculture Organization. Food Outlook Rome, various issues.
- United Nations, Food and Agriculture Organization, Regional Office For Asia and the Pacific, Second Session of the FAO Regional Commission on Food Security For Asia and the Pacific, Bangkok, 1985.
- _____, Selected Indicators of Food and Agriculture Development in Asia-Pacific Region, 1974-84. Bangkok, 1985.
- Valdes, A and J. Zietz. 1980. Agriculture Protection in OECD Countries: Its Cost to Less Developing Countries. Research Report 21.
- World Bank. World Development Report, 1986. Oxford University Press, 1986.