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ASEAN AGRICULTURE: MAINTAINING THE MOMENTUM

The Asean five - including, strangely enough, the city state of Singapore - have a remarkable achievement to their credit. Despite the fact that their population increased in the aggregate faster than that of the world or of developing countries taken as a whole, the five are producing more food per capita than any other region in Asia, Africa or Latin America.

In the midst of all the exciting changes taking place in the five countries, the less visible transformation that has taken place in the countryside has gone almost unnoticed. This is an omission that needs to be rectified because the reasons for the advances made on the farms have to be clearly understood in order to decide how this pace of growth can be sustained in future years. This decision will involve a judgement on the priority that should be accorded to agriculture by taking into account the benefits that its rapid growth has brought to the five economies.

Before we do that, let us look at where Asean agriculture stood in the mid-1970s. Alarmed by the world-wide food shortages of 1973-74, the Asian Development Bank undertook a wide-ranging study of the agricultural situation in its member countries to arrive at the conclusion that, even if output increased at a fairly high rate, four out of five Asean countries would face serious deficits in cereals in 1985. The gap was estimated to be as high as 14 million tons for Indonesia.

Indonesia undoubtedly continues to import cereals to feed its 150 million people; a reflection of the persisting gap. But the volume of imports is around 3 million tons a year - far less than the bank had feared. Also noteworthy is the fact that the Philippines has become a small exporter of rice although its total food imports have remained unchanged. Again, Thailand's food surplus available for export has grown instead of stagnating or diminishing on account of population pressures.

This remarkable change in fortune has come about as a result of an acceleration of agricultural growth in Indonesia and the Philippines and the continuance of growth at reduced but still satisfactory levels in Malaysia and Thailand. Their growth at 5.2 and 4.5 per cent respectively was well above the average of 3 per cent for all middle-income LDCs (less developed countries).

The net effect of these growth rates can be best judged by an indicator translating production of food crops to a per capita figure. By taking the average production in each country during the three years 1969-71 as 100, the average for 1979-81 ranged from 118 in Indonesia, 122 in the

Philippines, 129 in Thailand, 139 in Malaysia and 148 in Singapore, according to the World Bank's **World Development Report 1983.**

These figures - better than those for all groups of LDCs - need to be treated however with caution. They include food in all its forms but do not specifically focus on cereals, the mainstay of human survival. In that respect, the Asean record needs to be qualified. Production of cereals per head of population has increased in three countries by 11 per cent in Thailand, 17 per cent in the Philippines and 28 per cent in Indonesia but declined by about 13 per cent in Malaysia.

Fortunately, this has not had any adverse effects on Malaysia's population. It could afford to augment supplies through imports because foreign exchange was not a problem. Moreover, its per capita requirements are going down fast because of its growing affluence. As countries move up the income ladder, they tend to require less cereals and more of other sources of nutrition like milk and meat. This implies that, in the light of their growing per capita incomes, Asean countries will have to plan for their future food needs in a broader perspective to include such supplementary items.

Producing the supplements may require land that is now used for cereal crops. Whether such conversion should take place should depend on two factors. First is the effect on individual farm incomes and hence national income, and this will usually favour a shift from cereals. The second is the effect on the country's food security. As long as the loss of food grains from diversion is not too large, a slightly greater reliance on imports should be acceptable, more so because of expert projections - by the World Bank among others - that price increases in the next 15 years are likely to be modest.

It needs to be noted however that total cereal imports of Asean at about 7.2 million tons in 1981 - 43 per cent on Indonesia's account - were 86 per cent larger than in 1971. This suggests a particular need for caution in the Indonesian case. Given the size of the country and the fact that cereal imports already account for about 8 per cent of the total national requirements, Jakarta has a particular need to augment cereal production. Even at the present level, its imports of rice take up a sixth of the total world exports.

This brings up the question of what the countries should do to sustain agriculture growth. This is best answered by looking at what the four Asean agricultural countries (excluding Singapore) did to achieve the impressive outcome of the 1970s. To an extent, all four relied on an extension of the agricultural area by bringing uncultivated land under the plough.

A set of figures comparing the average arable area between 1961-65 with that in 1980 shows an increase of 46 and 43 per cent in the case of the Philippines and Thailand. Not surprisingly, cropped land per head of the population dependent upon agriculture for livelihood showed no decline in their case - as it did in Indonesia and Malaysia.

However, extension of agriculture was often into lands of marginal utility. Yields from such areas were poor, and the gain in total national output smaller than would otherwise have been the case. In fact, the rise in acreage in some instances poses a danger to the environment by encroaching on forests that protect valleys from erosion or serve other ecologically vital purposes.

In delta areas, farmers moved into low-lying lands and thus increased the damage potential of floods. There is, therefore, a good case for taking some hill or riverine areas out of cultivation - specially in northern Thailand and Java - but this is feasible only if the affected farmers can be resettled elsewhere.

A more important contribution to agricultural growth was made by the improvement in yields. This was basically due to an extension of irrigation which permitted double and triple cropping and also allowed farmers to switch to new hybrid seeds offering much higher yields when assured of the right amount of soil moisture and nutrients.

Of the five Asean countries, Indonesia is the country which has the highest proportion of its arable area under irrigation - about two-fifths in 1981. The Philippines ranks next but a long way behind with less than one-fifths. The ratio in Thailand is a little lower but in Malaysia it is only about one-tenth. Looking at it from the different perspective of the increase in irrigated area in the last 20 years, the gain has been proportionally the highest in the Philippines. In 1981, it had 1.3 million hectares under irrigation or almost three-quarters more than the average for 1961-65. The corresponding gain in Thailand or Malaysia was about 50 per cent and in Indonesia about 30 per cent.

Increases in average yields of a crop like paddy should correspond roughly to the rise in irrigated acreage because it is one of the major beneficiaries of irrigation. This, however, is not the case. The only explanation available for the moment for the discrepancy between an increase of less than 5 per cent in Thailand's paddy yields despite a 50 per cent rise in the area under irrigation is that the countrywide average is being pulled down by the poor crops harvested from marginal areas in which farming has been extended to grow rain-fed rice.

The average paddy yield in Thailand was almost a quarter lower than the Asian average in 1971; the difference

increased to one-third in 1981. In contrast, the Philippines' average was 40 per cent lower in 1971 but was reduced to 25 per cent by 1981. The benefit from irrigation is clearly brought out to the latter from a 50 per cent rise in yields while that to Thailand is limited to a rise in overall paddy output by 38 per cent, or by slightly more than the 29 per cent increase in the harvested area.

Malaysia's performance is better than Thailand's, though the 18 per cent increase in yields is small in comparison not only to the Philippines but also the 39 per cent gain chalked up by Indonesia. The question to ask in the case of the laggards is whether irrigation water is being used to best advantage. The problem may derive from technical inadequacies of the particular irrigation project (as established in the case of the Muda valley, Malaysia's rice bowl) or from social and institutional handicaps which hinder efficient and equitable use of irrigation water.

As the World Bank's **World Development Report 1982** pointed out in a survey of irrigation management in all LDCs, "yields are well below their potential in many areas and water is wasted. Poor design and construction of tertiary channels that bring water to the farmer's fields explain the inefficiency of irrigation systems". But as it says this is a lesser problem than that arising from faulty design.

Watering of the fields according to a demanding routine, guarding against both an excess or deficiency of moisture, is a critical requirement for growing the high-yielding varieties of paddy. Another is plenty of sunlight which is best assured when the skies are cloudless outside the rainy season. This is why the benefit from the new seeds is the greatest in the case of second season crops. Their use has spread to almost all suitable areas in the Asean countries. As a result, further increases in output from this source are unlikely to be as dramatic as during the years when farmers were changing over from traditional seeds to the new ones.

This is not to suggest that the growth potential has been exhausted. There is considerable scope, specially in the Philippines and Thailand, for getting more out of the acreage now planted to these new seeds. This is evident as much from the gap between their yields and the Asian average as from the figures for fertilizer consumption. Even allowing for the fact that much fertilizer is used for tree crops in Asean countries, particularly Malaysia, the average consumption per hectare of arable land is a good measure of the intensity of smallholder agriculture. A high average is almost always associated with high rates of growth of both total agricultural output if not of cereals.

Among the Asean four, Malaysia takes the lead by using 1,851 kg of fertilizers per hectare while Thailand stands at the bottom with only 162 kg. (The figure for Singapore is an astonishingly high 5,500 kg, suggesting that market gardening over small patches of land is not only intensive but fiercely so.) While there is no internationally relevant norm which can be used to determine what the usage should be in a particular case, there is clearly scope for stepping up fertilizer application in all Asean countries (pointers being China's use of 1,546 kg per ha to offset its highly adverse land/man ratio, and of Egypt's 2,324 kg for the same reason).

The adequate use of inputs is, however, only the starting point of agricultural advance. Equally, if not more, important is to provide the right economic environment in the shape of price incentives, credit, and marketing infrastructure. The Asean record in these areas is a mixed one; the export taxes levied on agricultural exports in all four countries are no doubt necessary to obtain revenues for development but the incidence on particular crops has not been always fair or even wise. The tax bias in favour of oil palm in Malaysia was needed to push its production but this has been carried so far that the growth of rubber, a commodity with more assured market prospects, is now at a standstill.

Crop diversification has been an even more important source of growth in agricultural output and incomes in Thailand. Its example strongly suggests that the same approach will have to be adopted in the Philippines to reduce its very heavy dependence on coconut and sugar. The task in Indonesia is different; a diversified agricultural base already exists but parts of it - the plantations - have languished for want of adequate investment. This neglect has to be remedied in order to improve the economy's export prospects and to improve rural incomes.

In Asean economies, the overall income derived from agriculture will continue to fall as a proportion of the total. This is a **sine qua non** of modernisation and development. But the incomes of those depending on agriculture for livelihood must rise nevertheless. If it does not, the urban drift may become unmanageable to the detriment of both rural and urban areas.

The remedy has to be sought through careful policies for raising agricultural productivity so that rural incomes may rise without jeopardising export prospects or the urban cost of living. These policies will have to be supplemented with others to improve the quality of life in rural areas through better distribution of educational and health services and recreational facilities.

In sum, improvement of agriculture is a large task with many different but interlinked facets. Progress in any one respect cannot go very far unless there is a parallel advance in respect of others. But this is only to be expected because agricultural progress of a country is the sum total of millions of private decisions at the level of farm households. Getting them to move along in one broad direction is without doubt the most difficult challenge facing the economic managers of any country.