Employment and Income Aspects of Recent Agrarian Reforms in the Middle East

Doreen WARRINER [1]

THE QUESTION whether agrarian reform can be an important factor in raising rural living standards and increasing employment through fuller utilisation of the farm labour force must necessarily be considered in relation to specific contexts of development and particular types of structure. This article, concerned with actual rather than hypothetical results, refers to these conditions in the Middle East region, in order to show how they differ from those of other regions and explain the obstacles to raising farm incomes and increasing employment which have been encountered in the agrarian reform policies of three countries, the United Arab Republic (Egypt), Iraq, and Iran.

Land and labour utilisation

As is well known, the ecological conditions of the Middle East, apart from the Nile Valley and Delta and certain zones of high rainfall, are adverse to agriculture. The region is arid, most of it desert. On semi-arid land, cultivation may be possible, with low and unstable yields, but it can increase the danger of soil erosion. These risks are illustrated by the experience of the 1950s in north-eastern Syria and northern Iraq, where rapid expansion in mechanised grain farming ended with the long drought of 1958-61, when the land went back to the desert, except to the extent that the profits of prairie farming had been invested in irrigation for cotton cultivation. The feature that distinguishes the Middle East from other parts of the world is that there are no large reserves of land which can be taken into cultivation at low cost with the prospect of stable yields. Iran is a possible exception to this generalisation, but such prospects as there are have local rather than national significance.

[1] Professor of Economic and Social Studies of Eastern Europe, University of London.

Through its influence on the type of land use, shortage of water determines employment potential. On semi-arid land, whether used for grazing by the herds of the bedouin or for grain growing by tractor-farmers, labour requirements per acre are low, though in the latter case with high output per man. On irrigated land which is regularly supplied with water more than one crop a year can be grown, so that labour requirements per acre are higher whether methods of cultivation are mechanised or not. That is to say, land without water is a meaningless abstraction, an important point which can be underlined by comparison of man/land ratios in the three countries. In the UAR (Egypt) the area of cultivated land per male worker in agriculture in 1960 was 0.6 hectare (1½ acres) (the area under cultivation being identical with the area used for agriculture); this ratio indicates an exceptionally high density of farm population. In Iraq the area of land in cultivation (i.e. under grain and fallow in alternate years) per male worker in 1957 was about 5 hectares. On the basis of recently published figures for Iran the area of crop, fallow and orchard land per male worker in 1960 can be estimated at 3.5 hectares.[1] In the two latter countries land use figures are conjectural; rough estimates suffice to show that the average density of farm population is much lower than it is in Egypt.

If land quality were homogeneous and water supply uniform in volume and regularity, these comparisons would be significant, since larger area per head would indicate that output per man is higher in Iraq and Iran and that farm workers are more fully employed than in the UAR. This is not the case. Because the land of Egypt is almost all perennially irrigated, exceptionally fertile and very highly farmed, one acre of land produces four crops in two years, as compared with one crop in Iraq and Iran, while yields per acre in Egypt are three times higher than they are in Iraq and Iran. Rather more than half the land of Iraq relies on low and variable rainfall, the rest on seasonal irrigation; in Iran most of the northern zone relies on low rainfall (though in the fertile Caspian region rainfall is high), while the greater part of the country depends on irrigation from scanty water supplies. So the higher level of land productivity in Egypt is more than enough to offset the effect of small area per worker, while labour requirements on the small average area per head are probably higher than on the average areas in the other two countries. The point of making these comparisons is to show that low man/land

[1] This figure is based on a total of 3.2 million male workers in agriculture in 1960, and a total area in cultivation estimated at 11.5 million hectares. This area comprises 6.4 million hectares under arable crops, 4.8 million in alternating fallow, and 325,000 hectares in orchards and gardens. The same estimate classifies 6.7 million hectares as " natural pasture " and 4.7 million hectares as " lands which could be utilised without much improvement". See Abol Ghassem Dehbod: *Land ownership and use in Iran*, Symposium on Rural Development (Tehran, Central Treaty Organisation, 1963). Other estimates give much larger areas as " potentially cultivable ". These figures are largely illusory. See H. Bowen-Jones: " Agriculture ", Chapter 18, in *Cambridge history of Iran*, Vol. 1: *The land of Iran* (Cambridge, 1968).

ratios give no indication of income or labour utilisation potential, nor does a low level of crop yields necessarily indicate scope for intensifying cultivation, under conditions of limited water supply.

Underutilisation of labour takes different forms. The UAR is agriculturally overpopulated, in the sense that the supply of labour on the present land area is excessive in relation to labour requirements, although these are exceptionally high. Opinions differ as to the size of the true surplus (i.e. the number which could be removed from agriculture without reducing production). According to the First Five-Year Plan estimate, the surplus in 1960 amounted to 25 per cent of the male agricultural labour force, or 1.1 million out of a total of 4.4 million. Hansen argues that there is open unemployment among farm labourers and large seasonal underemployment but that there is no absolute surplus because the permanent labour force is fully employed in the peak seasons.[1] In practice, these conditions are difficult to distinguish without making rather rigid assumptions about the elasticity of substitution of female labour and the length of the peak seasons. In sparsely populated Iraq labour is underutilised, because in a wasteful and extensive system of land use labour requirements per acre are low, and would be lower still if machinery were introduced. Of the three countries, Iraq is the only one of which it can be said that a larger labour force could be more fully employed at higher levels of output and income per man, given certain technically and financially feasible improvements in irrigation. In Iran there is both underemployment, due to low intensity of cultivation, and local overpopulation in innumerable mountain valleys, where the danger of soil erosion necessitates withdrawal of land from cultivation.[2]

Irrigation and employment

In these various conditions of excess labour supply, fuller utilisation of labour depends on fuller use of water resources. Estimates of the potential increase in agricultural production (and therefore of potential employment) must necessarily be based on surveys of water resources and estimates of the cost of bringing them into use. For the valleys of the Nile, Euphrates and Tigris such surveys have been made (in the last case almost down to the last fruit tree). In Iran, a land of small rivers, some local surveys have been undertaken and some dams have recently been constructed.

In very large measure, fuller use of water resources depends on the investment of capital in water storage projects, with high capital costs which cannot be financed by capital accumulation in the agricultural sector. Iraq between 1950 and 1963 invested £100 million of its oil revenues

[1] Bent Hansen and G. A. Marzouk: *Development and economic policy in the UAR (Egypt)* (Amsterdam, 1965), pp. 60-64.

[2] Bowen-Jones, op. cit.

in flood control and barrages, a large sum in relation to its small agricultural population. As a result of the completion of these large schemes, before and after the 1958 revolution, flood danger has been reduced, while the new storage capacity is sufficient to extend the area in cultivation and, more important, to allow double cropping on a much larger area than before. Yet, even so, further large capital expenditure on land drainage will be needed to reclaim the enormous areas of land now derelict owing to salinisation. The total cost of the construction of the High Dam at Aswan was originally estimated at £E404 million (£420 million) of which about half had been spent by 1968; in addition to providing electrical power the High Dam will provide water sufficient to irrigate 1 million acres in addition to the 6 million now cultivated, and also to enable more intensive cultivation by conversion of the remainder of the basin-irrigated land to perennial irrigation. These figures are quoted to show that the fuller use of water resources, on which fuller use of the farm labour force depends, is neither cheap nor easy. Iran could no doubt make fuller use of its water supplies by smaller-scale schemes, using not only barrages but also wells and pumps; but even these cost more than the individual peasant farmer can afford.

However, the natural resources of Iraq and Iran favour industrial development of a highly capital-intensive type. Oil production in these two countries employs no more than a small fraction of total labour force, but its share of national income is greater than that of agriculture, which in Iraq in 1965 employed 50 per cent of total labour force and in Iran 57 per cent (FAO estimates). However, though oil production increases employment only indirectly, to the extent that it increases the demand for labour in construction and transport the investment of oil royalties accruing to the government can finance the improvements of the infrastructure needed for more capital-intensive agriculture, on which increased employment depends. In the UAR, where oil production is still comparatively unimportant and cotton is still the main export, there is not the same scope for inter-sector capital transfer.

In all three countries urban labour supply is now growing faster than urban job opportunities. Apart from the extreme case of oil, recent industrial development has been of the capital-intensive type, most strikingly in the UAR. Demand for labour is now increasing rapidly in the construction sector in the UAR and Iraq and in Iran also. So far as agriculture is concerned, the immediate prospects for increasing employment lie in building dams, digging drains, installing pumps and wells, rather than in agricultural production itself, where the long-term employment prospects depend on increased and regularised water supply based on these improvements of the infrastructure.

In consequence, agrarian reform policy is likely to be an important factor in raising rural living standards and increasing employment through fuller utilisation of the labour force only if it is associated with

changes in the type of land use; and these largely depend on increased investment in irrigation. Such investment can result in an *immediate* increase in the number of jobs in construction, and to a long-term *sustained* increase in incomes and employment in agricultural production. Incomes can of course be redistributed in favour of former share-croppers and labourers, through expropriation and distribution of landownership and through control of rents and conditions of tenure. But the effects on incomes and employment of structural change alone, without change in land use, are very limited, and dependent on the method of reform.

The pattern of landownership and its effects

To assess the range of effects from structural change, the peculiarities of the structures existing before the recent reforms (described below) must be taken into account. Can it be said that they prevented more intensive land use? It has already been emphasised that shortage of water is the main limiting factor, and that the cost of large projects put them beyond the reach of the private investor, and also beyond the reach of capital accumulation within the agricultural sector. Whatever the influence of the structure may have been, it was certainly secondary to that of the environment. Within the limits set by environment, however, the structure determined the use made of the available resources in labour, land and water, principally through the extent to which the large landowners exercised certain functions of capital investment in maintaining the fertility of the soil and the fixed capital equipment used in irrigation. The success or failure of structural change depended mainly on whether it provided a means of replacing these functions and improving their efficiency.

In order to bring out the importance of this point, it must be emphasised that these Middle Eastern systems deviated in important respects from the demonstration models commonly used in the analysis of structural change, which are derived from the experience of countries where underutilisation of labour was connected with underutilisation of land, rather than water. In the first of these models, which for brevity of reference may be called Model A, the landowner is a pure *rentier* who, by reason of his political power, is able to exact from cultivators a produce-rent which is in fact a tax on farm produce in return for no productive service. This type of structure is found in primitive types of farming, in which all capital equipment used, implements, seed and livestock, can be produced or provided by the peasants themselves. When the produce-rent is abolished, the effect is that of abolishing a tax on production; the increase in the return on their labour is an incentive to the cultivators to work harder and produce more. As Dovring says, " Where land and labour are the sole or main production factors, the family farmer's willingness to work overtime will be a powerful

factor in land reforms." [1] (This result is well attested by past experience in Eastern Europe.) If, however, landowners have provided some capital inputs, as for instance the advance of seed, these inputs will need to be replaced by co-operative or some other form of credit organisation, if the incentive of ownership is to be effective. If capital inputs were made on a scale larger than that of the individual farm holding, then their replacement is more complicated.

To the extent that the landowners in these three countries took a large share of farm income in the form of produce-rent from cultivators, by reason of their political power, and used their income for personal consumption rather than for investment, the structures conformed to this model and the effect of redistribution of ownership should be similar, i.e. a higher incentive to work. But the magic of ownership cannot turn sand into gold unless the sand can be watered. The landowners were not pure *rentiers*; they provided certain capital inputs. If these could be provided by the peasants themselves, after redistribution, then the Model A effect should result.

The Iranian land system resembled Model A rather closely, which may explain why a comparatively simple reform measure had good immediate effects, subject to certain limitations. The similarity was marked in the northern regions of the country, which depend on rainfall, and where the peasants cultivated with their own livestock and used their own seed and implements, so that the abolition of the rent payment and the right to purchase the holding increased incentive to work and bring more land under the plough where this was possible (though not necessarily desirable on ecological grounds). Most of the cultivated land of Iran, however, depends on irrigation, the most common method being through conduits *(qanats)*, for the maintenance and construction of which the landowner provided the capital out of the rents taken from the peasants. Often, however, maintenance was neglected and the conduits were allowed to fall into disrepair. If the peasants could take over this function, production could be increased, as in Model A; not otherwise.

In the second of these models, which may be called Model B, the large properties are large enterprises employing paid labour, while the smaller properties employ, or partly employ, the labour of the farm family. The intensity of land use varies inversely with the size of the holding; that is to say large properties, aiming at maximising net profit by minimising costs of management and labour, practise extensive types of farming, with low labour requirements except at peak seasons. The smaller holdings, with a family employment commitment, obtain higher yields by applying more labour to the acre, with a lower net income per unit of labour than the large estates. Although the net return to labour is less on the small farms than on large estates, their family income is higher

[1] Folke Dovring: *Land and labour in Europe, 1900-1950* (The Hague, 1956), p. 131.

than that of the families seasonally employed on the large estates, because their labour is more fully employed. Experience has shown that reforms on Model B are by no means so foolproof as reforms on Model A, because they necessarily involve changes in scale; but at best they can lead to sustained growth, whereas the Model A effect can be exhausted within a generation.

In so far as the distribution of landownership was polarised, the former agrarian structures of the UAR and Iraq conformed to Model B, but there was no observable inverse correlation between intensity of land use and the size of the property. Large estates in Egypt were centrally managed enterprises, whether they employed wage labourers or used share-cropping. They produced as a rule higher yields than the small farms, because they use more capital to the acre in the form of fertilisers, better seed, and pesticides. Small farmers used the same intensive methods of cultivation, but with less capital because they lacked credit. Irrigation had long been a function of the State, so that small farmers were not at a disadvantage for this reason. To cut up the big estates would not increase incomes or employment unless the former capital inputs could be maintained and increased.

As to Iraq, the large estates used land extensively and wastefully. The sheikhs did not maintain soil fertility, preferring to shift cultivation about in their vast tracts and abandon land as it became saline, rather than incur the costs of drainage, the only means by which salinisation can be avoided in most of the irrigation zone. However, they invested in pumps and so increased the area in cultivation; through their agents they controlled sowing and harvesting and marketed the crops. Small owners were no better at maintaining soil fertility. One of the largest state land settlements, started in 1946, has now been entirely abandoned because the land is completely saline, owing to lack of drainage, while another is going derelict because the drains installed are blocked with weeds. Like the sheikhs, small owners preferred quick returns to long-term gains.

So the prospects for successful reform depended on replacing the functions postulated by the A and B models or introducing more complex ones. Entrepreneurship was not lacking, for the commercial interests which opened up new lands in the 1950s showed a much greater ability to respond to rising prices and new technology than might have been expected from the feudal stereotype. Much of this expansion, however, increased wind erosion, a common result of mechanisation in this region. A similarly rapid but more stable expansion of cultivation was carried out in the 1950s by city merchants in the Iranian province of Gorgan on the south-eastern shore of the Caspian, a region with good soil and high rainfall. The sale of the royal estates in this province (often publicised as land reform) also attracted as purchasers landowners from other parts of Iran, politicians and civil servants; some peasants also were settled there. This development increased farm incomes and attracted labourers

on quite a large scale from other provinces into permanent employment, showing that intensification can be carried out on both large and small holdings when prices are rising and the environment is favourable.[1]

Aims and consequences of the agrarian reforms

" The decade of agrarian reform and the emancipation of the fellahin " [2] has brought about great political and social changes in the Middle East, notably in the three countries considered here. In the UAR and Iraq the power of the great landowners has been broken, while in Iran it has been undermined. With important differences in underlying motivations, the three policies were concerned with the same general aim, the redistribution of landownership by the expropriation of the largest properties and the distribution of their land, in excess of certain maximum areas, to former share-croppers and tenants. This aim has been achieved on different scales, by different methods, and with marked contrasts in the effects on farm production, incomes and employment.

The purpose of this article is to account for these contrasts, by eliciting the main factors which determine success or failure in these respects. Having considered the limits set by environment and former structure, we can now look at the influence of political and social factors during the process of structural change, as they emerged in the political background; in the method of reform, in particular the replacement of landowners' functions; and in the relationship between officials and recipients of land.

In considering political aspects, there is no need in the present context to examine underlying motivations. From the standpoint of this article, the political background is important only to the extent that it helped or hindered continuity in implementation. To result in any sustained rise in rural living standards and in any degree of fuller utilisation of labour, it goes without saying that an agrarian reform must be integrated; the implementation of the first phase must be carried through at once and accompanied or quickly followed by provision of the necessary supporting services.

In all three countries reforms originated from above. Action followed promptly on the promulgation of the agrarian reform laws. None of these measures found support in urban opinion, which was largely hostile, nor were they carried out in response to demands from the peasants themselves. Peasants liked ownership when they got it; to demand it lay beyond their powers and aspirations, because under the old régimes nothing resembling a peasant movement could have emerged. In the

[1] Shoko Okazaki: *The development of large scale farming in Iran : the case of the province of Gorgan* (Tokyo, Institute of Economic Affairs, 1968).

[2] Dr. Riad El-Ghonemy, surveying progress in the region in 1965, in *Land policy in the Near East* (FAO, 1967), p. 90.

misery of Egyptian villages there had been chronic discontent long before 1952, but the numerous abortive reform bills presented to Parliament never linked up with it. In the early 1950s, Amara in southern Iraq seethed with unrest, which shortly before the revolution spread to the neighbouring province of Kut. Yet this unrest did not trigger off the revolution, though when the new President promised the peasants the land in 1958 they demonstrated enthusiastically in Baghdad. In Iran the villages began to stir into life when the first stage of the reform was being carried out; not before. So reforms from above met with some response from below, and to varying degrees were carried out in the interests of the peasants.

In the UAR and Iraq the immediate political objective of getting rid of the old régime and the landowners who embodied it certainly loomed larger at the start than the economic and social objective of benefiting the recipients of land. In the UAR, however, policy turned firmly in the latter direction, as soon as it became clear that the scope of redistribution under the first law was much less than had been anticipated, owing to evasion. The Government continued to enact new laws for redistribution, long after the landowners were out of the political picture; rather onerous terms of land purchase were later eased; and the supervised co-operatives were gradually extended to serve villages of small owners where there had been no redistribution. In Iraq six years of violent political conflict and two further revolutions achieved little more than the disintegration of the old structure. No constructive moves were made until 1964-65, and then only on a small scale. In Iran the initial strongly pro-peasant motivation continued to operate through most of the first stage, but weakened when the statesman responsible, Dr. Hasan Arsanjani, resigned his position as Minister of Agriculture. In the last two countries policy has therefore suffered from lack of continuity, while in the UAR it flowed on as smoothly as the Nile—a contrast which inevitably influenced the extent to which the reforms affected employment and incomes.

The extent to which it was possible to replace the economic functions of the landowners, though contingent on continuity in policy, also depended on certain built-in powers of adaptation to the exercise of new social roles, in which the relations between officials and the recipients of land were a crucial factor. In the UAR, well equipped with administrators trained in agriculture and professional estate managers, it was found that technical experience alone was not a sufficient qualification for running the supervised co-operatives, and special training courses were set up. In Iraq the old social vacuum could not be filled; even to keep the pumps working and get the water distributed between users proved difficult, because officials feared to trespass on each other's duties, while the tribesmen lacked the self-confidence and solidarity needed to tackle such jobs.[1] In Iran harassing conflicts over water distribution arose between

[1] As for instance in Husseiniya, described in my *Land reform in principle and practice* (Oxford, 1969), pp. 104-107.

peasants and landowners, such as might well test the integrity and courage of officials.[1] Of the three countries, Iran showed the best results in the development of a strong sense of responsibility to the beneficiaries.

Much depended on the beneficiaries, so different in their social personalities. All who have studied the fellahin of Egypt have paid tribute to their qualities: hard-working, intelligent, receptive to innovations, commercially minded, in spite of poverty and disease, because they have long supplied world markets; real farmers, who speak with contempt of those who work for " the quick piastre ". Living in the urban-rural continuum of the Nile Valley and Delta, they are both more and less than peasants: more, in that their specialised farming skills are so highly evolved; less, in that they have no microculture of their own. By contrast, the tribesmen and townspeople of Iraq lived in worlds cleft apart by traditional mutual antagonism; even now rural people are autonomous, still not wholly sedentarised in mentality. But in Iran, though tribal life still predominates in certain regions, the sedentarised villagers are true peasants, as Redfield has defined the concept [2], with a strong sense of village community.

These attitudes reflected differences in levels of agricultural development, measured by intensity of land use. How the interactions of environment and the human element determined the effects on employment and incomes can be seen by comparing results in the three countries.

The United Arab Republic (Egypt)

It must be remembered that before the 1952 revolution Egypt had suffered not merely from poverty but from growing poverty; not merely from underemployment but from Malthusian overpopulation. Its advanced level of agriculture had been achieved by nineteenth century investment in irrigation, specialisation in cotton, and, it should be added, with the help of an earlier land reform which provided small owners with a measure of security. But this progress was not sustained. From the end of the First World War to the end of the Second, there was no increase in national income and incomes per head fell.[3] Though the volume of agricultural production continued to grow, chiefly owing to conversion of basin-irrigated (i.e. single-cropped) land to perennial irrigation (enabling multiple cropping) and to higher consumption of fertilisers, population on the land grew faster, and production per man fell. Redistribution of land on the big estates and tenancy legislation might be expected to raise farm incomes; but they could not touch the fundamental problem

[1] On these conflicts see Professor A. K. S. Lambton: *The Persian land reform, 1962-66* (Oxford, 1969).

[2] A. Redfield: *Peasant society and culture* (Chicago, 1963).

[3] C. Issawi: *Egypt in revolution* (Oxford, 1963), p. 32.

of shortage of land in relation to population. So far as farm poverty was concerned, no reform could have been more than first aid.

Although the law of 1952 brought a revolutionary change, the scope of redistribution under it was quite small. Its immediate effect was to raise the incomes of a small proportion of the farm population on a small proportion of the cultivated area. Six other laws were later passed, one in 1961 reducing the original maximum holding of 200 acres to 100, others expropriating foreign-owned and other categories of land. Under these seven laws, the total area expropriated up to 1966 amounted to 946,457 acres, and the total area distributed to 735,307 acres. The recipients numbered 303,624 families, estimated to include 1.5 million people.[1] The area redistributed amounted to about 12 per cent of the total area in cultivation, while the number of recipients represented about 10 per cent of total farm population (estimated at 16.3 million in 1965).

If the legislation controlling rents and conditions of tenancy and fixing minimum wages for farm labourers could have been generally enforced, a much larger proportion of farm population would have benefited. As to the results of the tenancy legislation little can be certainly known, except that, for a short period in the shock of immediate reaction, coupled with a sharp fall in cotton prices, rents were reduced: and that later they rose again, as has been officially admitted. Apart from the larger holdings, where some control is exercised, the number and nature of leasing arrangements render enforcement impossible, as is always the case where the supply of labour greatly exceeds labour requirements. Minimum wage enforcement proved impossible for the same reason.

To raise the income level of the recipients of land depended on maintaining and if possible increasing production. This required immediate replacement of landowners' capital inputs, because Egyptian cropping rates are so highly geared that even a short delay would mean the loss of a crop. Officially supervised co-operatives, membership of which was compulsory for recipients of land, advanced fertilisers and other working capital on credit to the members, who knew how to use them. These organisations also acted as a financial agency for collecting land purchase instalments.[2]

As the supervised co-operatives began to make profits, official control was used to enforce reinvestment of profits in the land, including new pump installations, so that incomes did not increase in proportion to the increase in production. Most of the new investments increased labour requirements. Though power machinery was used for deep ploughing, for other cultivation the members of the co-operatives pre-

[1] Figures from Riad El-Ghonemy: "Economic and institutional organization of Egyptian agriculture since 1952", in P. J. Vatikiotis (ed.): *Egypt since the revolution* (London, 1968), pp. 71-72.

[2] For a detailed description see Gabriel S. Saab: *The Egyptian agrarian reform, 1952-62* (Oxford, 1967).

ferred to use their own livestock, which is cheaper with uncosted family labour.

Apart from such increase in labour requirements as subsequently resulted from new investment, the redistribution of land did not in itself increase employment; on the contrary. A family obtaining the standard holding of 3½ acres (later reduced to 2-3 acres) would probably be employed more regularly than it had been when working on the former estate, but since there was not enough land to grant holdings of this size to all who had formerly depended on the estate for seasonal work, some of the casual labourers lost their employment. Since the scale of redistribution under the first law was small, the number of workers displaced was not large, and they could find jobs in public works. From the standpoint of maintaining employment, it was fortunate that the various measures were carried out in separate operations spread over twelve years, during the latter part of which period employment in construction and transport increased.

The failure to increase employment through redistribution was in no way a result of mistakes in policy. On the contrary, the methods used have been remarkably successful in raising farm incomes and crop yields. Only at a very advanced level of agricultural development could the new system have worked as well as it has, since it depends on collaboration between sophisticated and technically highly qualified officials and intelligent yet docile farmers. But in the existing demographic conditions, " unless the cultivated area is increased, no amount of agrarian reform measures involving the redistribution of landownership and tenancy will contribute much to the various attempts at minimizing the very complicated and intricate problem of unemployment, inadequate incomes and widespread misery among the agricultural population of Egypt." [1] As a summing up of the results of a policy which by comparison with other contemporary reforms has been remarkably successful in that it increased production and the efficiency of land use, this may seem a pessimistic conclusion; but so far as the direct effects are concerned it is exact. Underemployment still exists, and farm incomes are still low.

In the results of general agricultural policy, however, it is possible to find grounds for optimism, because it has helped (in conjunction with the expansion of other sectors, which has absorbed most of the increase of the farm labour force) to bring about a great economic change. After the reform, the problem was to increase output per man in agriculture, and also to maintain employment on the land, throughout the country and not merely on the redistributed estates. This aim has been achieved; general agricultural policy has succeeded in raising the rate of increase of output per head, with a slowly increasing farm labour force. On Hansen's

[1] M. M. El Zalaki: " An appraisal of the effect of expansion on agricultural land on unemployment in UAR agriculture ", in *Land policy in the Near East*, op. cit., p. 119.

estimates, the annual rise in productivity per unit of labour in 1950-60 was 2-2½ per cent; " a rate of growth which is not in itself very high, but compared with the continuous fall by about 1½ per cent annually in production per man from 1913 to 1933, and the almost stationary level from 1935 to 1950, is nevertheless an improvement." [1] For the period of the first plan (1959/60-64/65), Hansen estimates the annual rate of increase of productivity at approximately 2 per cent [2], the falling-off during this period being largely due to the 1961 cotton crop failure, caused by cotton pest resulting from the failure to get pesticides distributed in time.

This general policy has also promoted fuller utilisation of the farm labour force. Contributory factors were the extension of the cultivated area by 300,000 acres from 1952 to 1960, and by a further 435,000 acres during the first plan period; and the conversion of 1 million acres from basin to perennial irrigation (i.e. from single to multiple cropping). Consumption of fertilisers, which by 1960 was double the pre-war level, has been the major factor in raising yields per acre, but did not increase employment, though the increased production of livestock should have had this effect. Farm machinery is still used mainly in land reclamation and for deep ploughing on co-operatives. Further extension of the cultivated area and conversion to multiple cropping of the remaining area still under basin irrigation depends on increased water supply from the High Dam. In the meantime, the system of supervised co-operation has been extended to all the land of Egypt.

Controversy continues on the comparative cost/benefit of " vertical expansion " (i.e. intensification) versus " horizontal expansion " (i.e. extension of the cultivated area) with reference to employment. The issues involved are too technical to be discussed here; suffice it to say that the problems of fuller utilisation of the labour force still exist and are given a high priority in policy which has succeeded in keeping the objectives of higher output per man and fuller utilisation of labour more or less in balance.[3] Though the reform provided fields for experiment in this direction, the real gains in income and fuller employment came from the general agricultural policy rather than from land redistribution. Among broader institutional changes, the improvement of the credit system has been of great economic importance.

Iraq

On paper, the scope for land reform and development seemed far greater in Iraq than in Egypt. With ample resources in capital, land and

[1] Hansen and Marzouk, op. cit., p. 79.

[2] Bent Hansen: " Planning and economic growth in the UAR (Egypt), 1960-5 ", in Vatikiotis (ed.): *Egypt since the revolution*, op. cit., p. 33.

[3] For further discussion of the problem of reconciling these objectives in conditions of rural overpopulation see my *Land reform in principle and practice*, op. cit., pp. 403-427.

water, and after the completion of the new water control and storage projects mentioned above, all the favouring physical factors were present. If low yields constitute opportunity, as some experts claim, then it was a land of opportunity indeed. Moreover, Iraq's economic situation before 1958 was far better than that of Egypt before 1952. The area in grain cultivation had doubled the pre-war average, chiefly owing to mechanisation in the northern rain-fed zone, and grain production kept pace with population growth, except in bad years, when grain was imported. National income was increasing at a high rate, year-to-year variations in the rate of growth being determined by two sectors, agriculture and oil production ; a good harvest, that is to say, could offset an oil crisis, while a higher rate of oil production compensated for the effects of the reform and the long drought.[1] None the less, the problems of reform were fundamentally far more difficult, since to raise farm incomes and get fuller employment required the introduction of settled farming with stable yields, in place of shifting cultivation with irregular yields and salinisation. To settle people on permanently and fully cultivable holdings would have presented a formidable technical and administrative task, even if political factors had not prevented continuity.

Although the reform decree, issued two months after the revolution of 1958, was modelled on the first Egyptian law, and was intended to introduce a similarly integrated type of structure, its effects were entirely different. It was far more radical in scope, affecting a far greater proportion of the total area in holdings; it was chaotic in implementation; and it reduced agricultural production. To what extent the sharp fall in output of the main crops which followed the reform was due to the reform itself cannot be estimated, because the long drought which began in 1958 (before the reform) and continued for three years after would have resulted in harvest failures in the northern rain-fed zone in any case; but certainly the reform had some influence, since production also fell in the irrigation zone, and average annual grain production remained about 10 per cent below the pre-reform (1954-58) average in the years 1962-66, after the drought was over. Rice production, which fell by 20 per cent in 1959-63, mainly as a result of the reform, has since recovered and by 1966 had doubled the pre-reform average; cotton, comparatively unimportant in terms of output, has also regained the previous level.

One reason for the fall in production was prolonged uncertainty about the ownership of the expropriated estates, caused by the Government's failure to assign title. Expropriation of the largest properties quickly brought an enormous area into the possession of the Ministry of Agrarian Reform, because a few administrative decisions were sufficient

[1] In 1953-61 national income increased at an average compound rate of 6.9 per cent per annum; income per head at a rate of 5.3 per cent, assuming that the rate of population growth in this period was 2 per cent; actually this rate was higher. See K. Haseeb: *The national income of Iraq, 1953-61* (Oxford, 1964), pp. 13-15.

to oust the largest landowners; no compensation was paid. To distribute this land proved difficult, owing to ideological conflict, bureaucratic delays and the unsuitability of much of the land for permanent cultivation. After ten years, only about a quarter of the area expropriated had been distributed, to a small proportion of the former share-croppers on the estates, the majority of whom, though officially described as " tenants under temporary contract to the State ", had no certain status.[1]

Another reason was the failure to replace landowners' functions by the provision of tractor services in the north and irrigation control in the south. The reform law, based on that of Egypt, where irrigation is a state function, made no specific provision for maintaining pumps, canals and water distribution. Had supervised co-operatives been constituted, they might possibly have been able to handle these jobs; as it was, no one was responsible. Apart from a little credit, no supporting services were supplied until 1965, and then only to a few settlements. Fertilisers were not missed because they had not been used, except on the small area under cotton.

Not surprisingly, there are no estimates of effects on farm incomes. Provided that they *can* cultivate their holdings, either because the land lies in the rain-fed zone or because the land is irrigated and drained in the irrigation zone, the incomes of recipients of land and of the " temporary tenants " should have risen, since they no longer pay a high share-rent to the landowner, nor do they pay instalments of purchase price (such, at any rate, was the case in 1965). The holdings assigned, averaging 10 hectares, were large enough to support the family and produce a surplus. Observations on one of the largest of the former estates in 1964 and 1965 confirmed that incomes per family had risen. However, the extent of the increase in income depends not only on whether recipients can cultivate but also on whether they are willing to do so. On this estate some new owners cultivated the whole area of their holding on the traditional system, i.e. using alternating fallow; but others did not attempt to cultivate more than a part, even though this was technically possible. Various explanations suggest themselves: leisure preference (all too easily intelligible for six months of the year); inadequate price and credit incentives and the like. The simplest explanation is that the tribesmen had taken to cultivation on the old pattern under compulsion, and gained little from it. Before the sheikhs had acquired freehold ownership of the tribal land under a 1932 land settlement law, the tribesmen had held customary rights to the produce of the holdings they cultivated individually; but

[1] By 1966, an area of 6 million donums (1.5 million hectares, 3.6 million acres) had been expropriated. One million donums of expropriated land had been distributed, and also 1 million donums of state domain land, to 46,000 families in all. " Tenants under temporary contract to the State " were officially estimated at 253,835 families. According to the most recent figures available, up to July 1968 a total area of 2.6 million donums (of which 1.7 million was expropriated land) had been distributed to 55,000 families (less than 10 per cent of the 1965 farm population, estimated at 4 million).

cultivation was for subsistence, subsidiary to livestock raising as the source of cash income and as an insurance against bad harvests. Gain in social status—that last card in the hand of agrarian reformers—there appears to have been. But it may be no more than a reversion to the social status of the tribesmen of a generation ago.

With regard to tenancy regulation, it is said that in the first stages of the reform the provisions regulating share-rents, on estates pending or not liable to expropriation, were generally enforced, because the law courts were instructed that in all cases of dispute between landowners and share-croppers the verdict should be given in favour of the latter. It seems probable that this instruction has now lapsed, though it may well be that the proportion taken by landowners has been reduced in order to retain labour.

As to the effects on utilisation of labour, reform and drought together put land out of cultivation, and to this extent reduced employment. Since there was no change in methods of land use, labour was not more fully employed on the land which remained under cultivation. Before 1958 labour was moving out of agriculture at a high rate; and it has continued to do since, the more so as the reform was not applied in the province of Amara, where the rate of outward movement had been and still is extremely high. Until the results of the 1965 population census are available, the rate of increase of the labour force cannot be known. (According to FAO estimates, the agricultural labour force in 1965 represented 50 per cent of total labour force, about the same proportion as in the census of 1957; this seems improbable.)

Had it been possible to introduce a general agricultural policy, with the aim of increasing agricultural production, the gains in farm incomes could have been much greater, for even quite simple changes in farming methods could have resulted in fuller use of land and labour. For example, when the supervised co-operatives began to work in 1965, the managers introduced Egyptian clover in place of the bare fallow. This crop is a key innovation, because it enables fuller utilisation of land and labour, raises grain yields, and produces feed for the livestock herds, in which the tribesmen's economic interest still concentrates. Working literally from the grass roots, the co-operatives have at last brought the tribesmen a crop they want to cultivate—which planning from above and advice from outside never did. The recent increase in rice production is another hopeful sign, as is also the increase in fertiliser consumption. Further development on these lines of advance should raise incomes and make for fuller utilisation of land and therefore of the labour force. But on the other hand higher productivity per man also depends on mechanisation, which will doubtless spread as more land is taken into cultivation after reclamation, and will probably lead to gradual amalgamation of holdings, so that labour requirements are likely to diminish while output per man should rise.

Scope for increasing employment in agriculture therefore lies mainly in investment in the infrastructure, primarily in drainage and reclamation, and in the superstructure, primarily in marketing and processing. As in all oil-producing countries, imports of canned goods are rising to meet increasing urban demand for food, which cannot be met by home production owing to the lack of processing plant and refrigerated storage. Whereas in Egypt general agricultural policy meant raising the rate of investment to make more rapid advance on the same technological lines as before, in Iraq modernising agriculture means much more than modernising the methods of production.

Iran

In Iran all the physical bases for successful reform were lacking; it is still, as Herodotus described it, " a land rugged and scant ". Short of water and poor in soil, except in the Caspian provinces, it is broken up by great mountain chains which divide by long distances the small patches of green in the valleys, watered by long underground conduits from the slopes; the wide extremes of its harsh climate result in fearful erosion. No large modern irrigation schemes were constructed until fairly recently. Yields per acre are low and grain with alternating fallow is the common rotation. Yet the level of agricultural development is higher than that of Iraq, in that poorer resources are better used. Though methods of cultivation are primitive, the scratch plough conserves poor soils; cropping is more diversified; methods of irrigation are elaborate. " Complicated water works conduct the water to minute fields and terraced agriculture is often of an ingenious kind. The work of generations has shaped the sedentary agricultural landscape and crop diversification exists together with an important fruit growing complex. These (higher) zones suffer most from shortage of land and distance from market centres." [1] One reason why land redistribution was successful in maintaining production was that it met the needs of a long-sedentarised rural population, far from primitive in mentality, accustomed to the use of traditional skills and capable of acting as village communities.

Another reason was that the first stage in policy was well conceived in relation to the conditions of the country. Statistically, as well as physically, Iran was a desert. Though it was known that large absentee landowners held a large proportion of the land, the size of their estates was not known; they reckoned their properties in villages, while smaller owners and crop-sharing peasants reckoned their properties or holdings as fractions of the land of the village, not as measured areas. To expropriate land by fixing maximum holdings in the usual way was not practicable; a law of 1960 for this purpose remained a dead letter. Consequently the decisive law of 1962, to obviate the need for survey (which would have

[1] Report by Italconsult to the Plan Organisation, quoted in Bowen-Jones, op. cit.

meant indefinite postponement), used two short cuts. First, all villages in the possession of a landowner, with the exception of one which he could retain, were made liable to expropriation; alternatively, he could retain shares in the land of two or more villages, equivalent, by customary reckoning in fractions, to the area of one village. Second, cultivators of land gained the right to purchase by instalments the ownership of the holdings which they had formerly worked as share-croppers of the landowner. Peasants who obtained conditional right of ownership obtained more income, because the instalment of purchase price payable was usually less than the former share-rent. They also gained from the abolition of compulsory labour service previously exacted in some districts by the landowner in the form of transporting his crops to market, maintaining surface irrigation channels, and so on.

In this first stage, implementation was rapid, a high proportion of the villages liable to expropriation being expropriated and redistributed within seven months after enactment. This remarkable feat of strategy, in the face of strong opposition from the landowners, succeeded in transferring a fairly large proportion of the villages in the northern region, where the reform began, to the ownership of the peasants, and somewhat lesser proportions in the centre and other regions, without reducing production, because it avoided the long hiatus of uncertainty which proved so disastrous in Iraq.

In this decisive first phase, some co-operatives were formed (membership was obligatory, as in the UAR and Iraq) but they were slow in coming into operation. However, this shortcoming was not so damaging as it was in Iraq, because, in villages dependent on rainfall, peasants could continue to cultivate by the same methods, using their own seed and livestock, eating more and working harder than before, though they continued to borrow at high rates, usually by pledging their crops to money-lenders in advance. In villages under *qanat* irrigation, where the whole village came into peasant ownership, the peasants could meet the cost of maintaining the *qanats* by combining to support the skilled labourers formerly paid by the landowners out of the share-cropping rent; they could also do some of the work themselves. But such collective action was impossible in villages where the landowner still held part of the village, because he could divert the water supply to his own land and by depriving the peasants of water render their land valueless, thus forcing them to work for him again as share-croppers or labourers. In such cases peasants had a right of appeal to the courts; but their appeals were often ineffective. The landowner could also divert the water supply to his own use by sinking a deep well, in which case the peasants had no legal redress.

A fairly large proportion of the farm population gained by the redistribution of ownership in this stage. Official figures for 1966 give a total of 13,303 villages purchased " in whole or in part ", and distributed to 512,975 heads of families. The number of villages represents rather more

than 25 per cent of the total, but since quite a large proportion of them were distributed only in part, the proportion of farmland affected must have been less than one-quarter; the heads of families, with their families, might represent about a quarter of the total farm population (12 million in 1960). If so, the proportion benefiting by redistribution was larger than in the UAR and Iraq, though the income gain may not have been so high.

The results of the second stage are too intricate to be evaluated here.[1] This stage was intended to introduce various tenure changes in the villages retained by the landowners, including rent regulation, voluntary sale, division of land in proportion to the former share-rent, and quasi-collectives run by the landowner. According to the official figures, this stage affected much larger numbers than the first; but its results do not add up to a significant total, since they ranged from mildly positive to decidedly negative, while income benefits were at best slight as compared with those obtained in the first stage. It must be noted, however, that whereas the first stage had no effects on utilisation of labour and may have had some slight positive effect on the extent of cultivation, the effects of the second stage were deleterious. Where land was sold to the peasant or divided in proportions corresponding to the former share-rent, the landowner's right to divert water to his own land could be used to the detriment of the peasants, even to the point of eviction. A later revision of the 1962 law also reduced employment by allowing landowners exemption from expropriation of land under mechanised cultivation (the original law had allowed exemption for land already mechanised at the date of promulgation of the law). In consequence of this revision, landowners could mobilise a fleet of tractors to meet the incoming reform officers and then claim exemption; they could then evict the peasants, as they have done on a large scale round Tehran and Isfahan.[2] (In addition to reducing employment, disc ploughing increases the risk of soil erosion.)

None the less, the first stage did produce some definite gains; it achieved a rise in living standards, evident in higher food consumption and new building in many villages (previously prevented by landowners). The future outcome of the reform depends on two things: settlement of water rights, in the villages where landowners have diverted supplies; and the growth of the still embryonic co-operatives, in which credit is still the primary need, though the societies are also beginning to supply improved seed and fertilisers. Had the impetus of the first stage been sustained, the problems of water distribution might have been solved without detriment to the peasants, evictions might have been prevented and the co-operatives would by now be better equipped.

As in the UAR and Iraq, the reform revealed the need for a sustained agricultural development policy. In addition to the general need for

[1] For a detailed survey of the reform policy as a whole see Lambton, op. cit.

[2] Ibid., pp. 195-196.

increasing water supplies, which is common to all three countries, Iran has a major problem in soil erosion, which necessitates the withdrawal of land from cultivation and grazing. In the overpopulated mountain valleys " no adjustments of tenure or technological improvements can significantly ameliorate the situation in which the range of choice is confined to three possibilities ": migration to the towns, over-cultivation, or specialisation in crops produced for distant markets, which could be promoted by creating new employment opportunities in processing factories.[1] Unfortunately, the prospects of such a policy are remote. Recent planning decisions have deleted essential rural development programmes, in order to offset the unexpectedly high cost of industrial prestige projects.

Conclusions

In all three countries reform evidently was a factor of some importance in raising farm incomes, chiefly through redistribution of landownership, while the effects on employment were negligible, even to some extent negative. Though the negative effects in Iraq could have been avoided if production could have been maintained, no significant increase in the degree of utilisation of the labour force could have been expected to result from tenure reform alone in any of the three, without changes in the methods of land use, which could only be carried into effect as part of a longer-term general agricultural policy.

Comparison of the interaction of environment and the human element shows that success in maintaining production depended on whether the practical intelligence of the policy-makers was capable of adjusting policy to the conditions of the country. In the UAR it was found necessary to adapt the conventional formula of the American-type reforms of that period (i.e. a measure of income redistribution, accompanied by tenancy legislation) to the need for replacing and improving on the functions of the former landowners by introducing a new form of organisation, operating on a scale larger than that of the individual holding. To combine individual farm ownership with what was in effect a new system of management on previously highly farmed large estates was rather a complex operation; yet it did not unduly strain the administrative capacity of the Ministry of Agrarian Reform. Even the new field layout was not altogether an innovation, since it had been used before on some of the more efficient large estates. As the scope of redistribution widened, it was found necessary to institute specialised training for managers of the supervised co-operatives.

That is to say, in a country at an advanced level of agricultural development the problem of improving land use in the process of reform-

[1] Bowen-Jones, op. cit.

ing the structure was not so difficult as it proved to be in a country where methods of agriculture were primitive and wasteful. At low levels of agricultural development there evidently can be a great disparity between the magnitude of the obstacles imposed by the environment and the capacity of the human resources available to tackle them. The model which Iraq took over from Egypt presupposed an already functioning government irrigation service, and far more trained staff to undertake surveys and distribution and supervise co-operatives than the Government had at its disposal. Even in countries much better equipped in these respects, the sheer size of the operation would have imposed a strain on official machinery. Though progress has since been made, it obviously takes time to build up a better structure in such conditions, and efforts may be frustrated by lack of coherence in general agricultural policy. In Iran, from the administrative standpoint no better equipped than Iraq, the success of the reform turned on a much closer adaptation of available means to practicable ends. The strategy was deliberately conceived with the object of economising on official procedures; in the initial stages officials proved generally loyal to the purposes of the original law; while the higher levels of farming skill and community sense among the peasants enabled them to do much more for themselves.

In all three countries the outcome of the reform policies was to throw into higher relief the obstacles imposed by the environment: shortage of land in the UAR, salinisation of land in Iraq, and in Iran the need for programmes to improve irrigation, control erosion, and overcome the difficulties of marketing in the remoter regions. Institutional reform, that is to say, led into, and not out of, the long-term problems of improving land and water use, on the solution of which depend both the immediate employment potential in building the infrastructure and the long-term potential for fuller employment on the land. Unless a general agricultural development policy in Iraq and Iran can be introduced, it is probable that the gains in incomes and status resulting from the reforms will be dissipated, and that the employment potential will not be realised.