

REPRINTED FROM

# LAND ECONOMICS

a quarterly journal of  
PLANNING, HOUSING & PUBLIC UTILITIES

NOVEMBER  
1960



VOLUME XXXVI  
NUMBER 4

## Agriculture in the Economic Development of Iran

By V. WEBSTER JOHNSON\*

THE PRESENT SHAH of Iran places foremost emphasis on the economic development of that country as a most important means of furthering his program of social justice and human advancement. American national interests—the goals, aspirations and values—as a helpful ally parallel those of the Shah. Not only is economic development a prerequisite for political, cultural and social advancement, it is the generating force and means for continued improvement and stability.

This paper centers around the place of rural institutions in the economic development of the agriculture of Iran. As background it deals with some relationships between agriculture and the total economy and, for illustrative purposes, with an institutional look at the economic feasibility of some rural projects. But the central thesis is that rural institutional changes are a necessary part of the take-off for substantial, progressive growth of the economy of Iran.

† This article, in effect, supplements the article on, "The Agrarian-Based Development of Iran," by Baldur H. Kristjanson which appeared in the February 1960 issue of this journal, pp. 1-13.

\* Agricultural Economist, United States Mission to Iran.

### *Aims of Economic Development*

Economic development in Iran requires more than capital and physical resources. In newly developing countries with rising expectations for a better life, national growth has been referred to as a "massive problem in human education and social readjustment. It is what happens in men's minds, especially in their habits and organization for working together."

Simply stated, economic development means a progressive increase in the goods and services available per person to satisfy the wants of a people. It means not only an increase in the production of goods but a wider, more equitable distribution of them. We must remember, however, that an increase in material welfare alone cannot satisfy the needs of a people. Human beings must also have hope, an opportunity, and a feeling that expectations will be realized.

As the total available capital in Iran is in short supply the government must take the leadership in directing capital into national welfare channels. The capital may come from within the country or from outside. At the present time the

masses are living near a subsistence level and consequently, restrictions on consumption will not yield sufficient resources for needed public investments although some capital within this group may be mobilized through certain institutional devices such as the credit system. For a relatively small upper class with tax-paying ability there is a fairly good source of government revenue. Nevertheless, much of the additional capital needed to launch progressive economic growth in Iran must come from the outside. And as the total capital requirements must be in large part in some form of public investment, this calls for public planning and programming.

Government planning in the use of its available resources should aim at the utilization of the total resources of the country to bring about the best utilization of the factors of production—land, labor, capital and management—in such a way as to optimize the gross national product, both present and future. The allocation of resources for economic development should be made according to a comprehensive, centralized and well-balanced plan. Balance and coordination should exist between the major sectors of the economy, within sectors, and between alternative forms of enterprise. This calls for the development of a comprehensive plan to reach certain determined objectives through a designed course of action. In the allocation of the resources of the country, national economic planning for agriculture should seek: (1) a larger farm income, (2) a wider distribution of this income, (3) greater economic security for the farmers, (4) broader economic opportunities for them—including the opportunity to get a better job in the city, (5) greater efficiency and increased productivity, and (6) conservation in resource uses. In the achievement of these objectives, agri-

cultural development is a precondition for growth in the Iranian economy.

#### *Investments in Agriculture Versus Other Purposes*

It is a fact that agriculture in Iran has not received the attention it should have from public investment. Emphasis has been on relatively large industrial projects to the neglect of agriculture. In the past, Plan Organization (the agency charged with spending the oil revenue, which is the principal source of investment funds within the country) has devoted only a small portion of its funds to the agricultural sector.<sup>1</sup> And significantly, Plan Organization in the past has not fully recognized that tenure changes and other rural institutional changes should accompany investments in land resources. It is the distribution side of economic development that seems to be most neglected; but, without wide distribution of the benefits of development, production can not maintain progressive growth.

The big rural development projects have thus far been for dams, multi-purpose projects for power and water for urban uses. The benefits to rural people, as a whole, from irrigation have been rather minor. And the road program—a major expenditure in rural areas—although of help to the farmer in the marketing of his produce, is of much greater benefit as urban connecting links.

<sup>1</sup> In the Second Seven-Year-Plan Program of Iran: 1955-1962 (prepared by the Economic Bureau of Plan Organization and released March 1960) the national investment fund budgeted for agriculture, including irrigation, was a little less than 20 percent of the total investment funds for all purposes. And four-fifths of the 20 percent was earmarked for irrigation: of that amount three-fourths was for two big dams. In the report it is stated: "In the past, Plan Organization has neglected institutional factors almost completely . . ." And ". . . most of the agricultural budget is for irrigation structures." Under the Third Seven-Year Plan (the Second is under revision at its midpoint) the agricultural budget will be directed more towards improved farm practices, new seed varieties, and basic technological improvements. These types of expenditures should yield high returns. To what extent institutional arrangements will have a part remains to be seen.



The present shortage of private capital investment in agriculture (of capital with its source largely in agriculture) in Iran arises from more profitable alternative investment opportunities. Around 41 percent of the gross national product is from agriculture but only a small part is re-invested in agriculture; and of the institutional credit in Iran, agriculture has been receiving only about 4 percent of the total.

Much of the capital of agriculture has been drained off from urban uses. Observations within villages reveal a lack of currently needed improvements. Under existing conditions including the status of landlordism<sup>2</sup> it is doubtful if large landlords will make substantial investments in village improvements. And for the present is it good business sense to do so when money can command 24 to 36 percent in the bazaar?

There is considerable evidence that, to obtain substantial investment in land and villages, it must be closely associated with the man who tills the land or is closely associated with it. In the case of the small and medium farm owner-operators, and the landlord who has a real association with his land and peasants, there is a real interest in the results of their labor. These people can use more capital effectively and its use will be a part of their life. Also the labor in land development—clearing, draining, removing rocks, etc.—is a significant type of

capital accumulation. Such matters should be taken into consideration in rural planning and programming.

It can be pointed out that between 5 and 6 thousand farm tractors have been imported into Iran and that significant areas of new land have been developed and that yields have increased through better tillage practices. But have not tractors been used largely in extensive types of farm operations and where the recovery of investment costs is anticipated in a period of 3 or 4 years? Under these conditions the amount of capital that can be invested profitably is limited. Modern technology is difficult to introduce under existing tenure arrangements and in a manner which employs farm labor productively and shares the benefits with peasant farmers.

In introducing more capital in agriculture one of the problems is the adoption of mechanized farming in the interest of the peasant. More equipment is needed suitable to family farm operations. Thus, labor will be used more productively, better tillage practices will be followed, and the timing of each operation will be more effective. The matter of timing is most important because: (1) crops often can not be planted at the most desirable time if draft animals must be relied upon; (2) harvesting and ploughing can be done much faster, permitting the growing of a second crop in many parts of the country where climatic conditions permit; and (3) an improved system of crop rotation may be followed. The effects from increased yields on existing cultivation and substantial increase in acreage under crops within existing cultivated areas would be considerable.

#### *Some Land and Human Resource Development Problems*

The physical and human resources of Iran offer a setting of advantage but with

<sup>2</sup> In the Spring of 1960 a Land Reform Law was enacted in Iran. This law is administratively weak; and it does not provide for adequate financing of the program nor for needed training activities. It most probably will distribute only relatively a few villages because of the many exemptions. There is at present a program for the distribution of public domain lands but that program has accomplished very little. By far the most successful land distribution program in Iran is that of the Shah. As of July 1960, 238 villages (comprising 143,320 hectares, or 354,144 acres, has been distributed to about 27,000 farmers. In these villages 127 farmers' cooperatives have been established. A principal weakness of the Shah's private program is the subdivision of the villages into too small ownership units and inadequate financing of the new owners.

some disadvantages for relatively rapid rural development. Iran's vast central plateau with a desert climate and limited vegetation is surrounded by a rim of high mountains. Of the 628,000 square miles (162,720,000 hectares) comprising Iran, less than one-eighth of the land is in farms and the balance in forests, grazing lands and wasteland. It is variously estimated that some 40 to 45 million hectares are cultivable at present. Iran has a population of around 20 million people, increasing at the rate of 2.5 percent a year.

Many persons believe that through feasible land and water development and the use of improved farming practices the level of agricultural output could be doubled. For the past 4 or 5 years the level of agricultural production appears to have depended more upon the weather than on technology although there has been a small increase in livestock and other farm products. However, the man-land ratio and potential land and water resources are favorable for substantial development and a large increase in agricultural production. To meet the demands at present prices arising from a rising level of income and a growing population, agricultural production should be increased at a rate of between 4 and 6 percent per year. This would permit a modest rise in levels of living as incomes rise from the present level of less than \$100 per year per capita.

Some obstacles in the path of the agricultural production requirements are these: (1) *transportation*, a basic problem because of the central desert area; (2) *agricultural educational programs* which have not progressed very far at the village level; and (3) *the predominance of land-holdings* generally comprised of villages and the accompanying feudal controls exercised over the production and marketing processes.

And the problem of planning in itself, exclusive of administrative difficulties, is more difficult in newly developing countries such as Iran than in developed countries. In the latter the market mechanism—well established channels of demand and sources of supply—will bring forth most of the goods needed and the changes in food and fiber output to meet changes in tastes. Much that needs to be done occurs automatically through the market place, subject of course to certain restraints.

In underdeveloped countries the situation is very difficult. There is: (1) lack of a well established market; (2) the impact of one type of production on another is not known (i.e., little is known of cross elasticities); (3) oligopolistic market structures limit competition for farm products; (4) wide ranges in rate of returns on different types of investments cause capital to enter channels where speculative considerations drive returns up but which contribute little to increased production.

One of the strategic needs in program investments is that the goods accrue soon so as to avoid serious inflation. Some inflation is unavoidable—it is also an incentive to production and desirable shifts of resources—but rapid inflation can not only defeat desired economic objectives but contribute to social unrest with serious consequences. More is involved in planning large agricultural projects requiring hundreds of millions of dollars and maturing 10 to 15 years hence than mere cost-benefit analysis. The inflationary impact of such projects must also be considered. A balance must be achieved between pressing current needs and the necessity to invest for future growth. As a whole, agriculture offers many favorable opportunities for rapid growth in highly desired consumer goods. In the setting of many underde-



veloped countries—including Iran—such immediate returns justify substantial emphasis on productivity increases on a broad front, often even at the cost of spectacular, but slow-maturing and sometimes inordinately expensive irrigation and land settlement schemes.

#### *Capital Investments in Agriculture*

It is a fact that, if the level of agricultural production in Iran is to be increased substantially, large amounts of capital investment in agriculture are necessary. An expanding agriculture in Iran depends upon: (1) An improved and enlarged system of irrigation; (2) large expenditures for land improvement and development; (3) better agricultural practices and methods; (4) village improvement programs; (5) growing productivity of farm labor; (6) massive training programs; (7) research to give answers to good farming practices—and not too late; (8) institutional adjustments and changes. These call for very large expenditures although not beyond the capacity of the Nation. The last three items are closely related and involve the use of funds and facilities for investment in the abilities of man.

The economic development of Iran depends not only upon the physical resources available for production and how effectively they are used but also upon the institutional framework in which economic activities are carried on. The principal physical resources are land and water, and the potentials of use in the future. Here substantial possibilities are known to exist. How effectively resources are used depends on the know-how, knowledge, and the ability to implement improved farming practices. And the dissemination of information, the acquiring of new information, and an enlarged service to the farmers of

Iran rest in the means or institutions available.

No economic system is static. The system undergoes change and the changes that occur often are manifest through institutional adjustments. Institutions may take the form of habits or customs, or legally established rights and organizations in the production, distribution and consumption of goods. They are man-made organizations or ways of doing things by group action. For example, the recognized tenure rights and ownership pattern, agricultural and cooperative credit system, community organization, marketing facilities *are* institutions; and land reform, land taxation and sharing of farm returns have many institutional aspects.

Obviously, in any agricultural development program in Iran a good knowledge of the physical base and its potentials is necessary. We shall try to show how and why the physical, economic, and institutional factors tie together in a development program. For program planning, let us first list some of the physical and quantitative considerations. Some of the principal ones are:

#### 1. *Land Resource Inventory.*

(a) Use capability of land resources by major land classes.

(b) Present and potential availability of water by sources, uses, areas. Insofar as possible, quantitative measures should be obtained on present uses and the future potentials of the land and water resources.

#### 2. *Changes in Land Uses and New Practices.*

(a) Shifts in crops, i.e., increase in forage for expanded livestock enterprises.

(b) Introduction of new seeds, fertilizers etc., and facilities to increase efficiency and quantity of supply.

(c) Types and kinds of farm machinery required under projected patterns of land uses and labor resources.

### 3. *Quantitative Measurement.*

(a) The quantitative results of increase in oil crops, more livestock, land improvements etc., should be presented in a form meaningful for appraisal.

(b) When quantitative measurement is not possible or very limited, then as clear a qualitative picture as possible of anticipated results should be presented.

On the basis of an appraisal of the land-water resources of Iran the economic feasibility of types of expansion and development may be explored under certain assumptions. The purposes of an evaluation of costs and returns by projects or segments of a project are:

(1) To determine if a certain type of public and private expenditure will be economic. For example, pump irrigation of  $x$  hectares in area  $y$ .

(2) To appraise the desirable type, size and scale of sound economic investment as in a program of introducing improved livestock breeds.

(3) To estimate the relative desirability of expenditures between types of projects as funds are limited and choices must be made. Funds may be spread so thin that the results are dissipated or they may be sunk in a few large projects of doubtful returns.

(4) To determine how public and private interests should in certain cases share the costs: a sharing of costs, and protection against risks will be necessary to bring about certain shifts in production. Education in good farming practices in itself is not always effective in an illiterate village with a traditional archaic social organization. Incentives have a place to induce villagers to make changes and to protect them from possible losses, as for instance in the returns from crop and livestock in the adoption of new practices.

(5) For certain types of projects, as in irrigation, to determine the basis of public charges to private beneficiaries.

Good administration is necessary in the execution of these tasks. The lack of adequate working statistics is a serious handicap to economic analysis in Iran. And information that is available in

Iran does not readily move up to a single central planning agency. Strengthening of the planning functions of the staff agencies—the Ministry of Agriculture, Agricultural Bank of Iran, etc.—with both scientists and administrators is necessary; also the research to understand what should be done and how to do it is a part of the function of substantive agencies.

It is also recognized that in a country such as Iran, with many unknowns, it is not possible to rest one's case on quantitative economic analysis. Limited data of questionable accuracy, lack of experience of the results of undertakings that need to be known for sound economic planning and a great void in research findings under tested conditions, also call for qualitative analysis. It is necessary to step beyond the bounds of economics and function as social scientists in the broader field of political economy and institutional economics. But social and economic appraisals—the best that can be made—should go far in weeding out costly and inefficient projects or undertakings and segments thereof, both for society and individuals.

Some of the agricultural development needs, however, are so clear as to require little investigation. The task is how to get started. For example, it is well recognized that much can be accomplished through range improvement and more forage production on farms. An expanding agricultural economy in Iran is heavily dependent on livestock. The volume of the demand for meat and dairy products is evidenced by the increasing rate of growth in slaughter and the use of imported butter. There are two principal problems:

(1) *Range Improvement.* Livestock losses run into millions of animals annually, and serious over-grazing has made



malnutrition chronic. More than 15 percent of the sheep are lost each winter when feed supplies become scarce. Range lands are virtually unprotected and rarely tied in with cultivated land in a single livestock production enterprise. A modern grazing and range development program is badly needed. Indicative of current thinking is the program of land distribution in the Shah's villages. Although arable land is sold to cultivators, control of adjoining pasture lands has been retained by Amlok, the land distribution agency. Grazing rights are awarded through competitive bid on an annual basis, sometimes to villagers but frequently to outsiders. Under these circumstances the individual livestock grower has every incentive to strip the range bare during his year of occupancy, and the integration of sheep and cattle into village farm enterprises is effectively impeded. The result is an obvious failure to adopt good farming practices, and a serious loss of efficiency of farm labor.

(2) *Farm Forage Crops.* The present farm forage crop situation is very discouraging. Without great improvement, the development of the animal resources of Iran, which should have high priority in any agricultural plan, is not possible. Better fed animals, improved livestock breeds, and control of diseases are urgent social needs; and all must be a part of a good program. One possible way to make progress on this important and complex problem is to establish a number of modern livestock farms for the purpose of acquiring more know-how on forage-livestock production operations, and for demonstration and educational purposes. The demonstration farms could be solely under government operation or under some type of contract arrangement between government and individuals. Another alternative is through well planned

livestock and forage programs in selected areas, adequately serviced by technicians and supported by a good credit program.

It is felt that the studies, research, pilot operations etc., necessary for good economical appraisals of projects should be given much more attention. And as aid programs move more in the direction of loans, as seems to be the trend, then it becomes increasingly important to select projects with good repayment ability which will stimulate latent talents and interests of people: a need for current and continuous economic evaluations. First we need to know the facts of a project, as obtainable, and in a social, economic and institutional setting before implementation.

#### *Why Institutional Changes*

In underdeveloped countries the task of economic implementation is much different than it was in rehabilitating the war-torn countries of Western Europe following World War II. In Western Europe the existing institutions were satisfactory but undergoing steady evolutionary change. But in the newly developed countries rural institutions have often virtually stagnated, even though institutional and often drastic changes are basic to increased production and self development and are an essential part of the growth of the democratic process. In the newly developing countries it is to the interest of free people that development take place within the orbit of the democratic world and not under the temptations of communism. To stand for and support institutional changes in the interest of the masses is an inescapable responsibility of those who would promote democratic economic development.

For illustrative purposes we shall briefly consider only three institutional changes, other than those expressed or

implied previously, which have a place in the agricultural development of Iran.

(1) Land reform appears to be one of the essential ingredients for economic development in Iran. Why? There are a number of reasons: (a) Expanded agricultural production and growing productivity in agriculture are almost by definition essential for the economic development of the nation as a whole. Present land tenure practices do not permit the necessary changes in production techniques nor do they link investment and effort on the part of the cultivator to the return he realizes from his holding. (b) The growth of industries based on agricultural raw materials can not continue without reliable and growing sources of supply. (c) Unless the purchasing power of the 70 to 80 percent of the population of Iran dependent upon agriculture is raised through increased productivity and better distribution of income, then the market for goods produced in Iran must remain pitifully constricted. Poverty in agriculture is a principal reason for the limited market for volume production. (d) Basic economic and social legislation will continue to be blocked and the need for better collection of land taxes thwarted without a change in the tenure system. (e) Large public expenditures or investments in agriculture imply that the benefits from them be widely distributed. No government in an underdeveloped nation can long justify subsidizing the already privileged few.

However, land reform should be on a firm and progressive basis. Adequate farm units should be allotted to the new landowners; all their credit needs should come from one source and under a program of supervised credit; an adequate staff must be provided to help farmers adopt improved farming practices; and a land reform agency must be established

with strong administration, well financed and with the necessary funds for a dynamic training program. Otherwise, the results will be bad and agricultural production may fall. This can happen because the new peasant owners lack management experience and they must have a source of supervised credit. Landlords now provide these services and land distribution in itself will create a big void in what it takes to increase production. The job calls for careful planning and large public expenditures but the costs will be greater if the needs are not met. Not to deal with problems does not avoid problems and costs.

(2) A good agricultural credit and cooperative system is also necessary to economic development in Iran. It offers a practical means to introduce more capital into agriculture. Credit on reasonable terms is essential to provide the resources needed for increased agricultural production and improved rural living. Excessive charges by the money-lenders reduces the farmer's incentive for savings and thrift, and restricts funds for new production investments.

Cooperatives provide a means of servicing economically the credit needs and other services of small farmers. They are a means of mobilizing existing capital in villages and there is today in Iran considerable unused or poorly used capital. Cooperatives can also become an educational device in decision-making and for improved social organization and group action. The Agricultural Bank of Iran has underway a substantial cooperative credit program.<sup>3</sup>

<sup>3</sup> Remarkable progress has been made by the Agricultural Bank of Iran in the organization and servicing of credit cooperatives. There are at present 639 rural cooperatives with a membership of nearly 290,000 and loans outstanding to members amount to over 400 million rials (\$5,260,000). The share capital owned by farmers is around 140 million



There are many small and medium-sized farmers in Iran who own their land or have permanent use rights to it. A program providing for the complete financing of the credit needs of these farmers under a supervised agricultural credit program—credit plus introduction of new methods plus education—could have a substantial impact on the economy. The results of an impact program designed to reach small owner-operators would be more immediate than a program for new-owner-cultivators of distributed lands and the program would provide a valuable experience in the use of credit for the overall Land Reform Program of Iran.

Well financed, adequate-sized family farms can be highly successful economic and social units—more so than large industrial farms. This is because agriculture is not subject to the same type of increasing returns as is found in industry. The growing season is for certain periods of time. A series of productive processes cannot be brought together at a given time to assemble a commodity. Efficiency in farming lies in the full use of labor by modern methods over a period of time.

(3) Expanded extension and community educational programs in the villages should go hand in hand with an enlarged credit program. Greatly expanded secondary and college educational programs are also of primary im-

portance to agricultural development since in land and water resource development it is not capital but trained people that are the limiting factor. Capital can be effectively used only insofar as brain power exists and it is man who must establish the institutions necessary to do a good job of planning for economic development and for executing good development programs. If this exists, there will be progress and security and the necessary foreign capital will be attracted to a country. If not, private capital will be unventuresome and considerable indigenous capital will move out of a country. Also, in many situations new organizations, the will to move forward, and labor can in part be substituted for capital in the process of development.

A pressing need for investment in agriculture is in education, training and demonstration: to obtain and disseminate information on the kinds of fertilizers best suited for different uses, to introduce new seeds, for improved technology, to establish demonstration farms, to organize and service farmers cooperatives, and to formulate and execute sound land and farm programs. It is the ability to do this type of thing that gauges the rate at which capital can effectively be absorbed in agriculture. And some continuing progress is an important factor.

The people of the newly developing countries are in the midst of a world revolution which has been called "the revolution of rising expectations," meaning essentially a desire for change in existing institutions, new institutions, and in ways which give expression to the desires and aspirations of people. We must never lose sight of the human side of development and that the end use of all goods is man.

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rials (\$1,840,000) and it has increased very substantially since the cooperatives were first organized. Repayment of loans when due are averaging 92 percent. Most of this achievement has occurred during the last 18 months (since January 1959). But what has been accomplished meets only partially the present and growing credit needs of the farmers. More loan funds and support for training activities and servicing functions to the small farmers of Iran should have a very high priority in Iran's development program.