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SOME ISSUES IN MALAYSIA AGRICULTURAL DEVELOPMENT STRATEGIES

Nasaruddin Arshad
Bureau of Research and Consultancy, UUM

Zulkifly Hj. Mustapha
Faculty of Development Science, UKM

Emphasis is often placed on agricultural development as a vital component of the Malaysian economic strategies. The outcomes of this policy, without the risk of over emphasised, have been encouraging in terms of agricultural contribution to the gross national product, foreign exchange earnings, and national employment. Agricultural development also increases income of the rural poor significantly. Despite this, the success of agricultural development strategy is not without shortcomings, at least in terms of conflicts arised from multiobjectives of the development policy. This article goes some way towards, identifying some of the conflicts arised from the previous and present agricultural development strategies. Based on these conflicts, it discusses general areas that should be pursued to successfully implement the agricultural development strategies.

Agriculture has been the basic industry of the Malaysian economy and, as such, agriculture and economic development in Malaysia are inexricably linked. Unlike developing countries, such as Burma, Ghana Sri Lanka which neglected agricultural development in favour of industrial import substitution, Malaysia has adopted a balanced development strategy between the agricultural and industrial sectors (World Bank, 1979). Until recently, the outcomes of the said strategy have been favourable to the country as a whole, for Malaysia has experienced a rapid agricultural growth concurrent with a significant development in the industrial sector.

In recent years, however, the contribution of the agricultural sector has relatively declined. For instance, employment in the agricultural sector was registered at 40.2 percent in 1979 as against 45.5 percent in 1975. By 1990, it agricultural employment is expected to constitute only 35 percent of the total employment. Its share of the gross domestic product also decreased from 29.8 percent in 1975 to about 25 percent in 1979 and further decreased to 20 pecent in 1985. The declining trend in the relative importance of the agricultural sector was largely due to a rapid growth in the non-agricultural sector, particularly the

manufacturing and service sectors, and the petroleum industry (Govt. of Malaysia 1979). At the same time, the agricultural sector suffered a set back, particularly in terms of price instability in the world market. Nevertheless, due to its present contributions and size, the agricultural sector will still be the backbone of the Malaysian economy in the foreseeable future.

In view of the importance of the agricultural sector to the Malaysian economy, a well planned agricultural development strategies are imperative. In line with this, an attempt is made here to discuss and reconsider some aspects of the Malaysian agricultural development strategies. Our main objective is to highlight main issues that arise from the previous strategies implemented. First, it briefly reviews the present agricultural development strategies pursued by the government; second, it discusses some of the issues of conflict arising from their implementation; third, it mentions the major tasks ahead, and finally, it suggests some solutions to the various points raised in the previous sections.

THE PRESENT MALAYSIAN AGRICULTURAL DEVELOPMENT STRATEGIES

The Malaysian agricultural development strategies are manifested in the declared National Agricultural Policy enunciated in 1984. The policy is considered a reinforcement of earlier development strategies contained in documents such as the Five Year Malaysia Development Plans.

The National Agricultural Policy is generally aimed at continuously promoting a balanced agricultural growth in relation to industrial growth. Specifically, it is aimed at to maximizing agricultural income by utilising national resources efficiently and enhancing the agricultural contribution to the growth of the Malaysian economy.

As explained in the National Agricultural Policy, the agricultural development strategies embody activities that will promote investments in the agricultural sector with capital, modern technologies and trained human resources. It also includes the development of socio-economic institutions that will not only accelerate agricultural development but also generate modernization and commercialization of agriculture and new economic activities such as agro-based businesses and rural industries.

It is apparent that the strategies are biased toward the traditional and smallholder agricultural sector. This is justified because this sector is characterized by low productivity, high incidence of poverty, and widespread under-employment. The sector essentially operates under a system of low investment and inadequate organisation. Despite the shortcomings, the traditional and smallholder agricultral sector remains significant to the economy since it provides livelihood for about half of the working population and contributes significantly to the value of gross

domestic product. It is important to note that this sector is being populated primarily by the Malays who are politically dominant. The rural Malays have been an influential factor in political power-play and in maintaining the "Malay government". Their welfare and socio-economic status often have an impact on the general level of economic activity in the country. The improvement in their socio-economic status and income can maintain the present political stability, security, and confidence and thus create a happy and harmonious Malaysian society. An accelerated development of traditional and smallholder agriculture is also essential for the attainment of the social and economic goals envisaged in the New Economic Policy (NEP).

Generally, agricultural development strategies take three major forms in the efforts to increase agricultural production and, consequently, reduce poverty. They are, specifically, land development, *in situ* development, and institutional development.

Land development for agriculture has been a major means of developing the physical and human resources so as to create employment and increase productivity in rural areas. It has taken various forms which include the Federal Land Development Authority (FELDA)-type settlement schemes, Fringe Alienation and Rehabilitation Schemes, Youth Land Schemes, Joint Venture Estates, and Private Estates. Of the various types of scheme cited, the FELDA-type and the Youth Land Schemes are settled by participants.

In recent Malaysian agricultural development, large-scale land development has been significant in terms of public development expenditure allocation. It accounted for about 48 and 40 percent of the total public development expenditure for agricultural programmes during 1976-80 and 1981-85, respectively. Thus far, it has created a remarkable economic transformation in the rural sector. In terms of hectarage developed, the FELDA schemes have had a significant success (as shown in Table I) while the schemes developed by other federal agencies such as the Federal Land Consolidation and Rehabitilation Authority (FELCRA) and the Rubber Industry Smallholders Development Authority (RISDA), and by state agencies are of varying effectiveness. The schemes create productive employment, provide ownership of an "economic-size" holding, and enhance capacity to earn an income above the average Malay rural household. They also develop technology and group organization through management of input to raise the efficiency and productivity of the holdings up to the level of many private estates. FELDA-type land development schemes have been confined to the opening of new settlement areas, and to few tree crops, especially rubber, oil palm, coffee, sugar and cocoa, while other schemes places heavy emphasis on the rehabilitation, extension, and consolidation of existing holdings.

It is evident that progress in land development has been remarkable, at least in terms of acreage development and quantity exported. This progress has also brought about a sustained increase in productivity and income. Land development

TABLE 1: MALAYSIA: *PROGRESS IN LAND DEVELOPMENT*, 1981-85 AND TARGET, 1986-90
(hectates)

Agency/program	Fourth Plan target 1981-85	Achievement, 1981-85	Achievement, (%)	Fifth Plan target, 1986-90
Federal programmes	212,470	202,470	95.3	175,000
FELDA	161,600	161,600	100.0	175,500
FELCRA	41,100	31,100	75.7	–
RISDA	9,770	9,770	100.0	–
State programmes	217,200	158,000	72.7	93,700
Joint venture/private sector[1]	100,000	57,100	57.1	17,500
Total	529,670	417,570	78.8	286,700

Note:

[1]Refers only to land development in areas under regional development authorities.

Source: Government of Malaysia (1979).

(and settlement) concentrating upon tree crop development will remain a major strategy in the Malaysian agricultural development, especially when crops like rubber, oil palm and cocoa provide an economically viable investment despite their competitiveness in the international market.

In situ development is another agricultural development strategy that has been significant. Under the Fifth Malaysia Plan, 43 percent of the agricultural sector development budget is for *in situ* development. It is mainly a "reformative" strategy, meant to correct the defects in the agricultural infrastructure, the uneconomic size of holdings and poor farming methods. Ultimately, *in situ* development is intended to bring about structural changes in the agricultural sector. It takes two different forms, namely the integrated agricultural development project (IADP) and the normal departmental programmes.

To a large extent, *in situ* development has brought significant progress in the agricultural sector. It has extended the base of agriculture in some parts of the rural sector, primarily through capital investment and a wide acceptance of new technology such as high yielding varieties, chemical fertilizers, and pesticides. It has also improved farmer's access to capital with the provision of incentives such as input subsidies, and financial and technical assistance. With the existence of large areas of alienated agricultural land suitable for crop production, *in situ* agriculture will continue to be an important means of modernizing and diversifying agricultual production to improve the socio-economic status of the farming population.

Efforts to accelerate agricultural development often necessitate the development of socio-economic institutions. The function of these institutions are primarily to initiate and sustain economic activities as well as to acquire and deploy available resources. Institutional development and improvement are essential, particularly in Malaysia, because the farming population, in general, are lacking in agricultural facilities and, more often that not, encounter imperfections in the agricultural market.

Institutional development has been in the form of providing effective agricultural supportive services such as extension, training, credits, subsidies, research, marketing, and processing. In Malaysia, institutional development has progressed to the point where a proliferation of government agencies has taken place.

Institutional development is important for it provides channels for increased employment of human and physical economic activities. The existence of agricultural institutions has been the avenue for access to technical, financial, and other forms of input that improve farm productivity.

At the outset, agricultural development strategies have had considerable success. During the past years, with the exception for a few commodities, there

has been a rapid expansion in acreage of both food and three crop agricultures (see Table II). An increase in agricultural production, particurlarly that of export crops such as palm oil and cocoa, has also been noted. Increase in output has occurred both in terms of per capita of labour and per unit of cultivated land. However, as shown in Table III, the output of rubber has reached its plateau while that of padi, coconut, and paper has declined.

Employment in agriculture has also shown some improvement. A modest but significant proportion of the Malays has been up-graded from a traditional employment to a more promising one in land development schemes and double-cropping areas. However, there still exists widespread unemployment and under-employment, particularly seasonal under-employment, in the agricultural sector.

Rapid increases in output and employment have subsequent effects on the income level in the agricultural sector. There are indications that the income of the agricultural population in general is increasing. The incidence of poverty in the agricultual sector has declined throughout 1970–84 (Table IV). The quality of life among the farming population has also increased as many farmers have had access to better socio-economic amenities. However, the proportion of income increase for the Malay rural population, exluding the smallholder settlers in FELDA schemes, is still less than the non-Malay rural population. In fact, the income of a significant proportion of the Malay rural household is still below the poverty line of $300.00 per hosehold per month. This position is partly reflected in the nature of the economic activities carried out by the Malays and non-Malays. Among the whole range of smallholders, producers of export crops on FELDA schemes have achieved a considerably higher income than that of other producers. Padi farmers have also experienced increases in income returns, but it varies between regions, primarily owing to differences in the cost of production and input used.

While progress has been achieved in various segemts of the agricultural sector, it is also evident that this is not sufficient to provide agricultural employment and raise agricultural income to a satisfactory level. It cannot be said that the strategies have made a great impact on rural poverty, at least, at the macro level. In relation to this, we, of course, acknowledge that there are many inherent constraints which adversely effect the development of the agricultural sector.

ISSUES OF CONFLICT

Success in agricultural development is not without its shortcomings. Consciously or otherwise, the development strategies in agriculture during the past few development plan periods have created "controversies" in agricultural development. It takes the form of conflicts between the objectives of increased output, income and employment.

In the efforts to accelerate agricultural development through land development (and settlement) programmes, the strategy used has raised some conflicting issues.

TABLE II: MALAYSIA: *CROPS BY HECTARAGE*, 1980-85
(hectares)

Item	1980	1981	1982	1983	1984	1985
Rubber	2,004,670	2,006,070	2,005,840	1,971,260	1,978,580	1,959,00
Oil palm	1,023,300	1,117,900	1,182,800	1,253,00	1,349,200	1,464,900
Cocoa	123,800	158,800	193,500	215,100	242,000	258,00
Padi	735,215	767,640	758,400	764,200	769,750	775,220
Coconut	349,400	318,000	319,000	324,000	298,000	274,000
Pepper	12,720	13,405	12,800	11,360	10,550	10,000
Pineapple	12,180	11,600	10,610	11,050	10,620	10,250
Vegetables[1]	12,800	12,520	7,460	7,620	7,830	8,090
Orchards[2]	93,000	87,800	89,000	90,000	92,000	94,000
Tobacco	12,450	14,290	9,570	9,440	9,310	9,190

Note

[1]Refers to Peninsular Malaysia only and includes leafy, fruit, and root vegetables.

[2]Includes fruit trees, bananas, and watermelon but excludes pineapple.

Source: Government of Malaysia (1979)

TABLE III: MALAYSIA: *AGRICULTURAL PRODUCTION*, 1980-85
('000 tonnes)

Item	1980	1981	1982	1983	1984	1985	Percentage change, 1981-85
Rubber	1,530.0	1,510.2	1,494.2	1,563.7	1,529.2	1,450.0	−5.2
Crude palm oil	2,575.9	2,824.5	3,514.2	3,018.3	3,715.7	4,130.0	60.3
Palm kernel oil	222.3	243.4	337.0	372.1	415.2	501.9	125.8
Sawlogs[1]	27,916.0	30,653.5	32,824.4	32,783.8	30.702.3	31.340.0	12.3
Sawn timber[1]	6,238.0	5,564.0	6,293.0	7,139.0	5,807.6	5,500.0	−11.8
Cocoa	36.5	45.2	66.2	69.0	79.3	103.0	182.2
Padi	2,040.2	2,016.2	1,878.7	1.774.3	1,711.8	1,931.2	−5.3
Copra	787.5	255.0	257.0	264.1	265.1	250.0	−68.3
Pepper	31.6	28.8	25.3	24.5	15.0	19.0	−39.9
Pineapple	185.3	153.6	153.0	148.2	144.3	147.0	−20.7
Fisheries	743.7	766.6	693.6	742.1	670.2	697.1	−6.3
Livestock:							
Beef	17.2	16.8	17.3	16.7	17.4	19.1	11.0
Mutton	0.8	0.6	0.6	0.6	0.7	0.8	0
Poultry	125.6	127.1	129.4	138.6	151.8	154.4	22.9
Eggs[2]	2,534.7	2,592.2	2,690.1	2,783.5	3,240.5	3,460.9	36.5
Pork	135.9	144.4	143.0	141.5	154.6	158.8	16.9
Milk[3]	8,254.0	15,305.0	16,951.0	19,965.0	25,935.0	28.925.0	250.4

Note:

[1]Measured in thousand cubic metres.
[2]Measured in million
[3]Measured in thousand litres.

Souce: Government of Malaysia (1979)

TABLE IV PENINSULAR MALAYSIA: *INCIDENCE OF POVERTY[1] BY RURAL-URBAN STRATA, 1970, 1976, AND* 1984

Stratum	1970[2]			1976[3]			1984[4]		
	Total households ('000)	Total poor households ('000)	Incidence of poverty (%)	Total households ('000)	Total poor households ('000)	Incidence of poverty (%)	Total households ('000)	Total households ('000)	Incidence of poverty (%)
Rural[5]	1,203.4	705.9	58.7	1,400.8	669.6	47.8	1629.4	402.0	24.7
Rubber smallholders	350.0	226.4	64.7	126.7	73.8	58.2			
Padi farmers	140.0	123.4	88.1	187.9	150.9	80.3	116.6	67.3	57.7
Estate workers[6]	148.4	59.4	40.0	–	–	–	81.3	16.0	19.7
Fishermen	38.4	28.1	73.2	28.0	17.6	62.7	34.3	9.5	27.7
Coconut smallholders	32.0	16.9	52.8	19.3	12.4	64.0	14.2	6.6	46.9
Other agriculture[7]	144.1	128.2	89.0	528.4	275.4	52.1	464.2	158.8	34.2
Other industries[8]	350.5	123.5	35.2	510.5	139.5	27.3	763.6	76.5	10.0
Urban	402.6	85.9	21.3	530.6	94.9	17.9	991.7	81.3	8.2
Agriculture	–	–	–	24.8	10.0	40.2	37.5	8.9	23.8
Mining	5.4	1.8	33.3	4.5	0.5	10.1	7.8	0.3	3.4
Manufacturing	84.0	19.7	23.5	55.3	9.5	17.1	132.3	11.3	8.5
Construction	19.5	5.9	30.2	34.7	6.1	17.7	86.6	5.3	6.1
Transport and utilities	42.4	13.1	30.9	53.2	9.1	17.1	73.9	2.7	3.6
Trade and services	251.3	45.4	18.1	242.0	33.7	13.9	472.7	21.9	4.6
Activities not adequately de –	–	–	116.1	26.0	22.4	180.9	30.9	17.1	
Total	1,606.0	791.8	49.3	1,931.4	764.4	39.6	2,621.1	483.3	18.4

Notes:

[1]The incidence of poverty for 1970 was based on the per capita poverty line income, while those for 1976 and 1984 on the respective gross poverty lines incomes.

[2]PES is a sample survey covering 25,000 households in Peninsular Malaysia.

[3]The Agricultural Census, 1977 (for reference uear 1976) covered 188,000 households in Malaysia.

[4]The Household Income Survey, 1984 is a sample survey covering 60,250 households in Malaysia.

[5]Households have been redefines on the basis of the industry and occupation of the head of household.

[6]Statistics on estate workers for 1970 were derived from indirect sources and, therefore, not comparable with 1984. The PES did not make any distinction between estate workers and labourers on smallholdings. The Agricultural Census, 1977 did not covef estates, and, therefore, estimates on estate workers are not available for 1976.

[7]Includes other agricultural farmers such as oil palm smallholders, pepper smallholders, pineapple and tobacco farmers, and livestock and poultry farmers.

[8]Includes households engaged in mining, manufacturing, construction, transport and utilities, and trade and services sectors.

Source: Government of Malaysia (1979).

The large-scale land development programmes, particularly those of FELDA, require heavy investment expenditure from public funds. They are more costly than developing already estabilished areas. The development cost has been relatively high compared to smallholder scheme developed in other countries in Southeast Asia and Latin America (Hartley 1968 and Radin Soenarno 1971). This has given rise to a conflict between the attainment of employment and increased output objectives on one hand, and high investment cost on the other. Perhaps, the same public expenditure can be used for productive investment elsewhere, possibly creating more employment, better output gains, and larger increases in incomes.

Another related issue is that new land development benefits only a small group of people despite the heavy financial cost. In the context of a rapidly growing rural population, where widespread underemployment, unemployment, and the landless exist, land development and settlement programmes offer an immediate short-run method of expanding employment opportunities. However, a scheme of 5,000 acres, providing about 10 acre per settler, can only absorb about 400 to 500 settlers. FELDA, for example, has (since its inception in 1956) settled only 50,000 families. Although this has created a relatively 'wealthy' class of peasant farmers on the schemes compared to the average rural household, the percentage of beneficiaries compared to non-beneficiaries is still small. The total agricultural or rural population needs that to be settled is very large indeed and is rising. Therefore, meeting this need through FELDA-type schemes would place a tremendous strain on the available resources, both physical and financial.

The land development schemes provide the participants with a fixed acreage. In view of expanding households, the fixed land acreage of the settlers will, in the long run, be too limited to absorb the family labour into agricultural production. This may lead to underutilization of family labour, hence creating out-migration and possibly resulting in economic and social dislocations within the schemes and elsewhere.

This "dilemma" in land development strategy basically concerns the critical alternatives between the maximization of land productivity and the maximization of land development programmes, purely from the aspect of employment opportunities created. More often than not, maximization of land productivity may lead to a negative impact on employment; whereas maximization of land development programmes, may lead to a reversion to old practices in agriculture and may not lead to the desired objectives. Therefore, the choice between the alternatives appears to be one which will be more acceptable politically, socially, or economically, regardless of the consequences.

In situ development has also accentuated some inherent conflicting tendencies between the objectives. This is particularly so in the case of agricultural modernization and other benefits arising from it. In the case of padi, seedfertiliser technology facilitates an increased yield. However, this new technology requires greater farming intensity through a more careful cultivation, more use of fertilizer,

and better water control and management. This implies the requirement for more labour input per acre for cultivation and maintanance. On the other hand, because of the efficiency of complementary input such as fertilizers and water, the labour requirements per acre are not likely to increase as rapidly as yields per acre. This, then, will not help in providing employment opportunities in the padi sector, which supports the livelihood of about one-fifth of the country's population.

Mechanization of farm operations is another related issue. Mechanization is said to facilitate an increase in yield through effective and timely farm operations. In padi farming, mechanization appears to provide an answer to the shortage of labour, especially when it can help to supplement labour during "peak periods". Where farmers are already under-employed, farm mechanization may only worsen the situation. Farm machines may also lay idle and under-utilized during non-peak periods. As a result, there will be a waste of farm machinery at certain periods unless they can be used for other types of production. Affifuddin (1974) has shown that in padi, farming some 7 percent and 1.2 percent of the farm labour force was being displaced by machines in land preparation and harvesting, respectively. Generally, the displacement of agricultural labour tends to create substantial social and economic dislocations because the displaced labour, mainly the aged and the poorly-educated, in most cases, is not readily absorbed into other sectors due to the lack of appropriate skills.

In addition, it is also found that further mechanization, in the long run, is expected to bring problems ranging from fuel shortages to hard times for those who are already very poor. It is evident that fuel shortages and high fuel costs will be traumatic issues in a heavily mechanized agriculture. With mechanized agriculture, there is also the rising costs of production; this affects the income returns of the producers. For instance, it has been observed that the cost of three stages of farming operations (ploughing, transplanting and harvesting) rose from an average of $62.10 per acre in 1972 (off-season) to about $190.45 in 1978; and the average annual net farm incomes declined from about $3,600 in 1975 to $2,430 in 1978/79. It is also interesting to note that mechanization has given rise to another group of beneficiaries, i.e. the predominantly transnational companies which have profitably supplied the key input (hydraulic encineering, agricultural machinery, fertilizers and pesticides) which has been an integral part of the whole programme (Ishak and Sundaram 1979). If these companies are Malaysian-owned, their linkage to the agricultural sector will be more beneficial to the economy.

While there has been considerable achievement *in situ* development in terms of increased production and spread of new technology, access to capital and agricultural incentives such as input subsidies, subsidised production credit and other forms of support reflect an uneven allocation of public development expenditure. Such a situation prevails not only between sub-sectors but also within the same activity and group of beneficiaries in agriculture. For example, padi farmers in irrigation schemes tend to receive more support than their counterparts

in non-irrigated schemes. Similarly, in the case of land development schemes, the smallholder settlers under FELDA schemes are "more favoured" than those under FELCRA and other public or state land schemes. As the prime objective of agricultural development is to eradicate poverty, and poverty incidence in the agricultural sector cuts across all agricultural activities (and racial lines), the allocation and distribution of different rates of public support and subsidies to different areas of activities and groups of beneficiaries tend to conflict with the criteria of both allocative efficiency and equity. This would appear to be even more questionable when one compares the economic position of the beneficiaries of public expenditure programmes against that of the many non-beneficiaries. At the same time, as the number of persons who could benefit from the public development expenditure programmes are limited, the need for rationing the limited benefits among the many competing bidders is obvious. In the allocation and distribution as well as rationing exercises, Thillainathan (1977) suggested that the beneficiaries have often been chosen with reference to some political criteria rather than on economic grounds.

The "dilemma" in agricultural development strategy extends even to institutional development. Institutional development has also had paradoxical effects. In the given framework of bureaucracy and administration prevailing in the country,the existing proliferation of agencies often results in ineffective bureaucracy and excessive formality. It produces discriminatory allocation of public expenditure and political interference. This creates adverse effects in terms of integrated and systematic delivery of input to the farming population, especially when the farmers are very diverse in environment, receptivity, and opportunities.

TASKS AHEAD

From the progress achieved during the past few development plan periods, strategies towards attaining the objectives of agricultural development will naturally be continued along what we have seen over the last decade or so. Since there are structural deficiencies in the agricultural sector, we view that tasks ahead must include programmes of a reformative nature. To be specific, there are several avenues that should be pursed to successfully implement the agricultural development strategies. These can be identified as follows:

(i) Land Development

Land development and settlement programmes concentrating on tree crop agriculture will remain an important strategy in agricultural development especially when rubber, oil palm and, more recently, cocoa, provide an economically viable investment. However, the development of these crops may be hampered by unfavourable export prices and excessive competition with other producing countries and synthetics.

The export prices of all major primary agricultural commodities in the 1980's are below the expected level. The decline in petroleum prices and its effect on synthetic production costs have not improved the competitive position of natural rubber vis – a – synthetic rubber. This has resulted in lower demand for natural rubber. In the case of palm oil, prices and export demand in the 1980's are unfavourable due to excessive competition in oils and fats. As for cocoa, it has shown promise of becoming a major foreign exchange earner as Malaysia has been recognised as an emerging major producer of raw cocoa.

Despite unfavourable prices and the competitiveness of the agricultural commodities, the expansion of tree crop agriculture through land development will still remain an important strategy in the future. It will provide an important source of government revenue and, when developed on smallholder basis through new land development and settlement, will bring the poor to the levels of the middle class society, thereby maintaining the present political stability.

However, looking at the wider context of the NEP, the objective of agricultural development, and the issues on productivity versus equity, land development should do more than just provide a source of foreign exchange earnings through its production and benefit only a small proportion of the rural population. Possibly, using the criteria of effective allocation and equity, land development programmes should be designed to absorb more settlers with smaller farm size and lower, but still above average, income. Alternatively, land development can also be used as a means of promoting group farming via which more settlers can be absorbed. Organization of farming groups has great potential to be exploited as a grassroots channel for facilitating technology transfer, extension and training programs, delivery of credit, and other farm support services. This might be an alternative strategy for reducing existing poverty and other socio-economic problems. It will not only benefit a larger proportion of the population but also facilitate more equitable use of public funds for social, economic, and political ends. It may also become a more practical strategy when public funds and land resources become scarce.

(ii) Development, Dissemination and Transfer of Technology

There is no doubt that the development of new technologies and innovations through agricultural research plays an important role in fostering and maintaining growth in the agricultural sector (Mellor 1966). However, a wide gap often occurs between technologies resulting from research and their useful applications. This creates unresponsiveness, poor motivation and resistance to technologies by the farmers. Acknowledging the importance of new technologies in farming, the creation and development of modern technology should be more location-specific, i.e., adaptable to local conditions, taking into consideration geo-climatic as well as socio-economic constraints predominant in the areas in which the technologies are to be applied. The technologies developed should be indigenous so that the adoption of these technologies by the farmers could be speeded up. It should also

be appropriately adaptable on small farms as this will allow for more efficient and economic utilization of farm resources.

The choice of technology should be "demonstrably superior", not necessarily in terms of raising yield potentials, but in terms of other characteristic such as economic and technical feasibility and social benefits. This implies that the technology should be that which is low in cost, especially in terms of capital investment and purchased input, which minimizes risk, have a significant impact in a relatively short period of time, and can be popularised without the necessity of a sophisticated support system. In addition, the technology must be suitable for adoption by small farmers and minimize the displacement of labour. Above all, the development of modern technology requires the right institutional setting to effectively mobilize and manage the technology for productive purposes. At the same time, whatever alternative technologies considered need to be evaluated from the point of view of their potential social benefits and costs in terms of the objectives set forth (Asian Development Bank 1977).

Effective dissemination and transfer of technology is imperative. Extension agencies are responsible for disseminating information and technology to the farmers. More often than not, extension agents themselves lack resourcefulness, knowledge, and skills about the new or improved technologies that are to be extended. Also, they often do not fully comprehend the various social, economic, cultural, and agroclimatic conditions which prevail in the locality for which the new technology is intended to be used, and thus lack appreciation of the problems faced by the farmers. In addition to this, the farming population is also ignorant, and inexperienced, and lack new agricultural skill. Therefore, investment in human capital to upgrade the present status of farmers and extension agents is essential. It will not only foster better economic and social understanding between the two, but will also, to a large extent, transforms agricultural labour into manpower resources required for development.

Although new and approriate technologies are wanted, their application has a wider implication. The government must assure that accessibility to all farmers is guaranteed. Otherwise, technological development will create new issues such as wider inequality among farmers and this could result in social instability and inequitability.

(iii) Production Incentives

As the agricultural sector still operates under a system of low investment, the government's efforts to provide greater production incentives would be a further inducement to the farmers to expand production and adopt modern technologies. Incentives provided by the government such as input subsidies, guaranteed product prices, a better land tenure system and tax policies, must be expanded in terms of allocative efficiency and equity. This will enhance the expansion of programmes such as double-cropping of padi, crop diversification, including replanting and

rehabilitation, and the adoption of new economic activities. The provision of production incentives should also be diversified to include horticultural and food crops (other than rice), livestock and other new activities to accomodate the majority of the farming population. In addition, meaningful incentives to promote a multi-commodity farming system must also be intensified.

The present production incentives are indequate. Despite this, farmers are always being accused of having subsidy mentality. The accusation is far from justified in that the agricultural sector has for a long time, made many sacrifices for the non-agricultural sector. The time is right for other sectors to make a return contribution to agriculture through budget relocation in favour of agricultural production.

In the early 1980's, there existed large areas of land in Peninsular Malaysia, Sabah and Sarawak which were alienated for agriculture, but remained idle. Therefore, incentives which will lead to the development of these idle resources must be constructed and given some emphasis. Privatisation of idle land may be considered as a possible alternative.

(iv) Institutional Development

The development of various agricultural development institutions have led to some duplication. It has not only affected management, but has also resulted in some form of wastage. This, in fact, could be lessened if an integrated programme and approach in solving farmers' problems had been adopted long time ago. Consequently, there is a need for the agencies to work together in a coordinated and integrated manner so that agrarian problems are solved systematically and pragmatically. There must be an effective and meaningful linkage between the agencies concerned, and there must be a concensus among the agencies as to how best to bring about development. This approach will minimize duplication of efforts and competition and farmers would at the same time, benefit from efficient services and effective guidance toward modernizing the agricultural sector. To this end, the government should urgently plan and streamline the programmes of the various agencies and encourage for a more structured set of "client-oriented" institutions to act as nerve centres for all farming activities.

To complement institutional cooperation and coordination, integrated agricultural development should be intensified. This will initiate a progressive rural structure through viable and dynamic socio-economic institutions in the agricultural areas to bring out development.

(v) Rural Industrialisation

The development of agriculture in the future has vast potential in agro-based industries. These industries provide a linkage between agricultural and industrial sectors. One advantage that we have is the availability of a wide range of agricultural

products. This offers considerable scope for investments which could transform them into commercially viable products. In addition, the agricultural sector can also maintain it supply regularly and this reduces inherent problems associated with irregular supply of raw materials. Based on this potential, the government, therefore, must deeply exploit this sector. In addition to promoting investment in the agricultural sector, the government must also maintain a better dispersal of industries into rural areas.

Rural industrialization, especially in the periphery of the rural areas, will provide more employment opportunities for agricultural labour. Industries have demonstrated a higher capability of providing employment as compared to agriculture. Therefore, the mobilization of resources towards this end provides potential employment and capital investment for the benefit of the agricultural sector and the total economy as a whole.

At the same time, it will mitigate the burden of out-migration of rural youth to urban centres in search of better employment opportunities.

The development of agro-based and food-based industries to promote rural industrialisation, would certainly, require incentives and assistance from the government. Even though the National Agricultural Policy has made provisions for this, its adequacy is questionable. The location of any industry is determined by economic factors and, as such, dictating industries to locate themselves in rural settings will not be successful unless sufficient attractions are provided. More often than not, rural industrialization requires a heavy investment from the government itself.

CONCLUSION

The strategies for the development of the agricultural sector will need to continue with policies and measures to improve the agricultural sector. The continuation of these strategies is important as they carry social, economic, and political overtones and, to a large extent, have promoted agricultural (and economic) growth, social security, and political stability in the country.

The commitment of the government to accelerating agricultural development and the pursuance of the said strategies will demand greater public sector support and the country's available resources. However, in the effort achieve the agricultural development objectives, there is a tendency of growing dependency of the farming populations on public support in all agricultural activities. Such a tendency may, in the end, be unhealthy and affect the growth in the agricultural sector when resources become limited. However, at present, such a dependency is justified on the premise that the agricultural sector had made many sacrifices and contributions to the development of this country.

All in all, effective management of the agricultural sector and the successful implementation of the agricultural development strategies are desirable if the sector is to brighten the future of the Malaysian economy.

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