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The Cooperative Approach in Implementing
Land Reform Programs:
The Tunisian and Egyptian Experiences*

by

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*Paper presented at a Colloquium on "Cooperation as an Instrument for Rural Development," State University of Ghent, Belgium, 21-24 September 1976.

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All views, interpretations, recommendations, and conclusions expressed in this paper are those of the author and not necessarily those of the supporting or cooperating agencies.

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I

INTRODUCTION

In many of the developing countries a combination of interrelated factors exerts an inhibiting influence on both agricultural production and overall rural development. No single program can effectively remove this influence; rather we must look to an integrated program of agrarian reform which attempts to make broad-scale changes in the existing agrarian structure. Within such a program, improvements in agricultural services and institutions (or their introduction if they do not already exist) are of particular importance. The major objectives of agrarian reform--to maximize employment, to enhance productivity, and to raise levels of income--cannot be achieved unless new landholders are helped to meet their new challenges and responsibilities.

I would argue that the best approach for a developing country concerned with changing its existing agrarian structure is to combine agricultural extension programs with credit systems and cooperative organizations right from the first. This combination of programs can help farmers increase yields and incomes by, e.g.:

bringing to the farmers knowledge of new techniques for increasing production;

supplying improved seeds and other modern inputs;

providing marketing information and services to guarantee both an outlet for production and an adequate cash return;

supplying loans necessary to increased production and facilitating repayment.

Cooperative organizations constitute a major part of any program of "integrated rural development": they are among the institutions which are

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most capable of integrating the rural masses into the larger society, i.e., helping them to secure fair access to production resources, jobs, and income. This is a key element in the process of development and in realizing the aims of land reform programs: unless and until the involvement of rural people through their own organizations is achieved, new technology and resources for production will not be utilized adequately and efficiently and the entire structure of the rural society will not be improved. The development of self-governing rural institutions, like cooperative societies, is the ultimate in popular participation in decision-making for rural development. As an instrument for economic and social development the cooperative society must concentrate all its activities on the farm, the farmer and his family, and the larger farming community.¹

I will examine in this paper the ways in which cooperative societies played their role under different approaches to the implementing of agrarian reform, obtained different results, and met specific difficulties. As examples for these different approaches I take:

- a) the Tunisian land reform in the Medjerda Valley, using service cooperatives and, more or less, a system of supervised credit for the individual farms;
- b) the Tunisian land reform programs in nonirrigated areas, using cooperative production units of at least 500 ha. each, with collective production;
- c) the Egyptian land reform program, where redistribution of land was attended with a kind of crop-consolidation through a controlled and unified crop-rotation system. With this system it was possible to maintain the independence of the small farmers as individual producers, while at the same time it became feasible to enjoy the technical advantages of the application of more sophisticated agricultural methods on a larger scale. All this depended on the formation of a well-organized cooperative system. The type of cooperative society adopted in Egypt for this purpose is the "cooperative for the promotion of agricultural production," a type intermediate between the pure production cooperatives on a collective basis, on the one hand, and the service cooperatives serving individual farmers, on the other.

In each of these examples there is integrated planning of the farming system, though based on different concepts of terms of holding, scale of operation, pattern of cultivation, degree of integration, and role and functioning of the cooperative societies.

Finally, the results of the cooperatives and of the implementation of the three land reform programs will be compared and some conclusions drawn.

1. N. J. Newiger, The Role of Co-operatives and Other Rural Organizations in Integrated Rural Development with Special Regard to Project Preparation and Implementation. Symposium on the Promotion of Cooperatives in Developing Countries, Gödöllő, Hungary, September 1974 (FAO, Rome, 1974), pp. 3 and 9.

II

LAND REFORM AND COOPERATIVE ORGANIZATION
IN THE MEDJERDA VALLEY IN NORTHERN TUNISIA²

In the Medjerda Valley, long one of Tunisia's most important agricultural areas, European, economically managed, modern agriculture was established during the French Protectorate (1881-1956), existing side by side with the traditional indigenous way of land operation on small subsistence farms. Whereas the European sector consisted mainly of large, mechanized establishments and occupied about 90 percent of all available land in the irrigable valley, the conditions prevailing on the lands used for traditional Tunisian land operation provided an absolute contrast. In the Medjerda Valley a Tunisian holding was generally small--an average of 10 ha. per family--unirrigated, and mostly unequally divided. Farming was primitive, capital was lacking, and methods were defined by tradition. Productivity was low and the traditional restrictive land tenure system constituted too much of an impediment to modern, more productive, agriculture.

In the Tunisian Ten-Year-Plan, 1962-1971, the most important objectives of which were increased earnings and a more equitable distribution of income, with full employment for the whole of the Tunisian population, much attention was paid to the improvement, development, and modernization of the agricultural sector. The evolution of this sector was directed to the realization of the following aims:

a vast increase in agricultural production in order to raise the national income;

a diversification of agricultural production in order to attain a fairly stable individual agricultural income for the farmers and avoid and spread fluctuations and risks in output and cash income;

a decrease of expenses related to the purchase and supply of inputs and the marketing of agricultural products.

If these objectives were to be realized, a radical transformation of the existing agrarian structure would be inevitable.

2. For more detailed information see P. J. Van Dooren, "Karakter en Perspectieven der Tunesische Landbouwcooperaties" ("Character and Perspectives of the Tunisian Agricultural Cooperatives"), Kroniek van Afrika, 6, no. 1 (1966), pp. 51-89; Van Dooren, "Streekontwikkeling in een semi-aride gebied, historisch-economische achtergronden en huidige doelstellingen der Tunesische 'Mise-en-Valeur' projecten" ("Regional Development in a Semi-Arid Area, Historical-Economical Backgrounds and Present Objectives of the Tunisian 'Mise-en-Valeur' Projects"), *ibid.*, 7, no. 3 (1967), pp. 199-230; Van Dooren, "State-Controlled Changes in Tunisia's Agrarian Structure," Tropical Man 1 (1968): 59-108; and E. Götz, Siedlerbetriebe im Bewässerungsgebiet des Unteren Medjerdatales/Tunesien (München, 1972).

Between 1956--the year of independence--and 1964 a number of land reforms were enacted, of which the Law on Agrarian Reform in the Medjerda Valley of 1958 and the Law on Agricultural Decolonization of 1964 were the most important for the regions under discussion.

The 1958 Law on Agrarian Reform in the Medjerda Valley stipulated that:

- 1) As soon as irrigation facilities were created in their sector, landowners had to contribute toward the cost of these infrastructural improvements, as a compensation for the increased productivity-potential of their land, this contribution to be effected by the cession to the state of a percentage of their land (25 to 70), in proportion to the increase in output.
- 2) The area of irrigable land owned by any one farmer or agricultural establishment was restricted to a maximum of 50 ha.; areas above this maximum were expropriated and the owners compensated.
- 3) In the interest of a more rational cultivation, a re-consolidation could be prescribed for the remaining landed properties, while the lands acquired by the state through the land reform could be parceled out and given to landless farmers. In order to prevent fragmentation, existing plots smaller than 2 ha. and new plots to be given out were declared indivisible.
- 4) The landowners were obliged, on penalty of the payment of an extra land tax, to change over permanently to irrigated crops on at least two-thirds of the area of their land.
- 5) The landowners could be forced to become members of the agricultural cooperatives which would be set up on the initiative of the Office de la Mise en Valeur de la Vallée de la Medjerda (OMVVM).
- 6) OMVVM was established as a semi-public corporation and was entrusted with all social and economic planning, and its execution, for the Medjerda area.

This agrarian reform law was of fundamental importance: about three-quarters of the irrigable area of 50,000-70,000 ha. consisted of properties of more than 50 ha., the greater part large-scale foreign agricultural enterprises. Confining these establishments to areas of a maximum of 50 ha. made the continuation of operations, which in most cases were highly mechanized, not very attractive, if not unprofitable or impossible. Consequently most of these European entrepreneurs preferred to sell the remaining 50 ha. as well, and to end operations. In this way all these lands in one of Tunisia's most important agricultural areas came into the hands of the state and remained available for consolidation and distribution among Tunisian farmers.

The Organization of the New Small Farms

One of the most important objectives of the Medjerda land reform has been to make possible a considerable expansion of agrarian employment by means of a strong intensification and diversification of land operation on much smaller farms than those of the former French colonists. Other objectives were a major increase in agrarian production, a considerable improvement in family incomes, and the distribution of land among landless farmers.

Consequently, the principle underlying the consolidation and parceling out of the lands which had become available was the formation of small family farms with individual ownership of the land. The Tunisian government considered this to be the most rational redistribution of the land, because family farms, with the support and help of cooperative organizations, could create the best conditions for the employment of a maximum number of persons.

The potential income to be earned by proper exploitation of individual family farms became the decisive factor in establishing the optimal acreage of the plots to be given out to the beneficiaries. The possible alternatives in cultivation presented by the different soils were taken into account, as well as the target figure of 250 dinar in annual family earnings set in the Ten-Year Plan. As a first step, the irrigable lands were, on the basis of soil research, divided into two categories: lands suitable for fruit cultivation and for all kinds of horticulture; and lands unsuitable for fruit cultivation, but suitable for the production of fodder and, to a lesser degree, for horticulture.

The plots to be given out in the first category were made ready for intensive irrigated cultivation by the technical services of the Medjerda Valley Authority; the soil was churned up, leveled, drained, and provided with irrigation ducts and roads, while manure was also applied for the first time.

For the second category of land a system of crop rotation was established which extends over a period of twelve years, the duration required for the most favorable combination of perennial and annual crops and periods when the fields lie fallow. The whole cultivation plan is based on the preservation of the fertility of the soil, while at the same time allowance is made for a certain degree of spreading of the risks and a regular distribution of employment over the year. Consequently, it was recommended that most of the established units should practice mixed farming, with six milk cows and an average of 20 percent of the land being used for horticulture. The area of most of the farms now varies from 5 to 12 ha., depending on the structure of the soil and the nature of the actual farming. The fact that the size of the plots had been determined with so much precision (which accounts for their being rather small) had the disadvantage that there are no possibilities for expansion left for energetic, progressive farmers.

Finally, on every plot a house for the farmer and a shed for the cattle were built. The plot with the buildings was given on terms which did not require the purchaser to pay any installment during the first five years--the period when he had to redeem the debt on cattle and agricultural implements bought on credit--and after that period providing for gradual

redemption of the whole sum according to a rising scale, ranging from 1 percent of the purchase price in the sixth year to 8 percent in the twenty-fifth year. By means of this arrangement the burden of refunding medium-term credit (on cattle and agricultural implements) and long-term credit (on the purchase of the farm) was more favorably spread, with the refund obligations becoming heavier as the farmer settled down on his farm, and so became more adept at cultivating the new crops and at overcoming the initial difficulties.

Additional conditions for recipients of a plot were:

the farmer was obliged to live on the plot (farm) and to cultivate it himself;

he was prohibited from leasing the plot or entering into a sharecropping contract;

he was obliged to maintain the irrigation ducts according to the instructions of the Medjerda Valley Authority;

in case of death or inheritance the plot must not be divided;

he was obliged to become a member of, and to make use of the services of the cooperatives which had been or were being established on the initiative of the Medjerda Valley Authority.

The new settlers to whom a plot was assigned were chosen from landless farmers, from those who had been farmers or farm laborers, and also from formerly semi-nomadic migrants who had settled in and around the Medjerda Valley. These people did not possess anything. Therefore, it was not only necessary to make the plots ready for use before they were given out, but loans had to be made available on a large scale, while also a group of agricultural extension officers in the service of the Authority had to guide the new landowners continually. Moreover, the officers had to supervise the proper execution of the cultivation plan and the maintenance of the prescribed system of crop rotation.

Membership of the Cooperatives

The beneficiaries were organized in service cooperatives as soon as the new farms had been allotted to them. Membership was compulsory; it was also the condition for receiving a plot. The cooperatives are engaged in instructing the members in the best cropping systems and methods, the collective purchase of all required agricultural requisites (seed, fertilizers, agricultural implements, cattle and draught animals), and the distribution of these among the members; they help toward tilling the soil by means of cooperative purchase of farm machines and their employment on the individual farms; they act as intermediaries in providing loans and in settling interest and repayment by means of the crop yields; finally, they see to the marketing and the processing (when this is required) of the harvested crops. During the initial years the cooperatives tided the new settlers over their difficulties--they had no earnings from their new agricultural activities until after the first harvest--by advancing money for their maintenance, which had to be paid off later out of the crop yields.

We can distinguish the following kinds of credit given to the members of the cooperatives:

- a) short-term credit, i.e., for a crop season of six months or a maximum period of nine months. This credit serves to finance the purchase of fertilizers and seed, the supply of irrigation water, the wages paid to additional laborers hired during periods of much activity, and the advance made toward the cost of living. In principle, it must be possible to refund the short-term credits from the proceeds of the crops cultivated in that season.
- b) medium-term credit, up to a maximum of five years. These loans are given to purchase agricultural implements and tools and to buy cattle. Repayment must be made at six-month intervals, to be charged on the proceeds of the harvest, the milk production, and the sale of calves and/or slaughter cattle.
- c) long-term credit (20 years), which is used almost exclusively for the purchase of the farm (land cum buildings), sometimes also for an extension of fruit production. These long-term loans, unlike the short- and medium-term credit, are interest free.

The liberal provisions of the credit system are very important for the implementation of land operation reforms. Had these credits not been made available--and, in the framework of the integrated approach, this also applies to agricultural extension, supply, marketing, and the services rendered by the cooperatives--the new landowners would not have been able to till and plant their new plots in any other way than that known to them from traditional subsistence agriculture. It is the credit given through the cooperatives, aiming at intensification, modernization, and diversification of the agricultural production, which acts as the catalyst in the process in which land tenure reform is followed up by such land operation reform as can be realized in practice.

Yet the new organizational setup, in spite of all the aforementioned provisions, did not lead to entirely satisfactory results. The most important causes included the following:

The ignorance and incompetence of the new landowners: owing to a faulty selection process, a number of applicants were approved who had never been farmers before.

The lack of experience with irrigated crops: the settlers did not understand the working of the irrigation system, or they thought it was unusual and even odd that part of the water should be allowed to run away again through drainage-trenches (this was necessary because of the high salinity of the irrigation water); they ignored the rules and applied wrong methods of irrigation.

Many members had unrealistically high expectations of the cooperatives: they thought they would prosper and get rich quickly, all this, however, without having to exert themselves (the situation had actually been misrepresented to the first colonists).

The terms of credit which were given through the cooperatives were sometimes too easy: the members did not realize that the loans were only given in order to get production started, and that these had to be redeemed. Consequently, part of the credit received for production was used instead for consumption.

The process of adaptation, both as regards new agro-technical methods and mental attitudes, which the new members of the cooperative had perforce to undergo was far too rapid. This is an important cause of failures. The authorities in charge of the project saddled the people with too many tasks at the same time, forgetting that they were dealing not with an experienced rural population, but with people some of whom had originally been semi-nomads, who might at best have occupied themselves with extensive corn growing, but who had often not yet reached the stage where they could engage in permanent husbandry on a fixed piece of land. It would have been better if they had helped the farmers to overcome the difficulties of adaptation by subsidies, e.g., toward the expenditure on the irrigation water, on the rental of tractors from the pool, and on other mechanical aids made available through the cooperative. These subsidies should have been given during the first stage of the operation of the new settlements and until the new plots had become fully productive. In the system as now applied, all risks were passed on to the new farmers right from the beginning--including the consequences of organizational flaws in the cooperatives or the Medjerda Valley Authority--so that every deficiency in the initial years at once became a financial burden for the following years.

After some years of success and failure it seems that some of the farmers were beginning to cope with the new irrigated crops. As a result of the gradual improvement of their yields, they appeared to be able gradually to catch up with the backlog of the initial years. It became obvious that the farmers needed some years to adapt themselves completely to the changed circumstances. There is a small number of farmers, mostly beneficiaries with a better agrarian background, who have mastered the new methods and problems more quickly than the others and who therefore manage to achieve exceptionally good results in a short time. On the other hand, there are also a few people who have failed completely: they were totally incompetent and ignorant, sometimes also too lazy. These people consequently were so deeply in debt that they could not extricate themselves.

In practice, a number of difficulties which arose can be traced back to two causes: all attention had been focused on the technical preparation of the project, but the preparation of the people who were going to be put to work on the project had been neglected. Moreover, as a result of a completely inadequate selection a number of totally unsuitable and incompetent people had received a plot. It must be admitted that though the Medjerda Valley Authority were responsible for the technical preparation of the project, they did not select the settlers themselves. This was done by administrative- and party-officials from different parts of the country. And though it is true that such factors as physical strength and a basic

knowledge of agriculture were given due consideration, there were other qualifications which also counted--for instance, political affiliation or merits gained in the resistance against the French toward the end of the period of the Protectorate.

Any preparation of the colonists for their future task was lacking. They had to make the best of their farm by trial and error. Without any preparation, technical or social, they were from the very first day--at their own cost and risk--left to fend for themselves on their own new farm. The cooperative's members, almost without exception, had insufficient experience with irrigated intensive cropping and often even none at all; besides, they were used to their indigenous cattle feeding by grazing, whereas now they had to provide for prescribed stall feeding and to take daily care of the imported milk cattle. Therefore it is understandable that, especially in the initial years, the new farmers, from ignorance and lack of insight, did not adhere to the code of planting, manuring, and irrigation or to the prescribed system of crop rotation, and that the care of the cattle, such as feeding and the supply with drinking water, left much to be desired. It occurred frequently that they grew an easily manageable crop, such as tomatoes, for two consecutive seasons on the same field or that they misapplied the loans given for the production of forage (especially the fertilizer provided in kind), using them for market gardening. Although at the time this section in the Medjerda project was inaugurated cattle breeding had been the primary objective, with vegetable growing as a complementary activity, it turned out that in practice market gardening had become essential among many farmers, to the detriment of cattle breeding and fodder production.

To make matters worse--at least it was a setback for the cooperative, especially in connection with the repayment of the loans--it soon appeared that the members sold about half of the vegetable crops secretly, without the knowledge of the cooperative. The proceeds of these illegal sales were mainly used for private consumption, supplementing the "salaire familial" (which was very small, only 67 ¢ for a whole family), and partly diverted to purchasing household effects and furniture for the new houses.

The clandestine sales were further facilitated by flaws in the organization of the cooperative itself, such as the delays--sometimes of 3 or 4 years--in the redemption of credit with the proceeds of the products of the members, and in the cash payment of the surpluses to which the members were entitled. All this gave the members the impression that it did not make much difference whether they worked hard or loafed, as everything remained the same. In addition, much was regulated from above and imposed on the farmers (membership in the cooperative, cultivation plan, system of crop rotation, the number of cows per farm, even the hours at which the cattle had to be milked), without the farmer sufficiently understanding why or being convinced of the necessity of it all. In the case of many members, all private initiative was nipped in the bud or they were even made averse to work. Consequently the farmer began to consider his cooperative as merely an extension of the Medjerda Valley Authority, and not as something in which he had a stake, which appealed to his feelings, and was worth his exertions.

It was especially the financial results of cattle breeding which were insufficient because of ignorance and insufficient care. On the one hand, the milk yield was too small (owing to feeding deficiencies and an insufficient supply of drinking water, because a number of farmers considered the irrigation water with its high salinity good enough for the cattle, so that the animals did not drink enough and therefore could not produce enough milk); on the other hand, the production of calves was too small (the farmers' lack of knowledge and of experience was responsible for insemination not having been applied in time). The financial proceeds of cattle breeding were for a number of farmers not even sufficient to cover current expenses, so that the obligation to refund the medium-term credit on cattle could not be met. For a number of other farmers the positive results of horticulture and fruit growing were even canceled out by losses in the cattle breeding sector, so that an overall deficit resulted for the farm as a whole. Fortunately, there was also a small number of farmers who did take good care of their cattle and fodder crops and who had better financial results. Some individual farmers managed after a few years to increase the number of animals (small though it was) and to extend their fodder crops proportionately.

The deficits in the cattle breeding sector, and the failure of the members to fulfill their obligations in respect of deliveries to the cooperative--the consequence of clandestine sales--resulted in defaults in the redemption of the short-term loans and the six-month installments payable on the medium-term credit, so that the debt of a number of members increased every year. The measures that were taken to deal with this situation and to bring about an improvement were on the one hand of an organizational and psychological, and on the other hand of an educational, nature. In 1965 reorganizations were introduced, whose aim was to prevent the clandestine sales and to stimulate the productivity of the members. Payment of the sa-laire familial was discontinued; it was replaced by cash disbursements of between 50 and 70 percent of the market price of the products delivered by the members to the cooperative, the balance serving for the redemption of the credit. Consequently, the members now had a personal interest in increased production and deliveries to the cooperative. Simultaneously, provision was made for the annual settlement to be promptly effected and for more openness toward the members with regard to the financial situation of the cooperative. As a last measure, a number of unwilling or totally incompetent members were ejected from their farms, which were given out again to farmers selected according to improved methods.³

More and better agrarian instruction was still urgently needed, as was training and education of the members, not only in the proper use of irrigation water and of fertilizers or in the tending of the cattle, but also with regard to their own cooperative and the rights and duties inherent in membership, and the solidarity and cooperative mentality required for a successful operation.

3. See *ibid.* for detailed calculations of the--often insufficient--farming proceeds of the settlers and the resulting indebtedness of a sizable number of the farmers.

III

THE COOPERATIVE PRODUCTION UNITS IN THE
LAND REFORM AREAS IN NORTHERN TUNISIA

In the regions where irrigation on a larger scale was not possible, the measures which aimed at adapting the agrarian structure to the requirements of a modern economic development can be distinguished as follows:⁴

- the abolition of all those land tenure relations which were archaic, traditional, and incompatible with economic development;
- the redefinition of uncertain and undefined land rights;
- the legal regulation of collective, tribal tenures;
- the recuperation of lands which were in the hands of non-Tunisians;
- the introduction of structural reforms in cultivation, especially by the application of collective agricultural production methods for the major grain crops.

In the agrarian policy pursued after independence in 1956, Tunisia started from the principle that the arable land should belong only to Tunisians, whether as individuals (e.g., in the Medjerda Valley where irrigation was introduced on a large scale) or as members of production cooperatives. For the corn-growing regions of the North, the most important measure was the Tunisification of agricultural land in foreign possession. The 11 May 1964 law on "décolonisation agricole" affected about 460,000 ha. of French land and 40,000 ha. in the possession of small Italian and Maltese farmers. The law stipulated that ownership of land intended for agriculture could be vested only in persons who have Tunisian nationality, or in Tunisian agricultural cooperatives operating according to the new law on cooperatives of 1963. The law prohibited the founding of partnerships aimed at the acquisition of the cultivation of agricultural land. Farming by any establishment other than an approved cooperative society (production cooperative) was in this way made impossible.

The Cooperative Production Units

The most important objective in establishing this new cooperative form of organization was the modernization of Tunisian agriculture and of the rural areas, and a simultaneous decolonization of the Tunisian economy. This modernization was urgently needed: because of the limited acreage of the Tunisian farms and the primitive, traditional agricultural methods

4. Mohsen Chebil, "L'évolution du régime foncier tunisien en liaison avec les programmes de développement agricole," Informations sur la Réforme Agraire, la Colonisation et les Coopératives Agricoles, no. 2 (1965), pp. 15-17; Van Dooren, "State Controlled Changes in Tunisia's Agrarian Structure."

employed, their output was only one-third of that of the modern, western-style farms. Modernization of traditional husbandry required the application of the same technical means and forms of organization as utilized in those modern farms, as well as an extension of the area of each farm, so that it would become a viable production unit.

The production cooperatives tried to achieve this both by merging and regrouping the small traditional farms around nuclei formed by the efficiently managed farms of the French colonists which had been expropriated, thereby forming production units of at least 500 ha. each, and by collective (cooperative) cultivation. By integrating the little-developed Tunisian farms into existing large-scale farming establishments, and by taking advantage of the organization and the technical equipment of those modern farms, it was hoped that all Tunisian husbandry could be raised to the level of the former western agricultural establishments.

The cooperative production units could in principle come into being in three different ways:

by settling landless farmers on state-owned lands, i.e., the organization as a resettlement cooperative;

by the voluntary pooling of lands by farmers/landowners in order to form a cooperative production unit, i.e., cooperative farming;

by grouping landless farmers, former farm laborers of the expropriated French farms, and small farmers/landowners who brought their holdings into the cooperative, on and around a nucleus of domain lands, usually consisting of one or more (merged) expropriated non-Tunisian farms. (It was this form of cooperative production unit which occurred most frequently. As it consisted of the continuation and extension of an already existing production organization, it was the first to yield results.)

Finally, the law on the cooperatives contained provisions which could make it compulsory for the farmers and landowners within the domain of each cooperative to become members, or to exchange their land for a plot outside the operative area of the cooperative. Landowners who did not qualify for membership because they lived in towns, or who chose not to join, were obliged to lease or sell their land to the cooperative. The ultimate area in the compass of a production cooperative therefore mostly comprised a center, consisting of the lands and buildings of the original French establishment, possibly extended with other domain lands; lands bought or leased from landowners who themselves could not or did not want to become members of the cooperative (e.g., because they lived or worked in the town); lands brought in by the members, mostly in plots of between .50 and ca. 10 ha., in exchange for which they received shares in the nominal capital of the cooperative. If a member left the cooperative, it retained his land, but he could sell his share in the cooperative itself; another alternative open to him was to lease his land to the cooperative.

Every member of the cooperative was obliged, according to his qualifications and the existing employment possibilities, to take an active part in the work of the cooperative. Membership was not open to those who only

brought in land without regularly working on it. The annual disbursement to the members was consequently based on two elements: the contributions in labor and those in land (= shares in the capital of the cooperative). During the year the members, by way of an advance on the annual disbursement, received payments for every effective work day, which were equivalent to the normal wages of a laborer doing the same work.

In the beginning this kind of cooperative had to overcome countless difficulties: they were organizations which had been built up from scratch; the members were accustomed to work at their own tempo on their own small farms and could not immediately adapt themselves to the rigidly organized work schedule and to the tasks imposed on them; there were shortcomings in management, a shortage of sufficiently trained officers and of lower extension service staff which could, in daily contact with the members of the cooperative, explain and, if necessary, demonstrate the required innovations and the new working methods. The best results were achieved where the core of the cooperative's members consisted of former laborers of the expropriated French establishment which had become the nucleus of the cooperative. They formed the link between past and future; they were used to modern mechanized farming and the working-methods connected with it; and, when engaged in continued routine activities, they managed to achieve reasonable and even good results.

To the poorest among those who joined the cooperatives it was attractive to have the certainty of work, a house, schools for their children, and the prospect of a final payment after deducting the advances received as "wages." But the farmers who used to have land of their own, which they had to bring in when forced to join the cooperative, would be satisfied only if they received an annual payment which stood in a reasonable proportion to the lands they relinquished. The main opposition to the production cooperatives came from the larger Tunisian landowners, who feared from the beginning that their farms would one day be transformed into such production units. In time it did become Tunisia's policy to collectivize all lands (even individual orchards, olive trees, small irrigated vegetable gardens, etc.) in cooperative production units.

As far as the results of the Tunisian production cooperatives are concerned, an investigation demonstrated that only 54 percent of the cooperative production units showed a net gain, the other 46 percent suffering considerable losses. On an average, land use was 15 percent less efficient than had been planned when the cooperatives were set up, and outputs per hectare of wheat cultivation were only 65 percent of the plan figures. This insufficiency in productivity caused liquidity problems and indebtedness of the cooperatives and left only meager earnings for the members. Average incomes of the coop members came up to only 77 percent of the original prospects; in a number of cooperatives it was impossible even to achieve a mere 50 percent of the target income.⁵

5. A. A. Bodenstedt, T. H. Zeuner, and V. Kobelt, Staatlich geplante Produktions-genossenschaften, das Tunesische Modell der Unités Coopératives de Production du Nord (München, 1971), pp. 142ff.

These bad results, together with opposition against the compulsory membership in the cooperatives, the forced mergers of the private small holdings with the production centers and the consequent loss of private land, did not help to kindle whatever enthusiasm may have once been felt by the formerly independent farmers.

Besides evident shortcomings in planning, the actual realization and implementation of the projects created unsurmountable problems--especially as the number of established production-cooperatives increased--as a result of the lack of sufficiently trained staff and management in the coops. Low labor efficiency, limited labor mobility, insufficient (and consequently also inefficient) autonomy of the coops in the form of organization of the production cooperatives--all acted as so many factors which unfavorably affected the results of the cooperative production units.

The farmers' increasing resistance to agricultural collectivization in 1969 led to the overthrow of the responsible minister, Ahmed ben Salah, and to the abandonment of compulsory collectivization.⁶ Many farmers took back their land from the cooperatives and private control was restored in the management of agricultural land. Approximately 15 percent of the collectivized production units remained, mainly on ex-colon land, and showed satisfactory results.⁷ Thus the Tunisian experiments with farm planning and collective agricultural production, by means of the establishment of big cooperative production units as a sequel to land reform, had failed. As an example to be followed in other developing countries, this attempted collectivization must be considered unsuitable.

IV

LAND REFORM AND COOPERATIVE PROMOTION OF PRODUCTION IN EGYPT

The takeoff situation in Egypt was totally different from that in Tunisia. The agrarian problem in Egypt before 1952 was essentially one of increasing inequality in the distribution of land, with growing poverty in the countryside.

6. "The best indication of the net results of 15 years of cooperative farms was given by the Tunisian Government on September 2, 1969, when it virtually abandoned them." J. L. Simmons, "Agricultural Cooperatives and Tunisian Development," The Middle East Journal, 24, no. 4 (1970), pp. 455-65, and especially *ibid.*, 25, no. 1 (1971), pp. 45-57.

7. "Les coopératives de production qui subsistent aujourd'hui ressemblent dans une certaine mesure aux domaines autogérés algériens qui n'exploitent que des terres d'origine coloniale." A. Hirschfeld, Book Review in Revue des Etudes Coopératives, no. 170 (1972), p. 528.

Especially as a result of the Muslim inheritance laws, which lead to fragmentation of estates, and the emergence of a rich class of merchants and moneylenders after the middle of the nineteenth century, the inequality in landownership became more important. The average size of the small holdings decreased from 1.46 feddan in 1900 to 0.80 feddan in 1952,⁸ while the number of small owners increased from 761,000 to 2,642,000. In the same period the average size (12.5 feddan) of the medium-sized holdings (5-50 feddans) remained fairly constant, though the number of owners increased from 141,000 to 148,000. The average size of the large holdings (more than 50 feddans) decreased from 188.6 feddan in 1900 to 173.0 feddan in 1952, but here the number of owners remained the same (11,900).

The subdivision of the small holdings was most strongly expressed in holdings of less than 1 feddan. The number of owners in this bracket trebled within fifty years; the average size of their property had declined to 0.38 feddans in 1952. The subdivision had less serious consequences in the larger properties: the major holdings were subdivided into medium-sized ones and these again into small holdings, but in these categories the negative effects were compensated by acquisition of land and the emergence of new landlords (e.g., the moneylenders).⁹

The large landowners were mainly the state, the king and members of his family, high officials and their descendants, and an urban class of absentee landlords. The system which prevailed before the revolution of 1952 was one of feudal land tenure: there were big contrasts between the great mass of farmers who had no rights and the upper stratum of Egyptian society who owned and controlled everything; tenant farmers were in a dependent position; 0.4 percent of the population owned 34.1 percent of the arable land. Two-thirds of this land was rented to tenants and sharecroppers. The rent or the share of the harvest accruing to landlords was so high that it was more advantageous for the landowners to rent their land to tenants or sharecroppers than to cultivate it themselves.¹⁰

8. 1 Feddan = 4.176 square meters, or well over 1 acre.

9. For distribution and structure of landownership between 1894 and 1965 see R. Mabro, The Egyptian Economy 1952-1972 (Oxford, 1974), pp. 61 and 73 (Tables 4.1 and 4.3). For size groups of holdings and of farms in 1952 see El Shagi El Shagi, Neuordnung der Bodennutzung in Ägypten (München, 1969), pp. 27 and 29. Numbers and sizes of properties, holdings, and farm operations may differ as a result of leasing, tenancy, and sharecropping arrangements.

10. "In 1949, about 60 per cent of the arable area in Egypt was cultivated on tenancy bases, sometimes combined with sub-letting, thus having a complex structure of dependencies between the owners and the fellaheen, the tillers of the land." J. Von Muralt, "Functional Chance of Rural Cooperatives in the Arab Countries," in Agriculture in the Near East, eds. K. P. Treydte and W. Ule (Bonn-Bad Godesberg, 1973), p. 10. The status of the sharecroppers often differed very little from that of farm laborers. A sharecropping system with the tenants highly dependent on the landlords is prohibitive to a possible development of cooperatives.

The agricultural system was a combination of multi-cropping and crop rotation, with cotton, wheat, and fodder crops (especially clover) as staples. In crop rotation two systems--the biennial and the triennial--were favored, depending on soil fertility and the availability of water for irrigation. As a result of the increased subdivision and fragmentation of holdings, agricultural productivity between 1939 and 1950 decreased by 9-25 percent. Irrigation was much more expensive and there was a considerable loss of irrigation water on these small scattered parcels, more so than on bigger holdings or with consolidated crop rotation. The same applied to control of pests and the use of agricultural machinery.¹¹

In the Egyptian land reform laws enacted in 1956, 1961, and 1964 ownership of land was limited to 100 feddan (nearly 42 hectares) per family. As a result, some 420,000 ha. became available for redistribution by the Ministry of Agrarian Reform.¹² It was distributed in units of an average of 1.2 ha. per family, the smallest smallholders and landless farmers coming first. There was no tendency toward any collectivization of agriculture or abolition of property rights.

From the beginning one of the main aims of the land reform was to increase the productivity of the land by introducing a unified crop-rotation system so as to make the best possible use of the advantages of large-scale agricultural methods on consolidated farm areas, without limiting the individual ownership rights of the farmers. In this controlled-rotation system the plots of the small farms were grouped in such a way that large aggregates were formed for growing the same crop under the same rotation system. Therefore the farmers' holdings had to consist of three parcels, one in each of the unified crop-rotation areas of the village, as only in this way could the farmer maintain a diversified multi-cropping system (with spread of risks, income, and labor use). With this system it was possible to maintain the independence of the small farmer, while at the same time it became feasible to enjoy the technical advantages of the application of certain agricultural methods on a larger scale.

As the cornerstones of this system Agrarian Reform Cooperatives were set up. The type of cooperative to be adopted for this purpose was the "Cooperative for the promotion of agricultural production," with four main characteristics: compulsory membership of the new landowners; cooperative ownership of all machinery; unified rotation of crops; supervision of farm

11. El Shagi, Neuordnung der Bodennutzung in Ägypten, pp. 29-30; J. Von Muralt, Entwicklung und Struktur des Genossenschaftswesens in Ägypten (Marburg a.d. Lahn, 1964), p. 19.

12. For these laws see Mabro, The Egyptian Economy, pp. 56-66; El Shagi, Neuordnung der Bodennutzung in Ägypten, pp. 33-34; W. Ule and J.G.F. Wörz, "Development and State of the Rural Cooperative System with Special Reference to the Cooperative Production Promotion in Egypt," in Agriculture in the Near East, p. 43.

operation, cultivation regulations, and use of production credits by the cooperative.¹³ In this integrated cooperative

the member economies, being independent legal units, are bound to the cooperative enterprise in such a way that the cooperative management makes decisions not only for the cooperative establishment itself, but also as regards operations favouring the economic interests of the member enterprises (farms) . . . The members retain certain competences in production and so on, but follow a common strategy of operation and a common plan of production and marketing under the control of the cooperative top management . . . Because the member economies are integrated into a close union with the cooperative enterprise, the operational objectives of the enterprise simultaneously determine the further operational objectives of the individual economies.¹⁴

In the areas affected by the agrarian reform, the cooperative societies themselves became integral parts of the agricultural production process. The passing of the land reform laws necessitated a functional change in the operations of the agricultural cooperatives. As a result of the land reform the former tenants and sharecroppers became landowners. However, within the abolished feudal system it was the landlords who used to organize production and provide fertilizer, seed, and draught animals to the tenants. With the discontinuation of these services after expropriation, land reform cooperatives had to be founded to fill the two important functions previously assumed by the landlord: the organization of production and the marketing of the crop. Therefore, membership in the land reform cooperatives became compulsory for beneficiaries of agrarian reform lands, and the cooperatives were put under the close supervision of the responsible Ministries of Agriculture and Agrarian Reform. The supervised cooperative system was also introduced both to raise the level of production by means of new methods in agriculture and to contribute to long-term development by providing credit and technical assistance to the farmers.

The most interesting aspect, however, of the newly established supervised cooperatives relates to the organization of production. Each land reform cooperative manages a land reform area as a single unit. This area is divided into three crop-rotation blocks, and in each of these every farmer receiving land has one-third of his holdings. Farmers retain both the ownership of their plots and the responsibility for cultivating them, but they are required to follow a number of prescribed practices: crop consolidation, triennial rotation (a common, three-year crop rotation for the three blocks is compulsory), and cooperation in certain activities such as

13. O. Schiller, Cooperation and Integration in Agricultural Production (Bombay-London, 1969); Ule and Wörz, "Development and State of the Rural Cooperative System," p. 42.

14. E. Dülfer, Operational Efficiency of Agricultural Co-operatives in Developing Countries (FAO, Rome, 1974), p. 57.

the fumigation of crops and pest control. As a result of the formation of the crop-rotation units it became possible to plan agricultural production along cooperative lines and to mechanize certain farming operations, while cultivating and harvesting could still be done individually. This combination of cooperative and individual economic activity in production, without abolishing individual ownership of land, is characterized as cooperative production promotion.¹⁵ The undertaking of certain agricultural operations by the cooperatives may involve economies of scale and ensure the quality of performance. The members are charged for the services provided by the cooperative and each farmer receives the return from his own crop, which is marketed through the cooperative society.¹⁶

Later on, between 1961 and 1965, when the system introduced in the land reform area was considered to be successful, the same kind of cooperatives and a similar unified crop-rotation system with supervised credit were introduced in the villages with old, unevenly distributed landholdings (the non-land-reform areas).

One of the most important results of the implementation of the Egyptian land reform through the cooperative promotion of agricultural production has been that in this way Egypt has managed to modernize and rationalize an agrarian system operated according to old-established traditional methods by mostly illiterate tenants and small farmers without financial resources. This was achieved without departing from the principle of the inviolability of the ownership rights vested in the small farmers.

The conclusions concerning the land reform cooperatives can be focused on three aspects.¹⁷

Economically and in terms of production techniques, agriculture has been greatly improved by the introduction of the system of unified crop rotation and the increased use of fertilizers and credit. There was a considerable increase, particularly in the per-acre yields of cotton. The peasants were able to increase their income further by marketing their harvest through the cooperatives.

15. Schiller, Cooperation and Integration in Agricultural Production, esp. Ch. IV, "The Conception of Cooperative Promotion of Agricultural Production," pp. 48-63.

16. Mabro, The Egyptian Economy, pp. 74-75; Von Muralt, "Functional Chance of Rural Cooperatives in the Arab Countries," p. 11. For a detailed description of the unified crop rotation system see Schiller, Cooperation and Integration in Agricultural Production, pp. 77-79, 85-87; El Shagi, Neuordnung der Bodennützung in Ägypten; K. P. Treydte, Genossenschaften in der VAR (Ägypten) (Hannover, 1971), pp. 110ff.; Ule and Wörz, "Development and State of the Rural Cooperative System," pp. 46-48.

17. Treydte, Genossenschaften in der VAR (Ägypten), p. 175.

From the point of view of social and development policies, the land reform cooperatives can be regarded as an attempt to introduce elements of democracy, guidance, and supervision, instead of only centralized execution, into the concept of development policy.

In terms of cooperative theory, the question is whether state intervention in the cooperatives has not gone too far, to a point where essential criteria of the cooperative system become strained. Though the de facto compulsion and the high degree of government interference in the Egyptian land reform cooperatives can be explained as being dictated by circumstances, it must be admitted that the preoccupation of the state with the coops not only concerns their formation or the compulsory enlisting of membership, but also extends to the management and the business administration of the cooperatives, so that there remains hardly any independent management under the control of the members of the coop. For these reasons, the Egyptian cooperatives have the character of state organizations. The government is also using the cooperatives for disguised fiscal purposes. Government purchases, at relatively low prices, of the main crops through the compulsory cooperative marketing system, may constitute an effective means of taxation. The same applies to the supply of fertilizers at much higher rates than the import price. This price policy is inconsistent with the government's development objectives.¹⁸

V

CONCLUDING REMARKS

Although in a number of countries land reform may be an essential condition for agricultural development, it is not a panacea for solving the problems of a tradition-bound economy. The role of the implied structural and institutional changes is only to create a suitable environment and hence to provide a starting point for further progress and development by removing obstacles. Guidance to farmers on how to manage their land after the tenure improvements have been effected, together with an integrated approach to extension, credit, supply, marketing, and other services are often indispensable conditions to raising the farmers' production and income, as well as to realizing the other objectives of agrarian reform. The governments of Tunisia and Egypt have realized that "cooperatives for integrated rural development"--coordinating machinery services, credit, supply, and marketing

18. Mabro, The Egyptian Economy, pp. 77-79.

with primary production so that the whole development proceeds as an integrated operation throughout all stages of planning and implementation--may fulfill a useful function in this process.¹⁹ The cooperative societies which have been established in both countries have been essential components of the agrarian reform package.

There are, however, a number of differences in relation to forms of cooperation and integration,²⁰ and types of farming (scale of operation and pattern of cultivation).

The cooperatives in the Medjerda Valley in Tunisia are classical service cooperatives of the multi-purpose type, with only single functions in farming operations and minor integration of the cooperative enterprise with member farms (in the sense that the management of the cooperative takes decisions with respect to planning operations of the individual member farms). The Egyptian land reform cooperatives are societies for the promotion of agricultural production with partial functions in farming operations and most other functions (including farm planning) organized on a cooperative basis. There is a major integration of the cooperative enterprise with the member farms. In both types of cooperatives individual member farms continue to exist. In the Tunisian cooperative production units (collectivized production cooperatives), however, member farms did not continue to exist: the cooperatives had full functions in farming operations; there was a complete merger of the farms of the members into the cooperative production unit.²¹

The advantages of scale of operation were fully realized in the Tunisian production cooperatives. The most sophisticated solution for the economies of scale problem was introduced in Egypt. In the Medjerda Valley the individual pattern of cultivation with small scale of operation dominates.

The success or failure of cooperatives as instruments of economic and social development must be judged by the success or failure of the farm units which are served, or by the improvements in employment and income for the farmer and his family (especially in the production cooperatives). In these respects the Egyptian farmers were better off than their Tunisian counterparts. The significance of the Egyptian system of cooperatives for the promotion of agricultural production lies in its conception and implementation as a large package of related measures.²²

19. Newiger, The Role of Co-operatives and Other Rural Organizations in Integrated Rural Development, pp. 10-11.

20. See also the classification pattern worked out by Schiller, Cooperation and Integration in Agricultural Production, pp. 10-11.

21. Schiller also distinguishes between the external processes of cooperation and integration of agricultural producers (in farmers' cooperatives) and the internal processes of cooperation and integration of farm enterprise and agricultural production (in cooperative farming).

22. Mabro, The Egyptian Economy, p. 82.

Where the results of the Tunisian service cooperatives were insufficient, this was not the fault of this type of cooperatives, but rather the consequence of inadequate selection and preparation of the beneficiaries of the land reform and land redistribution, or the effect of poor management and administrative problems in the coops.

Finally, the Tunisian production cooperatives proved to be a bad choice for solving the problems of smallholders. For the implementation of land reform measures this type of cooperative can only be a solution where, after expropriation, large estates have to be kept in operation as undivided production units, with the former farm laborers on these estates being transformed into members of cooperatives within a framework of self-managed (cooperative) enterprises.