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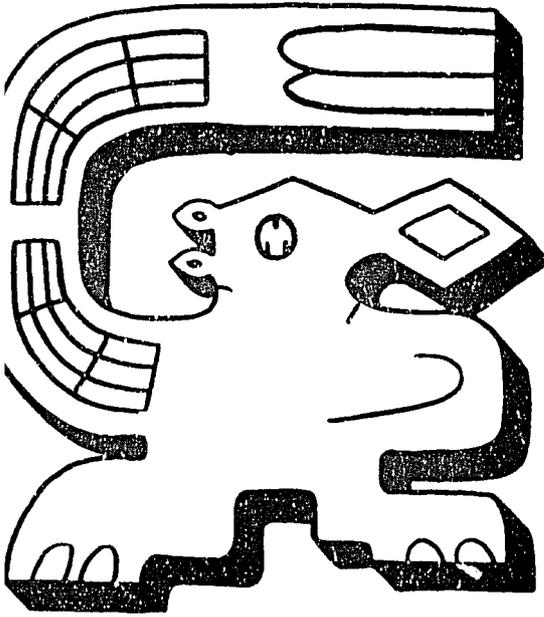
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# Agricultural Development in Iran

## Three Articles

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TABLE OF CONTENTS

"Land Reform and Modernization of the Farming  
Structure in Iran"

"Agricultural and Rural Development in Iran"

"Differential Fertility in Peasant Communities:  
A Study of Six Iranian Villages"

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11

## Land Reform and Modernization of the Farming Structure in Iran

ISMAIL AJAMI

### THE PRE-REFORM AGRARIAN SITUATION

Prior to land reform, about 15.5 million of Iran's population, 65 per cent of the total, lived in about 55,000\* villages.<sup>1</sup> According to the First National Census of Agriculture in 1960 the total agricultural land of the country which was estimated at 11.3 million hectares, was cultivated by 2.4 million farming households. Thus, on an average, each household farmed 4.7 hectares of irrigated and unirrigated land. In 1962 the agricultural sector employed 47 per cent of the labor force but produced only 29 per cent of the gross national product of the country.<sup>2</sup>

Agricultural productivity was very low because of many factors, the most important of which were primitive farming practices, absentee landlordism with predominantly share-cropping and a low level of capital formation in agriculture. As an illustration, wheat yield was 1.2 tons, rice 2 tons, cotton 1 ton and sugar beet 15 tons per hectare of irrigated land in 1960.<sup>3</sup> The lowest yields were often found to be on holdings farmed under permanent share-cropping arrangements in certain regions of the country.

The high concentration of land ownership in the majority of cases, accompanied by high shares of the crops\*\* extracted by the landlords, had perpetuated a very inequitable distribution of agricultural income. The vast majority of the tenants lived near or at subsistence level while they were almost always indebted to their landlords or village money-lenders. The tenants, for the most part, had no permanent right to the land they cultivated, for the landlords had the power to a periodic redistribution of holdings at will. In some areas the landlords levied dues in addition to a share of the crop, and the tenant was also subject to certain personal services.

\*The number of villages in Iran is estimated between 49,000 to 65,000. The figure 55,000 given in this paper is based on the operations of Land Reform Organization.

\*\*Fixed rent arrangements were to be found mainly in the Caspian Provinces.

In short, the Iranian tenants lived in poverty, ignorance, and continuous insecurity.

Prior to the recent reform, four broad categories of land ownership consisted of Public Domain lands (state lands), crown lands, 'waqf' lands (land endowed for religious and public purposes), and private landholdings. Land records were fragmentary and a cadastral survey did not exist. However, of the 51,300 villages enumerated in the 1956 census, the Public Domain lands accounted for 10 per cent, the crown lands for about 4 per cent, the waqf lands for about 10 per cent and private holding for the remaining 76 per cent.<sup>4</sup>

Before the land reform of 1962, it is estimated that some 2,250 landlords owned more than one village; they owned a total of 16,739 villages in whole (Sheshdangi)\* and in parts (dangi) in excess of the one village ceiling fixed by the first land-reform law. Generally speaking, large landlords — that is to say, those owning the equivalent of at least one whole village unit — held about 55 per cent of the cultivated land of the country. The large holdings were let in small sub-units to the tenants who farmed the lands on the basis of share-cropping or fixed rental arrangements. The share of the crop accruing to the respective landlords was collected either directly by his agents or through intermediaries who sublet to the tenants.

In the share-cropping system, the rental share usually depended on who supplied the five traditional production inputs: land, water, seed, oxen and labor, as well as on the type of the crop grown, local traditions and quality of the soil. Generally speaking, one fifth of the crop was allocated to each of the mentioned five basic inputs, but there were so many variations in the practice of dividing the crops between the landlords and the tenants that no general rule applicable to the different regions of the country existed. The landlord's share ranged from 20 to 80 per cent of the crop. For cash crops, such as cotton and sugar beet, the landlord's share amounted to about half of the crop, whereas for wheat and barley the landlords received usually two-thirds of the produce.

\*In the Iranian tradition any village, regardless of its size, is considered to be composed of six equal parts called 'dangs.' A landlord who owns a whole village is said to have a 'sheshdang.'

The whole fabric of socio-economic life of the Iranian tenants was governed and determined by the nature of the landlord-tenant relationship. The villages were, in practice, owned, ruled and often made an object of commercial bargaining, without the knowledge, to say nothing of the consent, of their inhabitants.<sup>5</sup>

The government's sphere of influence in village public life was generally weak. There were some big landlords who would not even let government agents enter their villages. Since many of the landlords exploited their tenants with the sole purpose of getting labor and the land rent out of them, there had developed in many areas a deep-rooted sense of mistrust between the landlord and tenant.

The three main types of land tenure consisted of share-cropping 'Mozariy,' fixed rental in cash or in kind, 'Ejarei,' and owner-operated farm 'Melki.' As Table 1 shows the predominant type of tenure was share-cropping which applied to approximately 54 per cent of the total agricultural land of the country.

TABLE 1. Number and Area of All Holdings by Type of Tenure, 1960\*

Type of tenure	Number of holdings		Area (hectares)	
	'000	per cent	'000	per cent
Mozariy	814	34.2	6,222	54.8
Ejarei	235	10.0	844	7.4
Melki	624	26.2	2,976	26.2
Holdings operated under more than one tenure form	203	8.4	1,315	11.6
Holdings without land	508	21.2	—	—
Total	2,384	100.0	11,357	100.0

\*The information is taken from the First National Census of Agriculture, October 1960, prepared by the Ministry of Interior, Department of Public Statistics, Tehran, Iran.

The tenure arrangements for public domain lands, waqf lands, and the crown lands did not differ greatly from those for large private holdings. In other words, regardless of the form of ownership, the lands were let in small holdings to the tenants and rents were collected directly or through agents of the landowners.

### MEASURES TO REFORM THE LAND TENURE SYSTEM

Before the radical land reform law of 1962, some attempts to reform the land tenure structure and to improve the conditions of the tenants had been made. Transfer of ownership of land to the tenants began in 1927 when some of the state lands (Khalesse) in the Provinces of Khuzistan and Seistan were transferred to the local farmers. In 1951, the Shah began his reform by transferring the ownership of the royal estates to the tenants. As a result, some 507 villages covering an area of 199,628 hectares were transferred to 42,203 tenant households by 1961<sup>6</sup>. The government proceeded with the transfer of the state lands in 1958 and by 1963, when the transfer of the state land came under the comprehensive Land Reform Law, some 157 villages had been transferred to 8,366 tenants.<sup>7</sup>

In April 1960, the first comprehensive land reform law was passed by the Iranian Parliament, 50 to 60 per cent of whose members were drawn from the land owning class.<sup>8</sup> This law provided for the transfer of all private holdings in excess of 400 hectares of irrigated or 800 hectares of unirrigated land. But the law had so many loopholes and qualifications that its enforcement was made wholly impracticable.

The political riots of 1961 brought about some drastic changes in the operations of the political system. Among these changes was the dissolution of both houses of parliament which were dominated mostly by the landlords' interests. After Parliament was dissolved, the 1960 Land Reform Law was amended by a cabinet decree approved by the Council of Ministers on January 9, 1962. This decree, though enacted in the form of an amendment, is the real land reform law and is known as the 'original law.' According to this law, all estates in excess of one village, or parts of villages equivalent to one village, were to be expropriated and ownership transferred to the occupying tenants. A maximum limit was imposed on land cultivated by tenants. However, lands cultivated by agricultural machinery and wage labor, gardens and tea orchards were exempted from expropriation. Under the provisions of this law, the ownership of land was granted to the tenants in conditional title in proportion to the land previously held by them. This pattern of land

ownership is known in Iran as 'Moshah.' The enforcement of the original law is generally referred to as 'the first stage of the Iranian land reform program.'

The objectives of the land reform program in its early conception were stated in general terms as abolition of the existing landlord-tenant relations, emancipation of the tenants, promotion of democracy and development of agriculture. The economic aspect was not neglected but development was not the primary aim. In general, the political objective of land reform loomed larger than any economic aim because it was thought necessary to carry out a reform which would destroy the power of the landowners before any economic and social progress could be made<sup>9</sup>. As the reform program got under way, its aims became more clearly formulated. The economic objective was to increase agricultural production by generating economic incentives among the tenants through the transfer of land ownership. Also connected with this objective was the provision of financial and technical assistance through an expanding cooperative network and agricultural extension services. Politically, the reform program aimed at enlarging the scope of political consciousness and participation among the rural population through the destruction of the bases of power enjoyed by the land-owning class. The social objectives included a more equitable distribution of agricultural income and improvement of the living conditions in the villages. Immediately after the announcement of the Land Reform Decree, its implementation started in Maragheh district on an experimental basis. The experience gained was rapidly transformed into supplementary decrees to improve the original law. Within two months the implementation of the law in Maragheh district was accomplished; 26 villages had been expropriated and the ownership of 7 villages transferred to 520 tenant families.

Thereafter, the reform program was extended to other districts. In each administrative region a local land reform organization was set up to administer the reform. The whole government machinery was mobilized for the rapid enforcement of the Law. By January 1963, a year after the announcement of the Land Reform Law, the ownership of 1,524 villages had been transferred to 51,720 tenants. Altogether, under the first stage of the law, 16,739 villages in whole

and in part were expropriated and transferred to some 761,000 tenants by 1967. Assuming that the villages, which were transferred in part, would consist, on the average, of half a village, it is estimated that the ownership of about 17 per cent of the total number of the villages of the country had been transferred to approximately 25 per cent of the tenants.

As the land reform program proceeded, the opposition of some large landowners and that led by some religious leaders built up to a few demonstrations and political riots. The government, in a counter-attack, intensified its propaganda program through extensive use of mass media to promote the cause of the land reform among the public, particularly the masses of the tenants, the industrial workers and the middle classes. An official ideology of 'peasantism' and 'ruralism' was propagated throughout the country.

On the first anniversary of the land reform implementation, a National Farmers Congress, in which some 4,000 members of the boards and managing directors of rural co-operatives participated, was organized by the government. The purpose of the Congress was to strengthen the farmers' solidarity, to assure them of the continuity of the land reform program, and to gain their support for a public referendum of the Shah's Six Bases of Social Reform, known as the 'White Revolution.'

The Government's efforts in promoting land reform among the tenants stimulated their rising expectations for ownership of the farm lands which they had been deprived of for so many centuries. But these rising expectations could not be fulfilled by the implementation of the first phase of the reform law, which covered only some 25 per cent of the tenant families, leaving the status of the remaining 75 per cent of the tenants unchanged. The need for new measures to expand the reform program was strongly felt. The Government, therefore, issued a decree, in the form of an amendment to the original law, on January 17, 1963. The enforcement of this cabinet decree known as the Law of Annexed Articles began in February 1965 under the second stage of the land reform program.

In its original version, the law for the second stage fixed maximum areas for landowners' holdings from 20 to 150 hectares according to the type of land and its proximity to the market. Land

owned in excess of the maximum was to be transferred to the tenants. But this law was later modified to a more moderate change aimed at improving mainly the tenancy situation. The Annexed Articles decreed that the owner of the land which was not subject to purchase by the Government in the first stage must dispose of or manage his land in one of the three following ways:

- (1) Let the land on a thirty-year lease to the occupying tenants for a rent based on the average income received by the landowner for the preceding three years. This rent was to be subject to revision every five years.
- (2) Sell the land to the tenants by mutual agreement.
- (3) Divide the land between himself and the occupying tenants in the same proportion as the crops had been divided between them under the existing crop-sharing agreement. For example, if the tenant received one third of the crop, the landlord was obliged to transfer the ownership of one-third of the land previously cultivated by the tenant. Water rights were to be assigned for the land as divided between the two parties. The tenants were to pay two-fifths of the price of the land as valued by the Land Reform Organization.

The Regulations for the Implementation of the Annexed Articles, issued in 1964, offered the landowner two other possible courses of action in addition to the three listed previously. The first was the formation of an agricultural unit. According to Article 17, if the majority of the tenants and landowners in a village agreed, the village might be run as a unit by a managing committee consisting of three persons, one representing the tenants, one the landowner or landowners, and a third being chosen by mutual agreement by the two parties. The second new course open to the landlord was the purchase of the tenant's rights of use of the land (*haghe rishe*).

It may be observed that the second stage was a very complex affair in contrast to the first phase in which the procedures were simple and quick. It also placed much responsibility for implementation on the land reform officials, whereas in the first stage, the law left little scope for administrative decision.

Simultaneous measures dealt with the waqf lands. Those en-

dowed for public and religious purposes were to be leased to their cultivators on ninety-nine year leases (with five-year rental revision). The private endowments were to be purchased by the Government and transferred to the tenants. However, if the tenant did not agree, these lands would be dealt with in the same way as the private lands.

By the end of June 1969, the second phase of the law was implemented in a total of 54,211 villages affecting the tenancy status of 2,460,566 farming families. Altogether, the application of the second stage law involved 291,620 estates. In 72 per cent of all the estates the landowners chose the alternative of leasing their land, i.e., the conversion of crop-sharing to fixed rental tenancy. In 18 per cent of the estates, landlords and tenants agreed to set up joint farming units in some 5,900 villages; while in 6 per cent of all the estates the landowner transferred the ownership of a parcel of his lands to his tenants in proportion to the tenants' respective shares of crops. Only in 1.4 per cent of all the estates did the landlord sell his lands outright to his tenants, and in 2.6 per cent of the estates the tenants sold their cultivation rights to the landlords.

As the enforcement of the second phase of the law was proceeding to its conclusion, it was expected that a third phase would be launched to deal with the problem of increasing agricultural production by supplying new inputs to the agricultural sector. But because the implementation of the second phase did not satisfy the wishes of an overwhelming majority of the tenants to gain the ownership of the lands cultivated by them, the government decided on a new course of action which resulted in the approval of the "Bill for the sale and Distribution of the Leased Land" by Parliament in October 1968.

According to this law, generally known as the third stage of the land reform program and still in operation today, the landlords who, under the options of the second phase, had leased their lands to the tenants for 30 years and those who had chosen to set up joint farming units were required either to sell all their lands to the tenants, the price being determined on the basis of 12 years' rent, or to divide the land between themselves and the occupying tenants on the basis of their customary ratio of the share of crops. The implementation of this phase of the reform is expected to eliminate

tenancy relations in farming, and thus the socio-political objective of the Iranian land reform will be achieved. All the tenants previously cultivating land will become owners of that land. According to a report of the Ministry of Co-operation and Rural Affairs, by September 1971, 476,839 tenants had received under the regulations of the third stage the ownership of the lands cultivated by them. On the whole, as a result of the implementation of the three stages of the land reform program, an estimated 1.4 million tenants, approximately 70 per cent of all the tenants in the country, had received ownership of the lands cultivated by them by September 1971.

The question which is often raised both by the student of agrarian reform and by the layman is: to what extent has the Iranian land reform been successful? There is little doubt that, in terms of its political objectives, the reform measures have been successful, resulting in the transfer of land ownership to the tenants and in the break-up of the power basis of the landlords.

As to the achievement of the economic objectives, no definitive statement can be made before answering two basic questions. The first question concerns the types of land tenure and farming structure which were created after the old ones were destroyed. The second question deals with the post-reform variation in the level of agricultural production. At present, valid conclusions can not be drawn in answer to these questions. First, because there exists some uncertainty as to the desired patterns of tenure to be developed in the country, second, because the efforts to reorganize the farming structure, as will be discussed in the next section, are still in an early experimental stage, and third, because any attempt to determine the effects of the reform on agricultural production is handicapped by the shortage of reliable statistical information for physical output.

The inadequacy of such data should not, however, prevent us from making some comparisons in money terms of production trends at least for a few years before and after the reform period. For that reason, the comparison is limited to four main crops: wheat, rice, cotton and sugar beet, which together make up some 50 per cent of the total value of the farm production of the country. In addition, estimates of the total contribution to GNP by the agricultural sector is given for pre- and post-reform years.

As can be seen in Table 2, production of wheat, rice, cotton and sugar beet for the six years after the land reform compared with that for the three years preceding the reform increased by 7, 20, 13 and 120 per cent respectively. A recent study indicates that the average annual rate of growth in the agricultural sector of the country has been 3.8 per cent for the decade 1960-1970.<sup>10</sup>

It can, therefore, be observed that the level of agricultural production did not fall after the land reform as many critics of the reform expected; in fact, a slow rate of growth has been maintained. However, it should not be forgotten in this respect that some additional land was newly brought under cultivation and some was improved by irrigation. Increased mechanization also played a part in the increase of production. Finally, the production figures given in Table 2 pertain not just to the tenant sector mainly affected by the reform but to all agricultural holdings.

Three major factors seem to have contributed to the implementation of the Iranian land reform program, namely (a) the adaptability

TABLE 2. Comparison of Agricultural Production in Iran for Periods Before and After Land Reform

Year	Estimated value of total agricultural sector production  <i>million rials* at fixed price</i>	Wheat	Rice	Cotton	Sugar
		<i>thousand tons</i>			
<hr/>					
Before Land Reform					
1959	85,119	2,900	810	265	706
1960	86,711	2,924	709	328	707
1961	86,984	2,803	576	318	810
1959-1961 Average	86,292	2,875	698	313	711
<hr/>					
After Land Reform					
1962	88,315	2,700	700	276	860
1963	89,893	3,000	860	316	1,191
1964	92,159	2,600	800	363	1,028
1965	96,020	3,000	815	420	1,111
1966	102,750	3,190	875	339	2,280
1967	110,953	3,800	930	405	2,857
1962-1967 Average	97,165	3,018	835	318	1,638

\*76 Rials = 1 U.S. dollar. These estimates have been published by the Central Bank of Iran, National Income of Iran, 1962-67, 1969 (in Persian).

of the program, (b) the political will, and (c) the phasing of the reform measures.

(a) *Adaptability.* The land reform law of 1962 was prepared with utmost consideration for the existing agrarian situation of the country. It was not an imitation or adoption of the best reform laws designed for other countries. It was strategically planned for the purpose of preventing evasion and was meant to work.

The fixing of one village as the ceiling of landownership rather than adopting the standard practice of a fixed area of land in the first stage of the reform program, and the transfer of the lands to the occupying tenants on the basis of their existing cultivation right (*Nassagh*) can be cited as two examples of the cultural adaptability of the program. In the absence of a cadastral survey and proper land title registration, the criterion of an acreage ceiling for ownership would have defeated the whole reform program. Furthermore, the reform procedures were designed to depend less on the decisions of government officials, especially the regional officials who might have been influenced by the landowners.

(b) *Political Will.* The political regime made the Land Reform program a high priority of policy. The survival of the regime was taken to be dependent on the implementation of the reform measures. Encountering strong opposition of the landlords, the Government mobilized its executive power at all levels, engaged in very active propaganda work and stimulated the tenants to gain the ownership of land cultivated by them. It also provided adequate funds out of the Third Development Plan for financing the reform.\* Rapid enforcement of the Law gave no room for suspicion and rumors to spread among the tenants. Political riots, demonstrations and indirect threats were vigorously combatted.

(c) *Phasing the Program.* Both the legislative and enforcement measures of the land reform program were carried out by a process of trial and error. At the outset, the original law was approved and was immediately put into force without any reference to future plans. However, in the process of implementation, the need for some amendments was felt. As a result, the second phase of the land reform was introduced.

\*By 1971, the Government's payments to the landowners for their lands amounted to about \$130 million.

While the first phase of the reform sought to solve the problem of large land holdings, once that problem was attacked, the issue of improving tenancy situations had to be faced. However, as in practice the enforcement of the second stage did not produce the expected results, the third phase of the reform was launched to eliminate all forms of land tenancy.

Although the phased process of reform implementation created a certain degree of confusion as to the direction and ultimate goals of the reform movement, it had the advantage of dealing with one problem at a time. This is particularly significant for those societies which suffer from an inefficient administrative system.

In short, the Iranian strategy has been shifting between radical tenure changes and more moderate ones in an effort to strike a balance between ownership transfers and maintaining the level of agricultural production. It can be said that such a balance has been achieved to a large degree.

#### EFFORTS TO MODERNIZE THE FARMING STRUCTURE

The transfer of ownership of the large holdings was the first step in an effective land reform program in Iran. However, major efforts were required for creating a viable production system. There is general consensus among students of land reform that the success of reform depends to a large extent on whether the reform has created a more efficient farming system.

The Iranian land reform, which attempted in its first years the transfer of ownership of the large holdings, has been moving toward the re-organization of the farming structure. Two major efforts are being made in this respect: (a) the formation of rural Co-operatives and (b) the creation of Farm Corporations.

##### *(a) The Formation of Rural Co-operatives*

From the very beginning of the land reform, co-operative societies were thought to be fundamental to its success. Indeed, the land reform law required that the tenants, in order to receive ownership of land, must first accept membership in a rural co-operative. The co-operative movement had started before the land reform program, but was growing at a slow rate. By June 1960 there were 636

co-operative societies with some 290,000 members.<sup>11</sup> Most of these co-operatives were credit co-operatives, although in some cases they also supplied fertilizer and seeds to their members.

The co-operative societies were intended to provide the new farm owners with the credits and services which the landlords used to supply and thus to maintain the level of agricultural production. In many Iranian villages prior to land reform the tenants had given co-operation and mutual aid in the form of a type of group farming known in different parts of the country as 'Bonch,' 'Sahra,' 'Harasch.' The members of these groups would pool the land and tools and would cultivate the land on a joint basis while still retaining their individual rights to their holdings. The main factor determining the organization and composition of the 'Bonch' seems to have originated from the arrangements necessary for the utilization of the water resources of the village, particularly the maintenance of the 'qanats,' the main underground water channels providing the water for irrigation.

However, the development of a widespread and formalised form of co-operation required educating the new farm owners, training supervisors and managers, and setting up an efficient central organization. In 1963, the Central Rural-Co-op organization was established to form a network of co-operatives in all the rural areas of the country to provide financial assistance, to train the technical cadre, to audit the accounts and, in general, to supervise the activities of the rural co-operatives until they would be in a position to administer their own affairs in an efficient manner. By the end of 1970 some 3,298 co-operatives with a total membership of over 1,606,000 had been formed. They had a capital of Rials 2.3 billion (\$32 million). In addition, 118 rural-co-operative unions with a membership of about 7,600 co-operatives and a capital of Rials 992 million (\$13 million) were formed.

Most of the co-operative societies are small units without adequate financial resources and qualified personnel. They have, therefore, not been able to expand their activities beyond granting small, short-term loans. Their functions in the field of supplying new agricultural inputs and marketing have been very limited. A modest start has, however, been achieved in gaining the confidence of the new farm owners to form such an organization and to partici-

pate in its affairs. There is no doubt that the co-operative societies need a large number of trained farmer-managers, and official supervisors need more financial resources and more participation and involvement by their members in order to develop into an efficient system of credit, supplies and marketing.

*(b) Farm Corporations.*

Conceived as a complementary measure to land reform, the farm corporations were established on a pilot basis in accordance with a law passed by Parliament in 1968. The main objectives of the farm corporations as provided under Article I of this law are:

- (i) to increase the per capita income of the member farmers;
- (ii) to facilitate farm mechanization;
- (iii) to acquaint the farmers with modern farming practices;
- (iv) to provide employment opportunities for rural labor in the agricultural and industrial growth poles;
- (v) to prevent fragmentation of farm lands into uneconomic units; and
- (vi) to expand and develop arable lands by re-claiming and bringing under cultivation waste lands.

Each farm corporation consists of several villages, each cultivating some 1,000 hectares or more of land. By 1971, 27 farm corporations covering about 102,702 hectares in 164 villages with a membership of 9,171 shareholders had been set up. In the villages in which a corporation is formed, the new landowners transfer the permanent use of their land to the corporation and receive in its place shares in the corporation according to the value of their land and other farm assets. They are employed by the corporation as agricultural laborers and receive wages in accordance with their contributions of labor. In addition, they receive profit on the basis of the number of shares in the corporation held by them.

A farm corporation is under the management of an individual who is at present appointed and paid by the Ministry of Co-operation and Rural Affairs. He is required by law to run the corporation in consultation with its Board of Directors who are elected by the shareholders from among their number. The manager is usually assisted by two experts and a number of Agricultural and

Development Corpsmen who are also appointed and paid by this Ministry. To achieve the objectives of the corporation, the manager is encouraged by the Ministry to develop new water resources, expand farm mechanization and utilize new farm inputs. The Ministry assists in financing the capital costs of the corporation in the form of financial grants, as well as long-term loans.

In addition to modernizing agricultural production and marketing processes, the corporations encourage development and improvement of rural handicrafts. In some farm corporations, technical training and medical insurance are provided for the shareholders. If the pilot corporations prove successful, the government will expand the farm corporation program to cover a large part of the small family holdings in the country.

At present, it is too early to assess the economic and social effectiveness of the farm corporations. According to a report which was presented at the Symposium for Farm Corporation Managers,<sup>12</sup> in the 104 villages, in which the 20 corporations were operating, the area under cultivation had increased by 15.4 per cent, while yields per hectare for wheat had risen by 48 per cent, for barley by 65 per cent, for sugar beet by 19 per cent, for cotton by 86 per cent, and for rice by 19 per cent. The report, however, does not indicate the amount of capital investment nor the subsidies to current costs which were financed by the government for the corporations. Casual observations suggest that corporations have demanded heavy capital investment, for in 1971 there were a total of 155 tractors, 26 combines, 8 bulldozers, and a large number of small agricultural machines at the disposal of the 20 farm corporations.

Based on this writer's field work in evaluating one of these farm corporations,<sup>13</sup> it appears that the success of the farm corporations will depend on substantial government financial assistance and the supply of managerial staff, as well as on the full support by the shareholders and their effective participation in the decision-making processes of the corporations.

#### MODERNIZATION OF TRADITIONAL GROUP FARMING

The foregoing analysis of the newly-established farm corporations should not imply that the Iranian land reform program must be satisfied with the transfer of land ownership and that no major

further effort is required for creating an efficient farming system. On the contrary, it suggests that while the experimentation with the farm corporation is being followed, other strategies to modernize the farm organization should not be ignored. One alternative strategy is outlined below.

The alternative farming system proposed here involves the reorganization and modernization of group farming practiced by most of the Iranian farmers. As it was described earlier, (p. 201) the members of the *Bonch* would pool their land and tools for joint cultivation, while still retaining their individual rights to their holdings. The number of "*Bonch*" in each village as well as the number of tenants participating in it varies from village to village. The *Bonch* type of farming can be easily reorganized because under the land reform law, the ownership of land was granted to the tenants in conditional title in proportion to the land previously held. In this manner, the village land was not parcelled out in a number of individual holdings, but each farmer, holds ownership right to a portion of the village area (in *Mosha*).

In formulating the proposed farming organization, we have used three principles as our guideline. First, as professor Warriner asserts<sup>14</sup> on the question of the farm organization to be set up after the land reform, the alternatives do not lie between pure individualism and pure collectivism, or between efficient large and inefficient small-scale farms. Second, the new form of farm organization must be compatible with the cultural values as well as with the agrarian situation of the country. In this respect, one of the lessons to be learned from the Iranian Land Reform Law of 1962 is that the successful implementation of the law, was to a great extent due to its compatibility with the Iranian conditions. Third, the tenants seem to be more receptive to the modification or reorganization of the existing institutions and farming practices, rather than to creating new institutions alien to them.

To encourage the tenants receiving ownership of land to organize their farming in the *Bonch* form, the village cooperative can provide the necessary sanction through its mechanism of credit, farm inputs and marketing. Instead of granting credit and other services to individual farmers, the cooperative will require its members to form

farming groups first and then provide its services to these groups as the production units. The services of the agricultural extension agents and other government activities related to agricultural development will have to be channelled through the village cooperative to these farming groups. The cooperative supervisor will officially register these groups in the cooperative books and will supervise the allocation of the village land to each group and institute an organized crop-rotation system. Since the Iranian tenants have long experience with this form of farming, their demands for managerial skills and government financial assistance will not be as great as in farm corporations. However, it requires some changes in the structure and management of the rural cooperatives. In addition, the effective implementation of the proposed farming system will demand that all the public services related to agricultural production such as credit, irrigation structures, agricultural extension and marketing be pooled in and channelled by the village cooperative.

The re-arrangement of the holdings of the new farm owners and modification of the village cooperatives as outlined above, will develop a form of farming system in which the advantages of large-scale operation are combined with the economic incentive of the individual ownership. The existing organization and staff of the rural cooperatives, with some minor modifications, will be utilized to carry out the scheme without recourse to creating a new organization. Thus, the strategy involves considerable economies of public resources and government personnel in implementing agricultural development policies. The problems of land amelioration will be overcome without recourse to compulsion and excessive expenditures. If the experimentation of the proposed farming system proves it to be an effective form of farm organization, its wide-spread application to cover the villages distributed under the land reform law will be feasible both in terms of the financial resources and the field personnel required.

In the *Bonch* system, the participating tenants will choose their own leader (*Sarbonch*) from among themselves and work under his supervision. This will foster a sense of joint responsibility as well as the opportunity to participate in farm management and decision-

making processes. The government is thus released from direct management of farm enterprise and will not have to invest a large magnitude of the public funds in agriculture. The existing networks of rural cooperatives which have been developed by expending a large amount of public funds and a great deal of administrative effort will be utilized more effectively under the proposed system. In short, the Bench structure will give the functions and thereby the incentives of production to the farmers while maintaining sufficiently large scale farms managed by local leaders with the help of government financial and technical assistance.

NOTES

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<sup>2</sup>Central Bank of Iran, 'National Income of Iran,' Tehran, 1969.

<sup>3</sup>Department of Public Statistics, 'The First National Census of Agriculture,' Tehran, 1960.

<sup>4</sup>Deldbod, A., 'Land Ownership and Use in Iran,' GENIO Symposium on Rural Development, Tehran, 1963, p. 59.

<sup>5</sup>Ono, Minoru, 'On Socio-Economic Structure of Iranian Villages,' *The Developing Economies*, Vol. 5, No. 3, 1967.

<sup>6</sup>Deldbod, *op. cit.*, p. 5.

<sup>7</sup>Ibid.

<sup>8</sup>Institute of Social Studies and Research, 'The Majlis Deputies in Twenty-one Sessions,' Tehran, 1965 (in Persian), p. 173.

<sup>9</sup>Warner, Doreen, 'Land Reform in Principle and Practice,' Oxford, 1969, p. 110.

<sup>10</sup>Katoozian, Mohammad A., 'The Agricultural Sector in the Iranian Economy,' *Journal of Economic Research*, No. 27, 1973 (in Persian).

<sup>11</sup>Lambton, A. K., *The Persian Land Reform, 1962-1966*, Oxford, 1969, p. 17.

<sup>12</sup>Ministry of Co-operation and Rural Affairs, 'Symposium for Farm Corporation Managers,' 13-17 November, 1971, Shiraz, 1971.

<sup>13</sup>Ajami, *op. cit.*

<sup>14</sup>*Op. cit.*

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## Agricultural and Rural Development in Iran

Agrarian Reform, Modernization of Peasants and Agricultural Development in Iran

*Ismail Ajami*

While the contribution of agriculture to economic and social development is fairly well recognized,<sup>1</sup> the problem of modernizing traditional agriculture has remained a highly controversial issue. Although the decline of agriculture in terms of agricultural population and labor force, and of agriculture's share in GNP in the course of development is one of the best established empirical generalizations in economics,<sup>2</sup> the significance of interdependence between the agricultural and nonagricultural sectors and the dynamic role of the peasantry in transitional societies should not be overlooked. In this context, J. W. Mellor discusses the three primary objectives of agricultural development as: (1) to provide food and raw materials for an expanding population with rising purchasing power; (2) to provide capital for economic transformation;

and (3) to provide a direct increase in rural welfare.<sup>3</sup> Additional contributions to development from the agricultural sector are the labor force for the expanding industrial sector and a market for the output of consumption goods and production supplies from the expanding industrial sector.

Ohkawa and many others have stressed the important role Japanese agriculture played in financing investment in infrastructure and industry and in providing funds for the expansion of education.<sup>4</sup> In more general terms, Kuznets has emphasized that "one of the crucial problems of modern economic growth is how to extract from the product of agriculture a surplus for the financing of capital formation necessary for industrial growth without, at the same time, blighting the growth of agriculture, under conditions where no easy surplus is available in the country."<sup>5</sup>

The usual view that there should be a net flow of capital from agriculture to industry in the earlier stages of development has recently been challenged. Ruttan and Ishikawa, in particular, have argued that because of the rapid growth of demand for food, resulting from high rates of population increase, it is likely that the agriculture sector may require a net flow of capital from the industrial sector.<sup>6</sup> There also has been a reaction against the earlier views with respect to the existence of redundant labor in agriculture. In fact, recent years have witnessed increasing attention to the problems of unemployment in urban areas.

## The Significance of Agricultural Development in Iran

The growing interdependence between agricultural and industrial sectors, and the problem of accelerating farm production, are of special concern in Iran today. While Iran is experiencing an unprecedented growth in its national income—mainly through a rapid rate of industrial development averaging over 14 percent per year and through a substantial increase in oil revenues—agriculture has been a lagging sector growing between two and three percent per annum during the last decade. Increases in population (an estimated three percent per year), coupled with a rapid growth in personal expendable incomes, are currently leading to an overall growth in demand for agricultural products in Iran of 8 to 10 percent. The present high growth rates in demand for food and fiber, which seem likely to continue for some time, could lead to mounting inflation in food prices and/or import bills.

Iran's population is still predominantly rural, with 56 percent of the population living in villages. Although the proportion of rural population is declining, the absolute number is increasing and is projected to rise from the currently estimated 18 million to about 20 million by the mid-

1980s. Agriculture remains the major sector in terms of labor force, employing some 40 percent of the working population but contributing only 16 percent to the GNP. It is also a fact that a considerably higher proportion of the poor live in rural areas. Therefore, a more equitable distribution of income, a self-sustaining rural development and an increase in living standards require a more rapid modernization of the agrarian sector. Productivity increase in agriculture is also a significant precondition that underlies not only rural advance but also urban advance. A crucial dilemma facing the Iranian economy stems from industrial overproduction at comparatively high prices and agricultural underproduction. Thus, creation of a more favorable interaction between agriculture and industry is deemed necessary to partly solve said dilemma.

Finally, the significance of agriculture in the present situation of our country does not end with its economic dimensions. We may note that the social significance of the peasantry on the path to modernization is supported by several studies of the last decade. These studies substantiate the broad sociological generalization that the specific ways in which peasants are transformed define for many subsequent decades the political, social and economic characteristics of a postpeasant society.<sup>7</sup>

Thus, for economic and sociopolitical reasons, and human considerations, the importance of agricultural development in Iran needs no argument. The real questions are what to do and how to do it. Part of the answer lies in a deeper understanding of the great variety of physical land and water resources, institutional changes in land tenure and production structures as a result of the implementation of the land reform program of 1962, the culture and personality of the peasant farmers and adaptation and domestication of modern technology.

The present study underscores a theoretical framework that incorporates changes in institutional structure, technological structure and values, motivation and behavior of the farmers as functionally interrelated elements in agricultural transformation. Within this context, an attempt is made to provide an analysis of the traditional agrarian structure, including resources, cultivation processes, a land tenure system, the organization of traditional group farming, output and employment. This is followed by a discussion of the implementation of the land reform program of 1962 and its sociopolitical and economic implications. Finally, an effort will be made to demonstrate the dynamic role of the peasant farmer's response to new economic opportunities in the process of agricultural development.\* This will be undertaken by comparing the indi-

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\*The problems of resource management, production structures and investment requirements are discussed in Dr. Reza Doroudian, "Modernization of Rural Economy in Iran."

ces of agricultural productivity and innovativeness for two groups of peasant farmers—one receiving water from a new irrigation dam since 1970, the other depending on traditional sources of water supply in a sample of six villages in Fars.

## Theoretical Framework

A major difficulty in discussing theories of agricultural development is that two authors writing on the subject seldom mean the same thing by the phrases "agricultural development" or "transformation of traditional agriculture." Although the term "transforming" may connote a cultural or institutional or a purely technological transformation, Professor Schultz prefers to define a transformation as one that is in response to new economic opportunities. He maintains that the sources of the new economic opportunities are predominantly improvements in the state of the productive arts.<sup>8</sup> Johnston and Mellor's delineation of three phases in the process of agricultural development underscores the structural transformation that has occurred mostly through technological change and innovation.<sup>9</sup> Mosher views agricultural development as a complex system involving multiple changes in all facets of agriculture, particularly underscoring efficiency in public administrative machinery and the role of education, research and extension.<sup>10</sup>

Barraclough maintains that agricultural development makes sense only if it is understood as a part of national development: development is conceived and measured in national terms. Therefore, any strategy to affect its rate must work through national power structures or at least be tolerated by them.<sup>11</sup> A similar notion is expressed by Dantwala in his analysis of India's problems with subsistence agriculture. After examining three commonly prescribed measures—reform of agrarian structure, provision of adequate credit and guaranteed minimum support prices—he finds that none of them offers a solution to the problem of transformation of the Indian subsistence agriculture unless the general problems of underdevelopment are also attacked.<sup>12</sup>

A fairly comprehensive attempt that integrates all these diverse ideas into an interdisciplinary framework is that of Robinson.<sup>13</sup> The basic assumptions underlying his theory of general interdependence of economic development involve four different areas: those referring to the (1) technical structure, (2) institutional structure, (3) aggregate preference structure and (4) mechanism of interdependence, or the "articulation" of the system.

An effort will be made here to adjust Robinson's scheme to the problems of agricultural development. The technical structure in agriculture can be thought of as a production function or set of such functions relating outputs to inputs. It is a description of the state of human knowl-

edge or technology effectively applied to the problems of agricultural production. The institutional structure refers to the social and political institutional system in which the agricultural sector operates. In this context, the system of land tenure, production structure, credit and marketing are of specific interest. The aggregate preference structure refers to the social, cultural and political value system that influences the choices of goods and services in the economy. In this respect, the attitude, motivation and behavior of the peasant farmers, affecting the very basis of what is to be produced as well as those in the bureaucracy, power elite and economic institutions, play significant roles in modernizing traditional agriculture. Articulation can be thought of as the interdependence between agricultural and nonagricultural sectors as well as the flow of information, knowledge and communication.

While the role of technological innovation and the interdependence of agricultural and nonagricultural sectors in the modernization of traditional agriculture are fairly well established,<sup>14</sup> the potential contributions of agrarian reform and of attitudes, motivation and behavior of peasant farmers are highly controversial issues. For example, concerning the relation of land reform to development, Warriner observes, "No conclusion emerges which would suggest that agrarian reform is a condition of development . . . so the best way of demonstrating the nature of the relationship between structure and growth is to look for empirical investigations of the belief that reform can *aid* development, rather than try to prove that it *must* do so in terms of general theory or historical analogy."<sup>15</sup>

However, one certain conclusion emerges from historical research—that agrarian reforms do liberate the peasants. If this liberation is not to be frustrated, the potential conflict between sociopolitical and economic objectives of agrarian reform has to be reconciled. It may be noted that revolutionary governments can carry through reforms that genuinely abolish the old defective structure, but in many cases they are not able to replace it with something more productive. It should be emphasized that redistribution or transfer of large holdings to peasants does not provide the panacea to the complex problems of transforming traditional agriculture. Such transformation is not simply a question of land redistribution, or a question of the scale of farming operation; it depends on the capacity to invest, and the ability to adapt to changing market conditions, new methods and new inputs. Furthermore, it depends on the response of the farming community and whether the new production structures to evolve are capable of channeling the gains to farmers.<sup>16</sup>

Finally, the question of the impact of land reform on production and on the scale of farming depends on the type of prereform systems of land ownership and production in a given country. To bring out the main contrasts in the effect of reform on scale of production, Warriner has

distinguished three types of landownership: Asian tenancy, latifundia and plantation.<sup>17</sup>

Social attitudes, motivation and behavior, as discussed in the preceding theoretical framework, are an essential part of modernization of traditional agrarian structure. These human dimensions, while contributing to growth, can also be fostered by it, that is to say, in a process of agricultural development, subsistence peasants can turn into farmers, and large estate owners can become developers.

However, one very important aspect of such changes is the question of whether or not peasants in traditional agriculture significantly respond to opportunities that are made available by changes in market conditions. The degree of peasant response to innovations and prices has been a point of major controversy. Near one end of the spectrum of viewpoints are Boeke, Dalton, Lewis, Olson and others, who suggest that cultural and institutional restraints limit to insignificance any price response.<sup>18</sup> Near the other end of this spectrum of viewpoints (in addition to Schultz and Mellor) are Bauer, Dantwala, Yamey and others, who maintain that peasants in traditional agriculture respond quickly, normally and efficiently to market incentives.<sup>19</sup>

Accumulating evidence concerning the responsiveness of small-scale farmers to economic incentives, especially the advent of "green revolution," underscores the importance of innovations in agricultural modernization. Being highly divisible and neutral to scale, high-yielding varieties of crops can be readily incorporated into existing systems of small-scale agriculture. Furthermore, this type of intensification of agricultural production can make a notable contribution to the problem of absorbing a rapidly growing labor force into productive employment.<sup>20</sup>

The problem of conceptual confusion on paths of modernization of traditional agriculture is aggravated by a gap between the power elites and the peasants in many developing countries. Little effective upward or downward communication occurs between these two groups. Too often, the needs, the aspirations and the capabilities of the peasants are not adequately communicated to their governments and thus are not reflected in the centrally planned development program.<sup>21</sup> In some countries, the bureaucracy is the only means of communication the political elites have with the masses of the peasantry.

Within the bureaucracy, however, those who plan and manage the agricultural development programs are likely to have little understanding of the realities of the peasant production and sociocultural processes in the village communities. A common notion prevalent in the bureaucracies of many developing countries assumes little differentiation in the socioeconomic structure of the peasantry. This assumption is often coupled with a stereotype—"tradition-bound peasant farmers"—lacking achievement motivation, managerial capabilities and desire for change

and innovation in farming. Thus, there seems to be a general tendency among the bureaucracy and the urban intelligentsia to greatly underrate the peasant farmer's entrepreneurial capacities, his aspirations for improving his subsistence living and his potential dynamism in social change.<sup>22</sup>

## The Prereform Agrarian Structure

In studying the Iranian agrarian structure, one encounters a great number of difficulties. The size of the country, the great variety of natural and socioeconomic conditions, the coexistence of nomadic and sedentary communities and repeated foreign invasions have combined to produce a diverse and highly complicated system of land tenure and social organization of production. Furthermore, quantitative information on the development of the agricultural sector is notably scarce and of poor reliability.

Essentially, Iran's traditional mode of peasant farming remained unchanged until the beginning of the present century. Like other parts of the Middle East, most of Iran suffers from a severe shortage of water, yet government expenditures on irrigation schemes were negligible until well after World War I.<sup>23</sup> Along with the neglect of irrigation, the complete indifference to the improvement of agricultural techniques, the very high cost of transport, the system of land tenure, the vulnerability of the villages to nomadic pillaging and the arbitrary rule of state and provincial governments over the peasantry were all obstacles to the development of agriculture and the improvement of the living conditions of the peasants.

The dominant settlement pattern—the village—not only provided the organizational framework, the labor force for production, including the construction and maintenance of irrigation networks (in particular, the *qanats*), but also supplied sufficient numbers to resist both natural and human predators.

The traditional distribution of village settlements was strongly influenced by the availability of water. From early times, government policy has encouraged such agglomerations because of the relative ease with which they could be dealt for purposes of tax assessment and the collection of revenues. The village farmland was normally divided into "ploughlands" called *juft*, meaning the amount of land a yoke of oxen could cultivate. For equality of cultivation rights, each cultivator would have several strips of land of varying quality scattered throughout different parts of the village domain. The village provided the basic framework in which the majority of socioeconomic and political transactions took place. The isolated farmstead remained the exception.<sup>24</sup>

Prior to the land reform of 1962, about 15.5 million of Iran's population, 65 percent of the total, lived in some 55,000 villages.\* Half of Iran's total land area of 164.8 million hectares is uncultivable, with towns, villages, roads and surface water together making up another 25 percent and forest land a further 12 percent. Of the remaining 22 million hectares of potentially productive land, 7 million are cultivated (3 million being irrigated), 5 million are left fallow, 7 million are used as pastures and 3 million are not utilized.<sup>25</sup> It appears that the above division of land usage has remained much the same throughout the 20th century, with the exception that the area of land under cultivation has recently increased.

Two-thirds of the cultivated land is planted in wheat and barley. These two grains account for 45 percent of the total value of farm production. Rice, cotton, sugar beets, tobacco and fruits are the other main crops. Production of the five major crops, as estimated by Bharier, for the period 1925-69 is given in Table 38.<sup>26</sup>

Apart from substantial increases in tea and sugar beet production and the changes brought about through attempts at opium control, the structure of agricultural production has remained basically unaltered. For the most part, the amounts shown in Table 38 were sufficient to meet domestic consumption needs. However, in recent years, as a result of high rates of population growth and rapid increases in per capita income, some imports have been required to meet the rising demand for agricultural products. It is estimated that agricultural imports, largely food items, grew at an average annual rate of 9 to 10 percent between 1958 and 1972, from 4.9 billion rials to 20.9 billion rials.

However, throughout the period 1900-70, as Bharier observes, the agricultural sector, comprising farming, stock breeding, forestry and fishing, was the largest contributor to GNP, though in proportionate terms this contribution declined over time. In the first quarter of the century, it is probable that agriculture made up 80 to 90 percent of GNP, and from 1926 to 1950 about 50 percent. By 1959, the contribution had fallen to 33 percent, and it further declined to 23 percent by 1968. The distribution of gross value added within the sector during the 1960s shows that forestry and fishing together constituted only about 1 percent, stock breeding 40 percent and farming 50 percent. In earlier decades, it is likely that the percentage for stock breeding was somewhat higher. Agriculture also employed the largest proportion of the country's workers during the period—at the beginning of the century 90 percent, 85 percent in 1930, 75 percent in 1946, 56 percent in 1956 and 46 percent in 1966.<sup>27</sup>

Before the land reform of 1962, agricultural productivity was very low due to many factors, the most important of which were primitive

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\*The number of villages in Iran is estimated at between 49,000 and 65,000. The figure 55,000 is based on the operations of the second phase of land reform.

**Table 38**  
**Production of Various Crops**  
 (annual averages over five-year periods, in 000 metric tons\*)

Crop	1925-29	1930-34	1935-39	1940-44	1945-49	1950-54	1955-59	1960-64	1965-69
Wheat	1,120 <sup>1</sup>	1,400 <sup>1</sup>	1,870 <sup>4</sup>	1,400 <sup>3</sup>	1,880 <sup>4</sup>	2,160 <sup>3</sup>	2,700 <sup>5</sup>	2,720 <sup>5</sup>	3,330 <sup>3</sup>
Barley	580 <sup>1</sup>	630 <sup>1</sup>	790 <sup>4</sup>	600 <sup>3</sup>	860 <sup>4</sup>	810 <sup>3</sup>	960 <sup>5</sup>	820 <sup>4</sup>	1,020 <sup>3</sup>
Rice	270 <sup>1</sup>	420 <sup>1</sup>	390 <sup>4</sup>	350 <sup>4</sup>	430 <sup>5</sup>	450 <sup>5</sup>	450 <sup>5</sup>	610 <sup>5</sup>	880 <sup>3</sup>
Cotton (raw)	20 <sup>5</sup>	20 <sup>4</sup>	38 <sup>5</sup>	23 <sup>5</sup>	19 <sup>5</sup>	41 <sup>5</sup>	140 <sup>5</sup>	240 <sup>4</sup>	370 <sup>3</sup>
Tobacco	7 <sup>**</sup>	11 <sup>1</sup>	15 <sup>4</sup>	14 <sup>3</sup>	14 <sup>5</sup>	15 <sup>3</sup>	12 <sup>5</sup>	11 <sup>4</sup>	24 <sup>3</sup>

\*Superior figures indicate the number of years for which statistics were available.

\*\*Estimated.

Note: Reliability poor for all periods.

Sources: Various, including League of Nations, United Nations and Iranian Government publications.

farming practices, absentee landlordism with sharecropping predominant and a low level of capital formation in agriculture. As an illustration, wheat yield was 1.2 tons, rice 2 tons, cotton 1 ton and sugar beets 15 tons per hectare of irrigated land in 1960.<sup>28</sup> The lowest yields were often found to be on holdings farmed under permanent sharecropping arrangements in certain regions of the country.

The high concentration of land ownership in the majority of cases, along with the large share of the crops extracted by the landlords, had perpetuated a very inequitable distribution of agricultural income. The vast majority of the tenants lived at or near subsistence level while they were almost always indebted to their landlords or village moneylenders. The tenants, for the most part, had no permanent right to the land they cultivated, as the landlords had the power to periodically redistribute holdings at will. In some areas, landlords levied dues in addition to a share of the crop, and the tenant was also subject to perform certain personal services. In short, the Iranian tenants lived in poverty, ignorance and continual insecurity.

The four broad categories of land ownership consisted of public domain lands (state lands), crown lands, *waqf* lands (land endowed for religious and public purposes) and private land holdings. Land records were fragmentary and a cadastral survey did not exist. However, of the 51,300 villages enumerated in the 1956 census, the public domain lands accounted for 10 percent, the crown lands for about 4 percent, the *waqf* lands for about 10 percent and private holding for the remaining 76 percent.<sup>29</sup> Generally speaking, large-scale absentee landlords held about 50 percent of the cultivated land of the country. The large holdings were let in small subunits to tenants who farmed the lands on the basis of sharecropping or fixed rental arrangements. The share of crops accruing to the respective landlords was either collected directly by his agents or through intermediaries who sublet to the tenants.

A major characteristic of large-scale landlordism, which is known in Iran as *arbabi*, was that the tenure, production and supporting services structures were all fused into one highly centralized hierarchical system controlled by the owners of the large estates. Iranian landlords not only let their holdings to the tenants but in almost all cases also provided water and often seed. In many cases, the landowners used to advance credit to their tenants and facilitate the marketing of their products. Under the *arbabi* system, the sharecroppers would cultivate the land individually or collectively.

In collective or group farming, the landowner (*malik*) gives cultivation rights (*nasaq*) to the sharecropper (*ra'iyat*), but the individual cultivation rights become effective only when the tenants assume the farming responsibility as a group. These farming groups are known in different parts of the country as *boneh*, *sahra*, *harasseh*, etc. The tenants in each group would pool their landholdings and tools for joint cultivation while

still retaining their individual rights to their landholdings. The *boneh* over centuries has evolved as a complex social organization for agricultural production with distinct cultivation and water rights, and a semistructured farm management.<sup>30</sup>

The development of group farming in Iran seems to be the result of two major conditions. First, the irrigation system requires teamwork in the utilization of the village water resources, in particular, the digging and maintenance of the *qanats*, the main underground water channels. Second, the imperatives of the management of the large estates by absentee landowners encouraged group farming in order to run the large estates and deal with sharecroppers with relative ease. This form of production structure has especially developed in the dry areas of the country, including the central, eastern and southern regions.

Because a major constraint to land use in Iran is rainfall, irrigation has been of vital significance in the development of agriculture. A multitude of methods for the utilization of surface and ground water supplies have been applied. In particular, ground water is traditionally exploited by *qanats*, which bring water from the foothills to the cultivated area through a series of gently sloping tunnels dug in loose, alluvial sediments. When the *qanat* is completed, no power source other than gravity is needed to maintain the flow of water. The length of a *qanat* may vary considerably from less than 1 kilometer extending to 40 or 50 kilometers. It is estimated that nearly one-third of the irrigated area of Iran is watered by 37,500 *qanats*. *Qanat* construction by traditional technology is highly labor-intensive, taking many years and requiring both a large amount of investment capital and high maintenance costs.<sup>31</sup> In addition, its uncontrolled flow results in a waste of water when irrigation is not required. However, the adaptation of modern technology to *qanat* construction and maintenance deserves serious study.

Prior to 1962, the three main types of land tenure consisted of sharecropping *Mozareh*, fixed rental in cash or in kind (*Ejarei*) and owner-operated farms (*Melki*). As Table 39 shows, the predominant type of tenure was sharecropping, which applied to approximately 54 percent of the total agricultural land of the country.

In the sharecropping system, the rental share usually depended on who supplied the five traditional production inputs—land, water, seed, oxen and labor—as well as on the type of crop grown, local traditions and quality of the soil. Generally speaking, one-fifth of the crop was allocated to each of the mentioned five basic inputs, but there were so many variations in the practice of dividing the crops between the landlords and the tenants that no general rule applicable to the different regions of the country existed. The landlord's share ranged from 20 to 80 percent of the crop. For cash crops, such as cotton and sugar beets, the landlord's share amounted to about half the crop, whereas for wheat and barley, the landlords usually received two-thirds of the produce.

Table 39  
Number and Area of all Holdings by Type of Tenure, 1960

Type of Tenure	Number of Holdings		Area (hectares)	
	'000	Percent	'000	Percent
Mozareh	814	34.2	6,222	54.8
Ejarei	235	10.0	844	7.4
Melki	624	26.2	2,976	26.2
Holdings Operated under More Than One Tenure Form	201	8.4	1,315	11.6
Holdings Without Land	508	21.2	—	—
<b>Total</b>	<b>2,384</b>	<b>100.0</b>	<b>11,357</b>	<b>100.0</b>

Source: First National Census of Agriculture, October 1960, Tehran.

The tenure arrangements on public domain lands, *waqf* lands and crown lands did not differ greatly from those on large private holdings. In other words, regardless of the form of ownership, the lands were let in small holdings to the tenants, and rents were collected directly or through agents of the landowners.

The whole fabric of socioeconomic life of the Iranian village was governed and determined by the nature of the landlord-tenant relationship. The villages were, in practice, owned, ruled and often made an object of commercial bargaining, without the knowledge—to say nothing of the consent—of their inhabitants. The government's sphere of influence in village public life was generally weak. Since many of the landlords exploited their tenants with the sole purpose of getting labor and the land rent out of them, there had developed in many areas a deep-rooted sense of mistrust between the landlord and the tenant.

Before the recent land reform, the two major changes in traditional agrarian structure were commercialization and tractorization of agriculture. Commercialization emerged in the early 1930s as a result of rising demand for cash crops and exports, and advanced at a slow pace. Tractorization of agriculture developed mainly because of the government policy of agricultural modernization, which focused mostly on farm mechanization without institutional changes. As an illustration, a law granting substantial credit at low interest rates to farmers (mainly landowners) for the purchase of agricultural machinery was passed by the Iranian Parliament in 1956. The implementation of this law and the allo-

cation of substantial funds out of the reevaluation of Iranian currency rates in 1958 to agricultural investors contributed to the expansion of mechanization. It is difficult to estimate the total area of mechanized estates. However, implementation of the first stage of land reform revealed that some 1,100 villages were exempted from redistribution because the land was cultivated with hired workers and agricultural machinery. This figure represents about two percent of the total number of villages in Iran. The other indicator of development of farm mechanization is the extent of mechanical power that was used on under 10 percent of landholdings, with about four percent being fully mechanized by 1960.<sup>32</sup>

It seems, therefore, that mechanized farming developed to some extent along with subsistence agriculture in the prereform period. However, there is little systematic research on various types of production structures that existed before 1962. This author has made an effort to differentiate various types of agricultural production structures on the basis of four factors: land tenure, size of production unit, degree of mechanization and relation of the rural family toward the farm. The preliminary results of this study revealed that five different types of agricultural production structure coexisted in Iran before the recent land reform. These types were (1) peasant subsistence holdings, (2) small-scale owners' holdings, (3) large traditional estates, (4) large-scale capitalist farms and (5) entrepreneurial tenant farms.<sup>33</sup>

## Socioeconomic and Political Implications of Land Reform

Before the radical land reform law of 1962, some attempts to reform the land-tenure structure and to improve the conditions of the tenants had been made. Transfer of ownership of land to the tenants began in 1927 when some of the state lands (*Khalesse*) in the provinces of Khoozestan and Sistan were redistributed to the local farmers. In 1951, the Shah began his reform by redistributing the crown lands to the tenants. As a result, some 507 villages covering an area of 199,628 hectares were transferred to 42,203 tenant households by 1961.<sup>34</sup> The government proceeded with the distribution of the state lands in 1958, and by 1963, when the transfer of the state lands came under the comprehensive land reform law, some 157 villages had been transferred to 8,366 tenants.

In April 1960, the first comprehensive land reform law was passed by the Iranian Parliament, 50 to 60 percent of whose members were drawn from the landowning class.<sup>35</sup> This law provided for the redistribution of all private holdings in excess of 400 hectares of irrigated or 800 hectares of unirrigated land. But the law had so many loopholes and qualifications that its enforcement was made wholly impracticable.

In 1961, a broad analysis of the social conditions by the monarch indicated the prevailing need for a drastic change in the socioeconomic structure commensurate with the requirements of a rapidly changing society. Among these changes was the amendment of the 1960 land reform law by a cabinet decree that was approved by the Council of Ministers on January 9, 1962. This decree, which was initially enacted in the form of an amendment and which was later approved by the Iranian Parliament, is recognized as the "original land reform law." According to this law, all estates in excess of one village or parts of villages equivalent to one village (*sheshdang*) were to be transferred to the occupying tenants. "Mechanized estates," i.e., lands cultivated by agricultural machinery and wage labor, gardens and tea orchards, were exempted from redistribution. Under the provisions of this law, the ownership of land was granted to the tenants in conditional title in proportion to the land previously held by them. This pattern of land ownership is known in Iran as *Mosha*. The enforcement of the original law is generally referred to as "the first stage of the Iranian land reform program."

The objectives of the land reform program in its early conception were stated in general terms as abolition of the existing landlord-tenant relations, emancipation of the peasants, promotion of democracy and development of agriculture. The economic aspect was not neglected, but development was not the primary aim. Generally speaking, the political objective of land reform loomed larger than any economic goal because it seemed to be necessary to carry out a reform that would lessen the power of the landowners before any economic and social progress could be made.<sup>36</sup> As the reform program got underway, its aims became more clearly formulated. The economic objective was to increase agricultural production by generating economic incentives among the tenants through the transfer of land ownership. Also connected with this objective was the provision of financial and technical assistance through an expanding cooperative network and agricultural extension services. Politically, the reform program was aimed at enlarging the scope of political consciousness and participation among the rural population. The social objectives included a more equitable distribution of agricultural income and improvement of the living conditions in the villages. On the whole, the basic strategy of land reform in its early years was directed toward development of a self-reliant and independent peasant proprietorship system.

The transfer of ownership of absentee landowners that was implemented in three states took more than a decade.<sup>37</sup> While the first phase of the reform sought to solve the problem of large land ownership, once this was initiated, the next issue, improving tenancy situations, became a matter of concern. However, in practice, the enforcement of the second stage did not produce the expected results, and the third phase of the reform was launched to eliminate all forms of land tenancy.

Three major factors seem to have contributed to the rapid implementation of the Iranian land reform program, namely; (1) the adaptability of the program; (2) the political will; and (3) the phasing in of the reform measures.

1. *Adaptability.* The land reform law of 1962 was prepared with utmost consideration for the existing agrarian situation of the country. It was not an imitation or adoption of the best reform laws designed for other countries. It was strategically planned for the purpose of preventing evasion, and was meant to work. The fixing of one village as the ceiling of land ownership, rather than adopting the standard practice of a fixed area of land, in the first stage of the reform program can be cited as an example of the cultural adaptability of the program. Furthermore, the reform procedures were designed to depend less on the decisions of government officials, especially regional officials who might have been influenced by the landowners.

2. *Political will.* The government, under the leadership of His Majesty, gave the land reform program top policy priority. Encountering strong opposition from the landlords, the government mobilized its executive power at all levels, engaged in very active propaganda work and stimulated the tenants to gain ownership of the land they were cultivating. The peasants' genuine interest and their active participation in the land reform movement, coupled with the government decision to allocate fairly adequate amounts of funds for the compensation of the landlords, are among the significant factors that contributed to the rapid implementation of the reform measures.\*

3. *Phasing the program.* Both the legislative and enforcement measures of the land reform program were carried out by a process of trial and error. At the outset, the original law was approved and was immediately put into force without any reference to future plans. However, in the process of implementation, the need for some amendments was felt. As a result, the second phase of land reform was introduced and was later ameliorated by the third stage.

A major question that is often raised both by students of agrarian reform and by the layman is: To what extent has Iranian land reform been successful? The precise effects are difficult to estimate because of insufficient data, potential tendencies for value judgment and numerous legislative enactments. However, there is little doubt that, in terms of its sociopolitical objectives, the reform has been successful, resulting in the transfer of land to the tenants and in the breakup of the power base of the landlords. It also contributed to a rapid expansion of rural cooperative societies. These societies, in addition to supplying credits and some

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\*By 1971 the government's payments to landowners for their lands amounted to about \$130 million.

new farm inputs to the new farm owners, have created a potential mechanism for active participation by peasant farmers in economic and political processes.

One major result of the past decade of land reform has been the rapid expansion of peasant proprietorship. Assuming that all owner-operated holdings with less than 10 hectares of land fall in this category, we may estimate that by 1974, about 60 percent of agricultural families farmed some 44 percent of the total cultivated land of the country. Comparing these figures with those of the prereform era, we note that the number of peasant farm owners has more than tripled, while the area of land operated by them has quadrupled. In addition to small tenants, sharecroppers who are doing well, *i.e.*, those cultivating holdings over 10 hectares, were also granted ownership of the land. It is estimated that this group currently farms some 15 to 20 percent of the cultivated land. On the whole, it could be said that under the three phases of the land reform program, between 40 and 50 percent of the cultivated land was transferred to some 70 percent of Iran's rural population.<sup>38</sup>

As to the achievement of the economic objectives of land reform, no definitive statement can be made before answering two basic questions. The first question rests on the new types of land tenure and farming structure that replaced the old ones. The second question deals with the postreform variation in the level of agricultural production. At present, valid conclusions are not forthcoming in answer to these questions for three reasons. First, there exists some uncertainty as to the desired pattern of tenure to be developed in the country; second, the efforts to reorganize the farming structure are still in an early experimental stage; and third, any attempt to determine the effects of the reform on agricultural production is handicapped by the shortage of reliable statistical information on physical output. An effort to estimate the production impact of land reform on major crops was made by this author by comparing the production of wheat, rice, cotton and sugar beets for the six years after the land reform with that for the three years preceding the reform. The results of this study indicated that the production of these crops increased by 7, 20, 13 and 120 percent respectively.<sup>39</sup> It could be said that the level of agricultural production did not fall after the land reform as many critics of the reform expected; in fact, a slow rate of growth has been maintained. However, it should not be forgotten in this respect that some additional land was newly brought under cultivation and some was improved by irrigation. Increased mechanization also played a part in the growth of production. The production increase pertains not just to the tenant sector mainly affected by the land reform, but to all agricultural holdings.

On the whole, the economic results of land reform for the peasants have been generally favorable. Lambton observes that in almost all the villages divided under the first stage, the peasants said they were better off and that indebtedness had been greatly reduced. In many villages,

there was evidence of increased cultivation and also better cultivation. Higher incomes were being used chiefly in building new houses.<sup>40</sup> However, the economic impact of the second and third stages is more complicated to evaluate, particularly in those villages where the landlords did not aid the repair of *qanats*, or damaged the village water supplies by sinking deep wells, or tried to uphold the old patterns of economic and power dominance by maintaining a relatively larger portion of the more fertile soil of the village farmlands.<sup>41</sup>

In short, land reform in Iran stimulated circulation of a number of sociopolitical and economic currents with diversified and often contradictory implications. Economically, the reform measures have been shifting between radical tenure changes and more moderate ones in an effort to strike a balance between land transfers and maintenance of agricultural production levels. A number of efforts are being made to reorganize the traditional farming system through creation of rural cooperatives, farm corporations, production cooperatives and agribusiness.

Sociopolitically, the reform impact tends to take a multidirectional course: a rising expectation among the peasantry for a higher standard of living, a demand among the peasants for a more dynamic role in national life and a change in their value system. In particular, the peasant's horizon, which was traditionally limited to the safeguards of his kinsmen and his village, seems to have broadened into a growing identification with the nation and its affairs. An unintended consequence of the land reform program leading to a greater social polarization in village communities developed as a result of transferring ownership of the lands exclusively to the sharecroppers (*Nassaghdar*). Although this policy was based on a practical consideration to prevent further fragmentation of small peasant holdings, the problem of farm laborers (*Khush-neshin*), who constitute some 25 percent of the rural population in Iran and who have been deprived of the advantages of the land reform program, deserves serious research and public action.

The reform impact on societal structure could be described as having hastened the circulation of power elites in the modernization process. However, the exact nature and extent of this elite circulation remains to be studied. There are certain tendencies suggesting that the landlord elite of the past, with its monopolistic powers in the socioeconomic and political life of the nation, is tending to be replaced by an industrial elite, who appear to harbor certain similar characteristics. The implications of this trend may not be conducive to a balanced development.\*

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\*To avoid this tendency to turn into a monopolistic power in the hands of an industrial elite, recently proclaimed principles of the Shah and People's Revolution have called for a wide participation of workers, farmers and the general public in the holding of equity capital belonging to major corporations and for consumer protection against abusive power of the industrialists—in the form of government price control measures.

## Peasant Farmers' Response to New Opportunities

The theoretical framework adopted in this study, as discussed earlier, perceives modernization of traditional agriculture as a complex multidimensional process. A significant element in this process is the manner in which farmers respond to new economic opportunities. In this context, we may note that rationality, efficiency, achievement motivation and other personality traits that contribute to modernization are not necessarily limited to urban population. As Inkeles and Smith observe, "... certain universal patterns of response persist in the face of variability in culture content. These transcultural similarities in the psychic properties of individuals provide the basis for a common response to common stimuli. On these grounds we concluded that men, from a very different culture, might nevertheless respond in basically the same way to certain relatively standard institutions and interpersonal patterns introduced by economic development and sociopolitical modernization."<sup>42</sup>

The main contention of this section is that Iranian peasant farmers are not overwhelmingly "tradition-bound"; rather, they respond to institutional and infrastructural changes fairly rationally. As a case in point, the response of a sample of farmers to a new water supply source (an irrigation dam) is studied. The measures of this response are captured through the change in proportion of farmland brought under cultivation, productivity per hectare and agricultural innovativeness. These indices are compared for two groups of peasant farmers—one receiving water from the new dam irrigation channels since 1970 (experimental villages), the other depending on traditional sources of irrigation, *i.e.*, *qanats* and springs (controlled villages). These two sets of villages are located in close vicinity in the Marv Dasht plain.

### The Setting

The data for this part of our study were obtained by field work and interviewing the heads of all the households enumerated in the summer of 1974 in a sample of six villages. In addition, detailed interviews were conducted with the heads of traditional group farming units (*Harraseh*) on their land use, production and distribution functions. These villages were located in two rural districts 20 to 50 kilometers northwest of the city of Shiraz. Three of the villages, the "experimental" ones, were selected from some 65 villages that have recently been watered by a newly built dam and that were surveyed during 1969–70. This larger survey was

undertaken by the author to measure the socio-economic and technological impact of the new dam on the surrounding rural communities. The other three villages were selected as "controlled villages" from a neighboring region that was not included in the new irrigation scheme.

In general, farming and keeping livestock is the main occupation of 85 percent of the heads of households interviewed, yet some 15 percent of household heads are engaged in nonagricultural occupations such as storekeepers, truck drivers, construction workers, etc. Wheat, barley, rice and sugar beets are the main crops. While wheat and rice are used largely for household consumption, sugar beets and oil seeds make up the peasants' main cash crops. The sample villages are not, generally speaking, subsistence peasant economies, isolated from rural and town markets. The villagers are engaged, to a considerable extent, in commercial transactions with the rural town of Marv Dasht (present population estimated about 35,000). They are also engaged in the exchange of goods with nomadic groups when the latter are migrating to their winter or summer quarters.

The population of the largest village was 500, while the smallest one had a population of 107 in the summer of 1974. The average population of the six villages in our sample was around 310 people who were living in 52 households. The mean number of persons living in each household was 5.9. Approximately 65 percent of the heads of households are cultivators or peasant farm owners, while some 32 percent are farm and nonfarm laborers who, with a small number of storekeepers and village artisans, constitute the landless rural class, known in Iran as *Khoosh-neshin*. The ownership of land of these villages was transferred exclusively to the sharecroppers under the second phase of the land reform program. According to the regulations of this phase, village lands were divided between the landowners and their respective sharecroppers in the same proportion as crops had been divided between them under the existing crop-sharing arrangements. Thus, as a result of the implementation of land reform in the six villages, the sharecroppers, in general, were granted the ownership of 40 percent of the cultivated lands while the landowners maintained their ownership over the remaining 60 percent of the village farmlands.

In the three "experimental" villages where land and water are relatively more abundant, the peasant farmers were given, on the average, 9.2 hectares of cultivated land. In the agricultural year 1972-73, these farmers, on an average, brought about some 7.2 hectares of their land, approximately 80 percent, under cultivation, while leaving two hectares, the remaining 20 percent, fallow. Wheat covered 4.2, rice 1.7, barley .9, sugar beets, oil seeds and alfalfa together some .2 hectares. In the two years since these farmers have had access to water from the new dam irrigation structures, they have reduced their fallow lands from 32 to 20 percent and their dry farming from 1 to .3 percent whereas they have

increased the area under rice cultivation from .03 hectares to 2.3 hectares\*, and have begun the cultivation of alfalfa on some .02 hectares of their holdings. However, they have reduced cultivation of sugar beets and oil seeds by 74 percent and 71 percent, respectively. The mean net income of the peasant farmer household in "experimental" villages from farming is calculated at \$3,067, and \$340 from livestock, totaling \$3,407 for the year 1972-73. Thus, the per capita income in these three villages is estimated around \$577.

The peasant farmers in the three "controlled" villages were granted ownership of an average 5.9 hectares of cultivated land. In the agricultural year of 1972-73, each of these peasants farmed, on an average, some 4.2 hectares, 71 percent of his holdings, leaving the remaining 1.7 hectares, 29 percent, fallow. The main irrigation sources of these villages are *qanat* and spring water. Due to water shortage, there is little rice cultivation in these villages. In 1972-73, the cultivation of irrigated wheat and irrigated and nonirrigated barley covered some 2.9 hectares, sugar beets, 1 hectare, alfalfa, .15 hectares and other cash crops, .2 hectares. The mean net income of the peasant farmer household in the "controlled" villages from farming is calculated to be about \$830, and from livestock about \$430, totaling some \$1,260 in 1972-73. The per capita income in these three villages is, thus, around \$213.

Generally speaking, yields per hectare are fairly higher in the "experimental" villages than in the "controlled" ones. As an illustration, yields of irrigated wheat and sugar beets in the former are 2.3 tons and 25 tons per hectare, respectively, as compared with 1.5 tons and 23.5 tons, respectively, in the latter.

## The Data

The total number of all households residing in the six villages covered in the present study was 313 at the time of our interview in the summer of 1974. A total of 235 interview schedules, representing 75 percent of all the households in the sample villages, was completed. This figure consisted of 158 peasant farmers and 72 *Khoosh-neshin*. The data reported in Table 40 relates to the subsample of peasant farmers. Since information on items relating to agricultural productivity and innovativeness was not adequately reported for 64 farmers, the number of our subsample was reduced to 94. Out of these, 54 farmers belong to the three "experimental" villages and the remaining 40 to the three "controlled" villages.

\*The very substantial increase in area under rice cultivation has not been due only to more water available to peasants but also to a 100 percent rise in the price of rice in Iran in the last four years.

An index of agricultural innovativeness composed of four items—variety of wheat cultivated, alfalfa cultivation, oil seed cultivation and treatment of diseased livestock by veterinarians—was constructed. Productivity per hectare was calculated as the average market value of total farm production divided by area under cultivation in 1972–73 (See Table 40).

The data in Table 40 reveal that new infrastructures such as dam water supply are obviously creating a substantial difference in agricultural productivity and land use. We may note that among the crucial factors conducive to agricultural development are the increase in productivity per units of lands, expansion of acreage under cultivation and agricultural innovation. According to Table 40, on all three counts the peasant farmers have reacted favorably and rather quickly to the new source of water supply.

It is obvious that differences in productivity per hectare could result from a number of factors, including quality of soil and other such physical characteristics. While keeping these in mind, the data in Table 40 show a substantial difference in agricultural innovativeness between the two groups. Comparing the data on agricultural productivity and acreage under cultivation for the period before the construction of the new dam with those given in Table 40 for the three "experimental" villages,<sup>42</sup> one could easily argue that the higher level of agricultural innovativeness in 1972–73 is closely associated with the peasant farmers responding efficiently to the dam water supply.

In short, the preceding analysis suggests that traditional Iranian farmers respond fairly efficiently to new economic opportunities. This implies that agricultural modernization in Iran could be accelerated by peasant farmers, provided that essential new inputs, research and extension education, adaptation and domestication of modern technology, favorable price incentives, adequate infrastructures—particularly water supply, credit and marketing facilities—are made available to farmers. In this context, we may note that development of indigenous cooperative associations, security of land titles and social mobilization of the peasant farmers, reorganization of colleges of agriculture—particularly their admission policies and curriculum—and above all, restructuring of agricultural planning and administrative organization resulting in greater decentralization and local participation, are essential elements in an efficient strategy of agricultural transformation.

## Conclusions and Implications

In the preceding sections, the significance of agricultural development in Iran, the major traits of the prereform agrarian structure, socioeco-

Table 40  
Agriculture-Related Statistics for Three "Experimental" and  
Three "Controlled" Villages in Fars, 1972-73

Type of Village	Number of Farmers	Farm Size (hectares)	Mean			Innovativeness Score
			Net Farm Income (rials)	Productivity per Hectare (rials)	Percent under Cultivation	
"Experimental" Villages	54	10.6	201,950	26,040	76	3.2*
"Controlled" Villages	40	5.2	67,070	17,534	70	2.2

\*Differences between the means of agricultural innovativeness scores are statistically significant at 0.005 level.

nomic and political implications of land reform, peasant farmers' response to new opportunities and the need to treat modernization of traditional agriculture as a complex multidimensional process, were discussed. The analysis indicated (1) the physical, cultural and organizational diversity and complexity of the Iranian agrarian structure; (2) the impact of land reform on mobilization of the peasantry, circulation in certain segments of power elites and a more flexible and egalitarian tenure structure; and (3) a fairly efficient response of peasant farmers to institutional and infrastructural changes.

The implications of this study underscore the significance of indigenous sociocultural potentialities and the entrepreneurial skills of small- and medium-scale farmers for agricultural development in Iran. While the role of modern science and technology is well recognized, our underlying assumption is that agricultural development does not necessarily imply the application of Western technology, production and management styles. Our primary emphasis is placed on the belief that modern technology, especially that which is mechanical in nature, should be adjusted, tailored and adapted to the agrarian structure in Iran. This suggests a strategy for modernization of agriculture through transformation of traditional farming structure rather than through displacing it by capital-intensive, large-scale technology.

There are certain potentialities for such a strategy within the Iranian agrarian structure. The adaption and utilization of modern technology to *qanat* construction, which taps underground water sources from the foothills to the cultivated area through a series of gently sloping tunnels without input of mechanical energy, deserves serious consideration. This should contribute to the preservation of energy in the exploitation of underground water. The existence of traditional group farming (*Boneh*) offers potentialities for development of production cooperatives on a voluntary basis. The group farming structure could be rather easily reorganized into fairly efficient medium-size production organizations because, under the land reform law, the ownership of land was granted to the tenants in conditional title in proportion to the land previously held.

Finally, it should be emphasized that the enormous diversity of climatic, physical and social conditions, as discussed earlier, demands a variety of alternative strategies to agricultural modernization. However, there are certain issues that have to be considered regardless of the type of strategy adopted. These include: (1) a fair profit on agricultural investment relatively comparable to that in the industrial sector; (2) a consideration of peasant farmers' characteristics, which suggest that the farmer is partly a "petit capitalist," partly worker and partly an entrepreneur in his own right; (3) the tendency toward bureaucratization of agriculture, which could hinder development of individual initiative and popular participation; and (4) the apparent uncertainty in the minds of some new peasant farmers as well as among a certain number of

middle-size farm operators over the security of the title to their land. These issues call for systematic and objective research to provide guidelines for reconstruction and modernization of Iranian agriculture.

## Footnotes

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38. Estimates based on various figures published by different government agencies and international organizations.
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# Differential Fertility in Peasant Communities: A Study of Six Iranian Villages

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## INTRODUCTION

While differential fertility between rural and urban populations has been studied fairly extensively, fertility differences within rural communities have received relatively little attention. In the urban setting, socio-economic status and fertility have generally been inversely related.<sup>1</sup> Although class differences in the fertility of urban couples in industrialized societies seem to be diminishing, the basic inverse relationship remains.<sup>2</sup> While this negative association also generally appears in studies carried out in rural areas of western societies,<sup>3</sup> it may not hold in rural communities in the less developed countries. Studies on socio-economic differentials in the fertility of rural couples in these countries have been few in number, inconclusive and somewhat conflicting.

A number of studies indicate a positive association between socio-economic factors and fertility for rural populations. Notestein found that in the rural population of China differences in the fertility of economic groups appear to be relatively unimportant. But to the extent that they do occur, they indicate a direct association between fertility and economic status.<sup>4</sup> Stys, examining the relationship between the size of Polish peasant families and the size of landholdings notes: 'the most important conclusion reached is that rich peasants have much larger families than those who are poor.'<sup>5</sup> In his study of differential fertility in Central India Driver found a direct association between landownership and fertility in his rural sub-sample. He observes that when differences in the present age of wives among various landownership groups are controlled, large landowners still show the highest and small owners the lowest fertility.<sup>6</sup> Nag, analysing the data collected on the fertility behaviour of the inhabitants of a cluster of three villages in West Bengal, concludes that the fertility of couples was positively

\* The fieldwork of this research was financially supported by the Iranian Research Council. Computation, analysis of the data, and writing up of the final report were carried out while the author was on his sabbatical leave at the Duke University Center for Demographic Studies supported by a Population Council research grant. I would like to express my sincere appreciation to Professor George Myers for his comments, to Dr William Yee for his advice on programming problems and his critical suggestions for revision, and to Mr Amit Mitra for his valuable computer programming assistance.

<sup>1</sup> See, for example, United States Bureau of the Census, 'Fertility of the Population: June 1964 and March 1962', *Current Population Reports*, Series P-20, No. 147 (Washington, D.C. 1966); J. E. Patterson, 'Educational Attainment and Fertility in the United States, 1960', *Population Index*, 31 (1965), p. 246; P. K. Whelpton, A. A. Campbell and J. E. Patterson, *Fertility and Family Planning in the United States* (Princeton: Princeton University Press, 1966); C. V. Kiser, W. H. Grabill and A. A. Campbell, *Trends and Variation in Fertility in the United States* (Cambridge, Mass.: Harvard University Press, 1968).

<sup>2</sup> N. B. Ryder and C. F. Westoff, *Reproduction in the United States, 1965* (Princeton: Princeton University Press, 1971); Gwendolyn Z. Johnson, 'Differential Fertility in European Countries', in National Bureau of Economic Research, *Demographic and Economic Change in Developed Countries* (New York: Columbia University Press, 1960), pp. 36-72; T. van den Brink, 'Leveling of Differential Fertility Trends in the Netherlands', in *Proceedings of the World Population Conference*, I (United Nations, 1955), pp. 743-752.

<sup>3</sup> See O. D. Duncan, 'Farm Background and Differential Fertility', *Demography*, 2 (1965), pp. 240-249; J. A. Beegle, 'Social Structure and Changing Fertility of the Farm Population', *Rural Sociology*, 31 (1965), pp. 415-427; P. N. Ritchey and C. S. Stokes, 'Residence Background, Socio-Economic Status, and Fertility', *Demography*, 8 (1971), pp. 369-377.

<sup>4</sup> E. Notestein, 'Class Differences in Fertility', in R. Bendix and S. M. Lipset (eds), *Class, Status and Power* (Glencoe: The Free Press, 1963).

<sup>5</sup> W. Stys, 'The Influence of Economic Conditions on the Fertility of Peasant Women', *Population Studies*, 11 (1957), pp. 136-148.

<sup>6</sup> E. D. Driver, *Differential Fertility in Central India* (Princeton: Princeton University Press, 1963), pp. 95-97.

related to status based on husband's occupation, educational attainment and landownership.<sup>7</sup> These studies show that the specific variable underlying socio-economic status and its positive association with fertility is basically landownership, except in Nag's investigation in which educational and occupational variables were also considered.

On the other hand, some studies in rural communities of the less developed countries indicate either an inverse or no relationship between socio-economic indices and fertility. Yaukey reports that the fertility of Muslim couples in two villages in his sub-sample of Lebanese households did not differ by education, rooms per head, or occupation; however, he finds a slight inverse relationship between socio-economic status and fertility among Christian couples.<sup>8</sup> The three villages included in the fertility survey by Rizk in the United Arab Republic reveal the absence of any significant differences in fertility by education, occupation or religion.<sup>9</sup> Knodel, analysing the demographic data of a German village for the eighteenth, nineteenth and first half of the twentieth centuries, notes the existence of consistent high fertility among couples married throughout the eighteenth and nineteenth centuries; his findings indicate the absence of any impressive differences in family size by husband's occupation.<sup>10</sup> In a demographic survey of 61 villages in Kazeroon, a rural region in southern Iran, an inverse association between household income and fertility in a sample of 1,219 currently married couples is reported by Eftekhar *et al.*<sup>11</sup> In these studies, the socio-economic variables studied are education, occupation, and income.

Notwithstanding the foregoing, the general tendency in social science literature supports a relatively well-accepted image of peasant communities which assume little differentiation in socio-cultural or economic structure. This, in turn, has resulted in the presumption that substantial socio-economic differentials in fertility among peasant couples are not to be expected.

The main contentions of the present paper are (a) that the six village communities studied are, in fact, differentiated in their socio-cultural and economic structures and (b) that fertility behaviour is affected by changes in socio-economic status. An attempt is made to modify the standard index of socio-economic status that would reliably stratify agricultural village households since results vary. We will attempt to determine whether the relation between fertility and socio-economic status in the six Iranian villages is positive or negative. Finally, if meaningful class differentials in fertility appear, an effort will be made to elaborate the relationships through the introduction of test factors such as age of wife at marriage, duration of marriage, and contraceptive use.

#### THEORETICAL FRAMEWORK

Some scholars have been guided by three overriding notions about the internal structure of peasant communities. First, it is said that these communities are small-scale entities in which all the members live in long association with one another and come to know each other well; secondly, these communities are characterized by relative economic, social, and cultural homogeneity; and, finally, this homogeneity has a cultural dimension. People within the same village generally share the same values and have the same notions of what constitutes good and bad behaviour.<sup>12</sup>

<sup>7</sup> M. Nag, *Factors Affecting Human Fertility in Nonindustrial Societies: A Cross-Cultural Study* (Yale University Publications in Anthropology, No. 66, Human Relations Area Files Press, 1968), pp. 49-51.

<sup>8</sup> D. Yaukey, *Fertility Differences in a Modernizing Country: A Survey of Lebanese Couples* (Port Washington N.Y.; London: Kennikat Press, 1972), pp. 33-35.

<sup>9</sup> H. Rizk, 'Fertility in the United Arab Republic', *Marriage and Family Living*, 25 (1963), pp. 69-73.

<sup>10</sup> J. Knodel, 'Two and a Half Centuries of Demographic History in a Bavarian Village', *Population Studies*, 24 (1970), pp. 353-376.

<sup>11</sup> H. Eftekhar, G. Jalaly and J. Picyman, *Preliminary Report on Fertility Behaviour and Changes Among Rural Women in Kazeroon* (Tehran: School of Public Health Publication No. 1894, 1973). In Persian.

<sup>12</sup> S. H. Brandes, *Migration, Kinship, and Community: Tradition and Transition in a Spanish Village* (New York: Academic Press, 1975), pp. 6-8.

We may argue that the foregoing generalizations are both a static and over-simplified portrait of peasant communities. There is probably no single scholar who would subscribe to all the above characteristics. Of particular interest to the present study is the assumption of social stratification, occupational diversification, differential life styles, and class consciousness and conflict in village communities in modernizing societies. Lewis observes:

'In reading Redfield's study in the light of my own work in the village, it seems to me that the concept of the folk-culture and folk-urban continuum was Redfield's organizing principle in the research. Perhaps this helps to explain his emphasis on the formal and ritualistic aspects of life rather than the everyday life of the people and their problems, on evidence of homogeneity rather than heterogeneity and the range of custom, or the weight of tradition rather than deviation and innovation, on unity and integration rather than tensions and conflict.'<sup>13</sup>

Recent empirical research on the social structure of the villages in developing countries often points to considerable variation in their internal structure. For instance, Brandes in his study of a Spanish village finds a number of occupations other than farming. He also reports substantial differences in life style and standard of living among the villagers.<sup>14</sup> In the case of Iranian villages, Lambton states that to regard the peasants as a single undifferentiated class is to ignore important differences in class structure within the village.<sup>15</sup> In a study of three Iranian villages, the present author found the following social classes: 'farm operators' - relatively large landholders using some modern farm technology, 'peasant farmers' - holders of small subsistence farms, and *khushmeshin* - landless farm and non-farm labourers. This study revealed substantial variation in the life styles and demographic behaviour between the households of different social groups.<sup>16</sup>

Modernization of traditional societies has led to a smaller degree of cultural homogeneity. The peasants' world view, their value orientations and attitudes are changing, albeit very slowly. Fear of strangers and hostility to those very different from themselves, have given way to more trust and greater tolerance of human diversity on the part of some of them. Some now seek to break away from attitudes of passivity, fatalism and rigidity. Even in very traditional villages, one is apt to find a handful of peasants who take the lead in adopting new ideas and improved farm practices. Rogers, in his study of Colombian villages, notes that innovators, when compared to laggards, are characterized by higher literacy, greater exposure to mass media, higher social status, greater achievement motivation, and higher educational and occupational aspirations.<sup>17</sup>

The development of social and cultural differentiation in village communities will have considerable impact on fertility values and behaviour. Thus, one may expect variation in ideas about the value of children, family size norms, age of women at marriage, use of birth control, and levels of miscarriage and abortion in different socio-economic status groups in the villages of the less developed countries. As Freeman states, '... reproduction, whether at high or low level is so important to the family and to society everywhere that its levels are more or less controlled by cultural norms about family size and such related matters as marriage, timing of intercourse, and abortion'.<sup>18</sup>

<sup>13</sup> O. Lewis, *Life in a Mexican Village: Tepoztlan Restudied* (Urbana: University of Illinois Press, 1951), pp. 431-432.

<sup>14</sup> S. H. Brandes, *op. cit.* in footnote 12, pp. 47-54.

<sup>15</sup> A. K. S. Lambton, *Landlord and Peasant in Persia* (London: Clarendon Press, 1953).

<sup>16</sup> I. Ajami, 'Social Classes, Family Demographic Characteristics and Mobility in Three Iranian Villages', *Sociologia Ruralis*, 9 (1969), 62-72.

<sup>17</sup> E. M. Rogers, *Modernization Among Peasants: The Impact of Communication* (New York: Holt, Rinehart and Winston, Inc., 1969), p. 315.

<sup>18</sup> R. Freeman, 'Norms for Family Size in Underdeveloped Areas', *Proceedings of the Royal Society*, B81 (1963), pp. 220-234.

### THE SETTING

The data for the present study were obtained by interviewing both husband and wife in all the households enumerated in the summer of 1974 in a sample of six villages. These villages were located in two rural districts 50-80 km north of the city of Shiraz, Iran. Three of the villages were included in a larger sample of 23 villages which had also been surveyed during 1969-70. This larger survey was undertaken by the author to measure the socio-economic and technological impact of an irrigation dam on the surrounding rural communities. The other three villages were selected from a neighbouring region that was not included in the new irrigation scheme.

Although farming and keeping livestock is the main occupation of 85 per cent of the heads of households interviewed, some 15 per cent are engaged in non-agricultural occupations such as storekeepers, truck drivers or construction workers. Wheat, barley, rice, sugar beet and cotton are the main crops. While wheat and rice are used largely for household consumption, sugar beet and cotton make up the main cash crops. The sample villages are not, generally speaking, subsistence peasant economies, isolated from rural and town markets. The villagers are engaged, to a considerable extent, in commercial transactions with the rural town of Marvdasht (present population estimated about 35,000). They are also engaged in the exchange of goods with nomadic groups during the time when the latter are migrating to their winter or summer quarters. In short, the villages in our sample do not represent totally homogeneous, isolated or economically independent peasant communities.

### THE DATA

The total number of households residing in the six villages covered in the present study was 313 at the time of our interview in the summer of 1974. A total of 235 interview schedules representing 75 per cent of all households in the sample villages were completed. Two separate questionnaires were administered, one for each spouse. Interviews with women were conducted by female research assistants. The results reported here are based on 205 currently mated couples, for both of whom this was the first marriage. 30 couples were excluded because one or both of the spouses had been married previously; or because the information on the current age, or age of wife at marriage were misreported or unreported.

### MEASURES OF FERTILITY VALUE AND BEHAVIOUR

Fertility values and behaviour are treated as dependent variables. (a) Fertility values were defined as number of children desired by the wife. This was measured by asking the wife the standard question: 'How many children would you like to have?' Although some 15 per cent of the women answered that the number of children was 'up to God', 85 per cent gave a numerical answer. (b) The fertility behaviour of the couples was measured by the following two indicators:

- (1) Number of children ever born, computed as number of children living at the interview plus number of children born alive but who had died later.
- (2) Number of children living at the time of interview. This measure was used to overcome the effect of recall lapse on the reported number of children who had died, particularly among older couples.

### CONSTRUCTING THE SOCIO-ECONOMIC STATUS SCALE

An index of socio-economic status to classify rural households in Iran has not as yet been

constructed. The construction of an SES scale, in addition to its theoretical significance in the study of rural stratification, would facilitate an analysis of class differences in fertility, especially when intervening variables are introduced.

The development of the SES scale depended both upon detailed knowledge of the social structure in the six sample villages, and on procedures social scientists have used to indicate class status positions in other studies.<sup>19</sup> It rests on three assumptions: (1) the existence of a class status structure in the village community, (2) the possibility of indicating such positions by means of a small number of commonly accepted characteristics, and (3) the capacity to use statistical procedures to scale and combine these characteristics.

In Iran, rural populations tend to be classified on the basis of land tenure relationships. The larger the amount of land owned, the higher the position that is assigned. This orientation originates from a common generalization that in agrarian societies land tenure defines the economic, political, and social status of the individual. As Barber states: 'in peasant, rural societies to-day, landholding and stratification positions are positively correlated - ownership of land, even where it no longer is the basis of high position, has remained a symbol of high stratification ranking'.<sup>20</sup>

In developing a SES scale, we began by accepting land tenure as the main criterion of social stratification. Accordingly, the rural households were grouped into the two broad social classes: (a) those which owned land or had cultivation rights to the land; (b) those which did not own land and did not enjoy tenancy rights. In Iranian villages the first category consists of medium landowners, peasant farmers, and sharecroppers. The second category, which is known as *khushmeshin* includes farm labourers and non-farm families.

Individuals themselves are generally conscious of the existence of these two broad social classes. One may observe the symbolic significance of this stratification system through the interpretation of different expressions used by rural residents in various regions of Iran with reference to the *khushmeshin* class. For example, the labourer segment of *khushmeshin*, who constitute the overwhelming majority of this class, are referred to by the farmers in the north-east of the country as *afstabmeshin*, literally those who sit and relax in the sun; while in the south-west they are called *mahroom*, literally the deprived class.

Within these two broad social classes, there was a wide range of variation among the farm families with respect to size of holding, level of agricultural production, and farm income. The *khushmeshin* class also contained families with different occupations such as farm and non-farm labourers, storekeepers and village moneylenders. Thus, this social class could easily have been broken down into two distinct segments; namely, the village proletariat and 'petty bourgeoisie'. It was, therefore, thought necessary to include a variable in the SES scale that takes account of variation in wealth and income of rural households in these two classes.

Since, in our larger survey of 23 villages conducted in 1969-70, the income data reported by the household heads were found unreliable,<sup>21</sup> ownership of durable goods was used as a proxy variable for rural household wealth and income. Six items were included: (1) kerosene cooker, (2) heater, (3) bicycle, (4) gramophone or tape recorder, (5) motor cycle, and (6) sewing machine. An index of ownership of durable goods was constructed, based on differential rankings of the six items using their frequency distribution. A content validity procedure revealed an acceptable level of correlation between the scale and communication exposure

<sup>19</sup> A. B. Hollingshead and F. C. Redlich, 'The Index of Social Position', in *Continuities in the Language of Social Research*, P. F. Lazarsfeld, A. K. Pasanella and M. Rosenberg (eds) (Glencoe: The Free Press, 1972), pp. 66-72.

<sup>20</sup> B. Barber, *Social Stratification* (New York: Harcourt, Brace and World, 1957), p. 44.

<sup>21</sup> Lieberman also found the income data reported both by rural and urban sub-samples in Iran highly unreliable. See S. S. Lieberman, 'Family Planning in Iran. Results of a Survey and a Mass Media Campaign', *Iranian Studies*, 8 (1972), pp. 149-179.

which was considered income-related.<sup>22</sup> The cutting points were determined so that the scores were categorized into three groups, high, medium and low. Husband's occupation and his level of literacy, which are generally considered significant dimensions of socio-economic status, were also adopted in the construction of our SES scale. The literacy dimension is particularly significant in Iranian villages where, until quite recently, educational opportunities were not generally available for all eligible members in the community.

Thus, the SES scale was constructed on the basis of landholding, ownership of durable goods, husband's occupation, and husband's level of education. A scale score for each of these variables was computed and the composite score assigned to each respondent. The scale score for landholding was the reported size of farm owned in hectares, and for husband's level of education was the reported number of years of schooling. The respondent's score for the ownership of durable goods, as described before, was a composite score computed on differential ranking of the six items included in that variable. A subjective ranking of occupation assigning score one for farm and non-farm labourers, two for farmers, and three for storekeepers and village traders was applied.

The sum score of each respondent on the four variables was taken as an index of socio-economic status. In constructing our scale, we assumed equal weight for each variable, as well as additivity. Cutting points were determined so that the scores were categorized into three SES groups: high, medium and low. According to this scale, our respondents are distributed as follows: 52 high status, 92 medium status and 61 low status. The SES scale had relatively high reliability as measured by the item (landholding, ownership of durable goods, occupation, and education) to scale correlation coefficients.<sup>23</sup> The validity of the scale was determined through correlation with participation in village social and economic organizations.<sup>24</sup>

#### FACTORS UNDERLYING SOCIO-ECONOMIC STATUS AND FERTILITY

As our review of the literature indicated, a relatively large number of rural studies have attributed fertility differentials of rural couples to one or two separate factors underlying socio-economic status. We will, therefore, initially present the relationships between landholding, ownership of durable goods, occupation, and literacy with the fertility values and behaviour of the women in our sample separately (Table 1). The statistical method used is mainly analysis of variance, though at later stages we have also used analysis of co-variance. The tests of significance applied are the 'F-test' and the 't-test' (the latter being specifically used for contrast).

The data in Table 1 reveal a positive association between landholding and fertility. The mean number of children ever born ranges from 5.8 for the large farm operators (10 hectares or more) to 4.9 for medium and small owners, and 3.8 for the landless couples. The relationship between landholding and mean number of living children is also positive. While the wives of the landless group desire, on the average, 5.4 children as compared with 6.1 children by the wives in the two landowning groups, the difference is not statistically significant.

<sup>22</sup> Product-moment correlation was used to compute the association between indices of ownership of durable goods and communication exposure ( $r = 0.35, P < 0.01$ ). This is in the expected direction which assumes higher levels of communication exposure for the higher income groups. In a study of family planning in Iran, the ownership of durable goods was also found to be a valid index of income for both the village and city subsamples. The households which ranked high on this index contained a substantially higher percentage with savings. They also contained a higher percentage using contraceptives. See S. S. Lieberman, *loc. cit.* in footnote 21.

<sup>23</sup> Correlation between SES scale and landholding was 0.85 ( $P < 0.001$ ), and with the index of ownership of durable goods was 0.54 ( $P < 0.001$ ), with husband's level of literacy 0.12 ( $P < 0.03$ ), and with husband's occupation 0.47 ( $P < 0.001$ ).

<sup>24</sup> The validity of the SES scale was determined by the correlation of 0.23 with participation in social organizations scale. It was assumed that the higher SES, the higher the level of participation of the household heads in the village social and economic organizations, such as rural co-operative and village council.

Couples who were differentiated on the index of ownership of durable goods likewise differ in their fertility behaviour. According to Table 1, the mean number of children ever born ranges from 5.0 for those in high ownership groups to 4.0 for those in low. The relationship between ownership of durable goods and number of children desired is curvilinear; the women in high ownership groups desired on average 5.8 children, and low ownership women desired 5.3; the intermediate group desired 6.3. However, the differences between the means of number of children desired are not statistically significant for the three groups.

The data in Table 1 also indicate a significant positive association between husband's occupation and fertility. The mean number of children ever born and the mean number of

TABLE 1. Mean number of children desired, mean number of children ever born, and mean number of living children at interview by selected socio-economic factors

Socio-economic factors	Number of women	Mean number of children		
		Desired <sup>a</sup>	Ever born	Currently living
Total	205	5.9	4.7	3.6
I. Landholding				
Large owners (10 ha +)	37	6.1	5.8*	4.5*
Medium and small owners (under 10 ha)	104	6.1	4.9	3.7
Landless	64	5.4	3.8	3.0
II. Ownership of durable goods <sup>b</sup>				
High	41	5.8	5.0*	3.9*
Medium	99	6.3	5.0	4.0
Low	65	5.3	4.0	2.8
III. Husband's occupation				
Farmers	140	6.1	5.1*	3.9*
Farm and non-farm labourers	58	5.5	3.9	3.0
Storekeepers and others <sup>c</sup>	7	—	—	—
IV. Husband's literacy				
Literate	39	5.5	4.5	3.6
Illiterate	166	6.0	4.8	3.6

\* Differences between the means of high-status women and low-status women; and differences between the means of medium-status women and low-status women are statistically significant at the 0.05 level or better.

<sup>a</sup> 31 women, 15 per cent of the total sample, said the number of children was 'up to God'; therefore, mean number of children desired is calculated for the 174 women who gave a numerical response.

<sup>b</sup> Based on the index score of six items.

<sup>c</sup> In view of the fact that the total number of cases in this group is extremely small (seven cases), thereby affecting the degrees of freedom in any test of significance, the results for this group were not presented.

living children for farmers are 5.1 and 3.9 respectively. While the corresponding figures for farm and non-farm labourers are 3.9 and 3.0, the relationship between husband's occupation and the number of children desired is positive, but not statistically significant.

When couples are classified on the basis of husband's literacy, they differ slightly in their fertility values and behaviour. Whereas wives whose husbands are literate desire, on average, 5.5 children, and have given birth to an average of 4.5 children, these figures for the wives of illiterate husbands are 6.0 and 4.8 respectively. However, the inverse relationship between literacy and fertility is very slight and not statistically significant.

#### SOCIO-ECONOMIC STATUS AND FERTILITY

The data in Table 2 reveal positive relationships between socio-economic status and fertility. The differences between the means of number of children ever born and number of living

children for women of high and low status are statistically significant, as are those between women of medium and low status. However, the mean numbers of children desired by women in the three status groups differ very slightly, in a positive direction.

According to Table 2, the mean number of children ever born by the high-status and medium-status women is 5.3 and 5.0 respectively, whereas, the mean number of children ever born by the low-status women is 3.9. These figures indicate that women in the intermediate socio-economic status group differ slightly in their fertility behaviour from high-status women but quite substantially from low-status women. The data in Table 2 also show a relatively high fertility value for all peasant couples; the mean for all respondents is 5.9. The mean numbers of children desired by the high-status, medium-status, and low-status women are 6.1, 5.9, and 5.7 respectively.

TABLE 2. Mean number of children desired, mean number of children ever born, and mean number of living children at interview by socio-economic status

Socio-economic status <sup>b</sup>	Number of women	Mean number of children		
		Desired <sup>a</sup>	Ever born	Currently living
High	52	6.1	5.4	4.4
Medium	92	5.9	4.9	3.7
Low	61	5.7	3.8	2.9
Total	205	5.9	4.7	3.6

Groups compared	Significance level - <i>t</i> -statistics		
	Differences between means		
High versus low	n.s.	0.001	0.001
High versus medium	n.s.	n.s.	0.04
Medium versus low	n.s.	0.01	0.02

<sup>a</sup> See footnote (a) of Table 1.

<sup>b</sup> Scale based on landholdings, ownership of durable goods, occupation and literacy.

The high fertility values of peasant women as indicated above may be due not only to the contribution children make to family labour at relatively low cost, but also to a high rate of infant mortality among the rural population. This can be observed by comparing the mean number of children ever born with the mean number of currently living children for each socio-economic status group and for the total sample as shown in Table 2. The mean number of children currently living for all the couples in our sample is 3.6 which is 1.1 less than the mean number of children ever born. The child mortality ratio, computed as the ratio of children who have died to children currently living, is 29 per cent for all couples in the sample. It is 25 per cent for high, 33 per cent for medium, and 27 per cent for low-status women.

#### ELABORATING STATUS DIFFERENTIALS IN FERTILITY

Although the data in Table 2 demonstrated a significant positive association between socio-economic status and fertility behaviour among the peasant couples in our sample, stopping the analysis at this point leaves a great deal unexplained. The main question is: what are the factors that account for class differences in peasant fertility? In attempting to answer this question,

researchers have begun to look at such variables as age at marriage,<sup>25</sup> value orientations,<sup>26</sup> and contraceptive use.

In this study, the mean number of children ever born was used as the basic measure of fertility differentials. To adjust for time intervals of exposure to fertility risk we controlled for duration of marriage. According to Table 3, when duration of marriage is held constant, the original direct relationships between socio-economic status and fertility behaviour remain substantially the same.

TABLE 3. *Mean number of children ever born by socio-economic status and duration of marriage*

Socio-economic status	Duration of marriage		Total X̄ (N)
	Under 15 years X̄ (N)	15 years and over X̄ (N)	
High	3.9 (27)	7.1 (25)	5.4 (52)
Medium	3.8 (55)	6.6 (37)	4.9 (92)
Low	2.7 (37)	5.6 (24)	3.8 (61)
Total	3.4 (119)	6.4 (86)	4.7 (205)

As the data in Table 3 indicate, among the couples who have been married for less than 15 years, high-status women have borne on average 3.9 children while the corresponding figure for low-status women is 2.7. The original difference between high-status and low-status women which was 1.4 is now reduced slightly to 1.2. Among couples married for 15 years and longer, the mean number of children ever born for high-status women is 7.1 against 5.6 for the low-status women. The difference between the two means is 1.5 which is slightly larger than the original difference of 1.4. Thus, we have little reason to attribute the fertility differences of the three socio-economic status groups to duration of marriage. Naturally, there is a close connection between duration of marriage and fertility, regardless of socio-economic status. According to Table 3, among the 119 peasant couples married for 15 years and longer, the mean number of children ever born is 6.4; while the corresponding figure for the 86 couples who have been married for less than 15 years is 3.4. The data thus reveal a substantial positive association between duration of marriage and levels of fertility.

Stys argues that age of woman at marriage was the main significant explanatory factor in class differences in fertility among Polish peasants.<sup>27</sup> We used age of woman at marriage as a possible intervening variable in the socio-economic status-fertility relationship. Results of the co-variance analysis involving socio-economic status, fertility, and age of woman at marriage in the Iranian rural sample did not support his findings (Table 4). In other words, when we held age of woman at marriage constant, the original relationships between socio-economic status and fertility behaviour, as reported in Table 2, did not change substantially.

According to Table 4, the mean number of children ever born to women who had married below age 16 is 4.9 which is slightly higher than the corresponding figure of 4.4 children for women whose age at marriage was 16 years and over. This implies a negative relationship between age of woman at marriage and fertility among the peasant women in our sample.

In the urban setting, many studies suggest that contraceptive use is one of the major factors

<sup>25</sup> L. Bumpass, 'Age at Marriage As a Variable in Socio-Economic Differentials in Fertility', *Demography*, 6 (1969), pp. 45-54.

<sup>26</sup> W. B. Clifford, II, 'Modern and Traditional Value Orientations and Fertility Behavior: A Social Demography Study', *Demography*, 8 (1971), pp. 37-48.

<sup>27</sup> W. Stys, *loc. cit.* in footnote 5, p. 139.

TABLE 4. *Mean number of children ever born by socio-economic status and age of women at marriage*

Socio-economic status	Age of woman at marriage		Total $\bar{X}$ (N)
	Under 16 years $\bar{X}$ (N)	16 years and over $\bar{X}$ (N)	
High	6.1 (25)	4.8 (27)	5.4 (52)
Medium	4.7 (56)	5.3 (36)	4.9 (92)
Low	4.4 (34)	3.1 (27)	3.8 (61)
Total	4.9 (115)	4.4 (90)	4.7 (205)

accounting for socio-economic differentials in fertility.<sup>28</sup> However, in the case of a peasant population there exist few systematic data on the relationship between use of modern contraceptive and level of fertility. Nag, in his analysis of differential fertility in three socio-economic status groups in Bengal villages, found that use of modern contraceptives had little effect on the fertility levels of the different status groups.<sup>29</sup> In the case of our rural sample, when contraceptive use was introduced as an intervening variable in the socio-economic status-fertility relationship, the original association remained unchanged. Data in Table 5

TABLE 5. *Mean number of children ever born by socio-economic status and use of birth control*

Socio-economic status	Use of birth control		Total $\bar{X}$ (N)
	Ever used $\bar{X}$ (N)	Never used $\bar{X}$ (N)	
High	6.6 (5)	5.3 (32)	5.4 (37)
Medium	6.0 (12)	4.7 (76)	4.8 (88)
Low	6.6 (9)	3.8 (49)	4.2 (58)
Total	6.3 (26)	4.6 (157)	4.8 (183)*

\* The total number of respondents was reduced to 183 because 22 women did not answer or gave an irrelevant response to the question on use of birth control.

indicate that regardless of status position, the mean number of children ever born to the 26 women who reported ever to have used contraceptives is 6.3. This number is substantially higher than the corresponding figure of 4.6 children among the 157 women who reported never to have used birth control methods.

Although only a small proportion of rural women in our sample, 12.6 per cent, reported ever using contraceptives, their higher average number of children implies that peasant couples generally begin to use contraceptives only after an excessive number of children have been born. Most women in our sample were aware of contraceptive devices; 85.3 per cent reported that they had heard of one or more methods of birth control. However, only 34 per cent of the women in the sample stated that their husbands agreed to use. We may argue that the negative attitude of husbands to birth control is a factor as significant as lack of clinics, or easy access to contraceptive devices, or a strong desire for children. These factors seem to have been responsible for the limited use of contraceptives among peasant women.

<sup>28</sup> A. M. Khalifa, 'A Proposed Explanation of the Fertility Gap Differentials by Socio-Economic Status and Modernity: The Case of Egypt', *Population Studies*, 27 (1973), pp. 431-442.

<sup>29</sup> M. Nag, *op. cit.* in footnote 7, p. 144.

However, the inverse association between contraceptive use and fertility has to be interpreted with a great deal of caution for a number of reasons. First, there are the very small numbers involved in the comparison between those who have ever and those who have never used contraceptives. Secondly, it is perhaps generally true that among non-contracepting communities, initial contraceptors normally show a higher fertility than non-contraceptors, since the latter may include a substantial proportion of physiologically infertile or sub-fertile couples. And, finally, the number of children ever born is not a very sensitive indicator of fertility.

#### SUMMARY AND CONCLUSIONS

An index of socio-economic status was constructed in this study and revealed that the village communities in Iran are comparatively differentiated social entities. Fairly substantial and consistent differences were found in the fertility behaviour of high-status and low-status peasant couples. Our data indicated a strong desire for large families. However, they did not show significant differences in the mean number of children desired by parents of different socio-economic status. These findings demonstrate the importance of socio-economic status on fertility of the rural couples.

When duration of marriage, age of woman at marriage, and contraceptive use were introduced into the socio-economic status-fertility relationships, they failed to alter the original findings. While duration of marriage was positively associated with fertility, and age of woman at marriage was inversely related to fertility, they did not account for status differentials in the fertility of peasant couples. The data on the number of children ever born in relation to contraceptive use indicated that peasant women began to use contraceptives only after a large number of children had been born. In other words, these women seek methods of birth control only after their demand for children had been satisfied.

The failure of this study to account adequately for socio-economic status differences in the fertility of peasant couples could be attributed to a number of factors including small size of the sample, inadequacies of measurement indices, and limited number of possible intervening variables included in the survey schedule. Because socio-economic status is related to a number of variables which directly or indirectly influence fertility, additional variables must be incorporated into future research projects in order adequately to treat the complexity of the relationship between socio-economic status and fertility. Such variables as miscarriage, sterility, stillbirth, nutrition, lactation and post partum abstinence must be included in rural surveys on fertility differentials.

The findings of this study have certain policy implications for the populations of rural areas in the process of modernization. If socio-economic status rises in the course of development, this may promote higher fertility. Yet, this conclusion rests on an assumption of linearity in the SES-fertility relationship. This assumption could be theoretically questioned on the basis of a threshold approach, in which a decline in fertility after a certain level of SES has been reached is quite probable. This requires further investigation on the fertility behaviour of rural populations undergoing rapid socio-economic development. Some implications of an increase in fragmentation of landholdings due to higher fertility among the rural landowning families also needs careful examination.

An important implication of the present study for planned population growth in rural areas rests on the evidence that contraceptive use seems to begin only after desired family size has been achieved - at a fairly high level. Thus, efforts to curtail fertility only through the promotion of contraceptive use seem to have little relevance, unless a comprehensive package approach, emphasizing particular, educational expansion and public health measures in rural communities is undertaken.