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LA THÈSE A ÉTÉ
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THE IMPACT OF MANPOWER PLANNING
ON
IRANIAN ECONOMIC DEVELOPMENT

Thesis submitted in
partial fulfilment of the requirements for
the Master's degree in International Affairs
to

The Norman Paterson School of International Affairs
of

Carleton University, Ottawa

by

Mehri Madarshahi

or

Ottawa/New York - December 1980

The undersigned recommend to the Faculty of Graduate Studies acceptance of the thesis "The Impact of Manpower Planning on Iranian Economic Development", submitted by Mehri Madarshahi B.A., in partial fulfillment of the requirements for the degree of Master of Arts.

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Abstract

The main thesis of the study is that the lack of integration between national development planning and human resource development in Iran constituted a major constraint on Iranian development. The lack of complementarity between capital intensity and the educational level of the labour forces is demonstrated through an examination of the agricultural, industrial, and services sectors of the economy. Guidelines for the future development of Iran include: the avoidance of a strategy of maximization of growth of gross national product, a policy of systematic educational and manpower development, a lowering of the population growth rate, expansion of public-oriented infrastructure, and the development of sectoral strategies for the absorption of the growing labour force.

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CHAPTER I

DEVELOPMENT OF AN ANALYTICAL FRAMEWORK:

THESIS OF THE STUDY

For a long time economic growth models, such as the Harrod-Domar model, were ~~centered~~ on the assumption that investment in physical capital was the most important element of the growth process. Since Schultz,^{1/} however, demonstrated in general terms that a better educated labour force generates larger increments in the national production (output) than a lesser educated labour force, human capital has come to be acknowledged as a relevant factor in the economic process. The existence of such a relationship between the educational level of the labour force and the volume of production is particularly relevant for developing countries, which are usually characterized not only by low per capita gross national product (GNP) but also by high rates of illiteracy, widespread unemployment among a large and steadily growing labour force, shortages of highly qualified manpower with specific skills and, in some countries, lack of natural resources - an enumeration which is by no means exhaustive.

The important role played by human capital as a production factor requires a mobilization of under-developed and under-utilized human resources and the availability of a sufficient number of highly qualified personnel to play a decisive role in efforts to achieve a higher stage of development. It is necessary too to ensure the success of industrialization, mechanization or modernization programmes, based on considerable

capital investment and imports, as well as to allow the initiated development process to become self-reliant and sustained by indigenous, human resources.

The implementation of national development plans, aiming at rapid economic growth, requires higher levels of educational skills in the existing and projected labour force, both for direct productive labour functions and for functions in directive and organizational tasks^{2/} commensurate with the higher levels of planned capital investment. It has been shown that a more intensive use of capital goods in the process of economic development (to achieve more efficient techniques of production) automatically requires a higher educational level of the labour force, both in quantitative and qualitative terms.^{3/} Thus the present study contends that the national development process will be hampered unless the complementarity between capital intensity and the educational level of the labour force is fully recognized and translated into practical programmes. This is particularly important in the case of countries aiming at a development largely based on the integration of capital-intensive technologies into their economies. Accordingly, the educational level of the labour force needs to be raised if such highly sophisticated capital equipment is to be fully utilized without overly resorting to foreign experts and labour. At the same time these very capital goods may be needed in order to generate income which, in turn, will be used for the financing of programmes aimed at improving the educational level of the labour force. Investment in capital goods alone, however, cannot contribute to greater efficiency and expanded production unless it is accompanied by the required level of human

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skills essential for its use. Investment in human capital is thus required in order to advance the development of an economy,^{4/} even if such expenditure might not in the short run directly promote economic growth or might not ever fully benefit investment (as a result of the "consumption" effects of education).

Hence, the requirements of both the economic and the educational process should be the dominant factors in the development planning of developing countries. The objectives of the economic process then determine the educational targets and requirements with which the economic objectives can be achieved. Although many national development plans recognized such a relationship, the practical and operational consequences remained largely negligible, as planners assigned lower priority to a systematic and complementary development of qualified human resources supplementing the economic programmes and providing the manpower base for future development. This failure to link educational and economic programmes in a systematic manner has been especially conspicuous in the case of Iran, as will be shown.

The main thesis of this study is therefore that the national development planning of Iran between 1949 and 1978 could not succeed without a comprehensive human resource development corresponding to and co-ordinated with the economic development plans, dominated by the quest for a rapid industrialization of the country. As the influx of massive oil revenues removed many financial constraints to the realization of a host of development programmes, it was assumed by Iranian planners that Iran might be able to achieve its main economic goals and embark on a self-sustained continuation of its development process.

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Their aspirations and concepts assumed the following pattern: initial stages were envisioned with an increase in the rate of productive investment (per GNP) and with high growth rates in one or more branches of the manufacturing sector, succeeded then by a "take-off" of the economy, supported by the existence of an appropriate political, social and institutional framework.^{5/} This approach equated growth with development, a notion which is not borne out by the Iranian experience. Consequently, Iran neglected the significance of human capital and resources for the development process. Moreover, the low degree of acceptance by the people of the chosen modernization strategy based on industrialization represented a virtual rejection of the policy, depriving it of crucial popular support.

Human resource development is "the process of increasing knowledge, the skills, and the capacities of all people in a society"^{6/} to be applied to the production of goods and the rendering of useful services. Such a process aims, in economic terms, at "the accumulation of human capital and its effective investment in the development of an economy".^{7/} In political terms, human resources development implies a larger participation in the political process. Finally, from the social and political point of view, such a process should help people to live "fuller and richer lives less bound by tradition".

Evidently such a comprehensive process is multi-dimensional and, for the purpose of the present study, it shall be categorized into the following main areas:^{8/}

(a) the development of formal education, i.e., primary and various forms of secondary education;

(b) the development of domestic higher education or encouragement to pursue such an education abroad (at colleges, universities and higher technical institutes), serving to produce highly qualified and high-level manpower for the complex organizations required by an advanced economy, such as managerial personnel and professional personnel like scientists, engineers, medical doctors, economists, lawyers, teachers, etc.;

(c) the development of skills through non-formal (on-the-job) education and systematic and informal training activities in employing institutions;

(d) the location of job opportunities to absorb unemployed workers.

Efforts in all these areas are interrelated and progress in one area may be both a cause of economic growth and the result of it. Pertinent programmes to reduce existing constraints and to provide a basis for further development, necessarily require extensive organization, planning and administration. Thus, the formulation of such programmes has to take account of whether existing institutions need to be transformed or even whether new specialized governmental machinery needs to be established to realize defined goals.

We contend that, ideally, one of the main objectives of developing countries should be to aim at the maximum utilization of the available human resources in productive activity as well as at the fullest possible development of the skills, knowledge and capacity of the labour force. Thereby "other goals such as economic growth, higher levels of living and more equitable distribution of income are thought to be the likely consequence".^{2/} Comprehensive development plans would then combine

both approaches, namely that of developing human resources and that of promoting economic goals, such as the growth of the GNP.

A systematic national manpower plan must accordingly be multi-level in character and based on a cross-sectoral analysis of future requirements in areas such as industrialization, trade, rural development, administration and management, science and technology. The development of national capabilities and the eventual achievement of self-reliance is dependent on the existence and implementation of comprehensive educational programmes tailored to individual country needs.

A technological superstructure, however, will not be able to emerge unless the basic functions of general education at primary and secondary levels can be secured and safely established. As regards university-level education, the development of the required strategic high-level manpower, whose needs are determined by the long-term development goals, has to be emphasized. Specialized and functional training activities need to be pursued in order to create scientific and technical ability for meeting the immediate needs of the economy. Equally, technical training opportunities have to be offered to produce specialists and skilled workers in a widerange of activities which are particularly important to the economic and development goals of a particular country.

An integration of economic and human resources policies is therefore indispensable,^{10/} but its practical realization still faces formidable obstacles. For example, economic growth targets can be expressed relatively easily in quantitative terms, while the identification of relevant information and the compilation of necessary data on educational and human resources pose serious practical difficulties.

The absence of many essential statistics does not allow a presentation with the desired degree of precision and restricts the analysis to generalizations.

Against this analytical background, the process of Iranian development planning, its objectives and implementation will be examined subsequently, particularly as it relates to human resource development in the three main sectors of the economy: agriculture, industry and services.

Indicators of Iranian economic development, data on population trends, information on the educational system and the skill level and requirements of the labour force are discussed in chapter II. As a point of departure, that chapter highlights shortcomings in and potential areas for human resource development, given the commitment to rapid economic growth, e.g., the need for measures to adjust the occupational structure of the labour force to match the requirements of the likely economic development by sectors, or the need for the educational system to supply sufficiently qualified manpower (skilled and semi-skilled). The achievements and failures of past manpower and educational policies of Iran are assessed in that chapter, providing the background for the sectoral analysis in the subsequent chapters.

Following a brief review of the main features of past agricultural policy and development, Chapter III analyses the reasons for the beginning of the decline of this sector towards the end of the Third Development Plan, coinciding with the completion of the land reform. Subsequently, during the periods of the following development plans, the country became increasingly dependent on imports, particularly foodstuffs.

During the period of the Fourth and the Fifth Plans, peasants migrated on a large scale to the urban centres, where, mostly uneducated and unskilled, they remained unemployed despite Government-sponsored crash-training programmes for industrial work. It will emerge that systematic and appropriate human resource development could have prevented a deterioration of the productivity of the agricultural sector and a burdening of the cities with rural migrants.

Chapter IV deals with the industrialization programme and its manpower implications. Significant investments were made during the course of various development plans to provide a basis for an industrialization process based primarily on the use of capital-intensive technologies. These investments, encompassing, e.g., sugar mills, cement factories, textile and steel mills, chemical and oil industries, however, provided employment opportunities for only a limited highly trained labour force and it also became evident that this type of industrialization could not absorb unemployed labour on a sizeable scale.

The intensive industrialization effort which began in the late 1950s and intensified throughout the 1960s had attempted to reduce the economy's dependence on **imports** of industrial products, thereby generating a local industrial base, and to increase the rate of economic growth. Although it will not be possible, in the absence of reliable data, to present a detailed analysis of the industrial sector's performance in this chapter, certain conclusions will nevertheless be drawn. They pertain to the pattern and objectives of the industrialization policy and, in that connexion, to the acute shortage of indigenous skilled and semi-skilled manpower to operate the new, highly sophisticated

technologies, requiring the recruitment of a virtual army of highly paid foreign workers.

Chapter V on the services sector addresses the need to develop managerial resources and administrative capabilities so as to ensure an efficient and effective translation of the development efforts into reality.

The study will conclude with a number of recommendations which might, at the present time, represent no more than wishful thinking, given recent developments. Nevertheless, they are put forward in the hope that a new government will be able to move towards introducing and delivering comprehensive and progressive programmes for the Iranian economy that are reflective of the needs and aspirations of the masses of people rather than the interests of a small ruling class.

It should be pointed out that all research and most of the writing for this study ^{were} undertaken prior to the overthrow of the Shah's régime in February 1979. The level and magnitude of dissatisfaction, which embraced every strata of Iranian society, particularly among the workers and the peasants, actually substantiated many of our findings and served as clear evidence of the fallacies and shortcomings of the government's policies.

Unfortunately, the direction and objectives of the new régime are not yet clear. But all the available information indicates that Iran will have to undergo some fundamental economic and socio-political changes in the future.

Notes - Chapter I

1/ T. W. Schultz; "Capital Formation by Education", as cited by;

H. Correa, The Economics of Human Resources, Amsterdam, 1963, pp. 168 ff.

2/ Correa, op. cit., p. 176; Svernilson, Edding and Elvin prove in their study for OECD, "Targets for Education in Europe in 1970", Paris, Jan. 1962, the existence of a correlation between school enrollment ratios and GNP; see also F. Harbison/C. Myers, Education, Manpower and Economic Growth, 1964, New York/Toronto/London, pp. 186 ff.

3/ Correa, op. cit., pp. 179-181.

4/ The magnitude of this investment is itself a function of the level of a country's development; see Harbison/Myers, op. cit., p. 185.

5/ Iranian planning authorities were largely influenced by Rostow's strategy; see A. S. Lovbrock, "State Internationalism, Industrial Growth and Planning in Iran," Ph.D. dissertation, University of Oslo, 1977, p. 3 and Chapter 3.

6/ Harbison/Myers, op. cit., p. 2; see also Frederick H. Harbison, Human Resources as the Wealth of Nations, New York, Oxford University Press, 1973, pp. 3 and 13.

7/ Harbison/Myers, op. cit., p. 2.

8/ Ibid., and Harbison, op. cit., p. 112.

9/ Harbison, op. cit., in the preface; increases in national income are likely to be induced by the development of human resources, e.g., by higher labour productivity resulting from better training and education, or by the reduction of the level of unemployment.

10/ See Harbison/Myers, op. cit., pp. 209 ff.

CHAPTER II

AN OVERVIEW OF THE IRANIAN ECONOMY

A. Development of gross national product

During the past decade Iran's economy developed a dual character. In the rural areas it continued to be dominated by agricultural activities while it became increasingly industrialized in urban areas and in oil-rich regions. In the course of the implementation of the Fourth Development Plan (1968-1973), the industrial base of the Iranian economy developed rapidly and by the end of the Fifth Plan (1973-1978) the industrial-sector was expected to attain a dominant position.^{1/} The growing role of industry gradually diminished the relative importance of the agricultural sector. This trend is best reflected by the development of each sector's contribution to the country's gross national product between 1966 and 1976. Table 1 shows the GNP in current and constant prices as well as the oil revenues for that period.

As may be seen from that table, the actual annual growth rate of GNP in current prices has continuously exceeded 10 per cent and has climbed as high as 72.6 per cent in 1974, after which it fell significantly.

The annual growth rate of GNP in constant prices, which provides a more accurate yardstick for the pace of the economy's expansion, experienced less fluctuation, however, and remained within a range of 9.2 per cent in 1969 and 19.5 per cent in 1972, averaging an annual increase of 12.8 per cent.

Table 1

GNP in current and constant 1959 prices and oil
revenue in the period 1966-1976

Year	GNP (current prices) in billion Rials	Annual rate of growth (%)	GNP (constant prices) in billion Rials	Annual rate of growth (%)	Oil revenue in billion Rials	Annual rate of growth (%)
1966	503.6	10.3	461.8	-	57.3	-
1967	556.5	10.3	513.8	11.3	67.8	18.3
1968	629.4	13.1	569.4	10.8	73.0	7.7
1969	704.2	11.9	621.6	9.2	84.8	16.2
1970	798.2	13.3	689.7	11.0	98.5	16.2
1971	962.7	20.6	757.9	9.9	163.6	66.0
1972	1227.7	32.5	905.8	19.5	201.2	23.0
1973	1824.7	48.6	1028.9	13.6	298.0	48.0
1974	3149.6	72.6	1181.0	14.8	1305.0	338.0
1975	3573.0	13.4	1335.7	13.1	1302.2	-0.2
1976	4684.0	31.0	1535.6	15.0	1534.0	17.8

Sources: Bank Markazi Iran, National Income of Iran - 1959-71, Teheran, 1973; Bank Markazi, Annual Report and Balance Sheet 1968, 1970, 1973, 1975; Teheran, Bank Markazi, 1968, 1971, 1974, 1977; Plan and Budget Organization, Statistical Yearbook of Iran, 1973, 1976, 1977; Teheran Plan Organization 1974, 1977, 1978.

The table indicates that the growth in GNP has been largely induced by the rapid growth of oil revenues. In fact, the 1966-1976 period can be divided into three distinct phases. The first phase, 1966-1971, was characterized by a substantial, continuously rising growth rate in both GNP and oil revenues at current prices, with the growth in oil revenues usually exceeding that of the GNP. The second phase, 1972-1974, was marked by a quickly accelerating rate of growth in both GNP and oil revenues, in current prices. The dramatic increase in GNP was largely due to the dramatic increases in oil revenues in the wake of the 1973 OPEC agreement and further unilateral increases of oil prices. The third phase, 1975-1976, appears to be somewhat anti-climactic. A sharply reduced GNP growth and de facto stagnating oil revenues in 1975 suggest the existence of problems in economic development while in 1976 the figures indicate to a certain degree a rebound.

As the differences between GNP in current and constant prices show, particularly between 1971 and 1974, the growth process has been accompanied by a high rate of inflation, while in the 1966-1971 period, the rate of inflation was relatively lower.

In February 1978 the inflation rate was officially quoted to be in excess of 31 per cent.^{2/}

Table 2 provides information about the relative contribution of the main sectors of the economy to the GNP in the period 1967 to 1976. The data in this table reveal that the oil sector, while the least important contributing sector in 1967, achieved a dominant position as of 1974, accounting for 45.8 per cent of the GNP. Conversely, the share of the agricultural sector decreased continuously from 23.1 per

cent in 1967 to only 9.2 per cent of the GNP in 1976. The impact of the industrial and mineral sector fell between 1973 and 1975, most dramatically in 1974, below the usually stable 20 per cent level.

Table 2

Contribution of the main sectors of the economy to the GNP

1967-1976

(percentage)

Year	Agriculture	Oil	Mines and Industry	Services
1967	23.1	15.5	20.1	38.0
1968	22.2	15.9	20.7	38.7
1969	20.9	16.8	21.2	38.6
1970	20.0	17.5	21.0	39.2
1971	17.8	22.0	20.6	37.6
1972	16.3	21.4	20.0	38.7
1973	12.8	32.2	18.2	34.5
1974	9.6	45.8	13.8	28.3
1975	9.3	38.5	17.4	32.1
1976	9.2	37.1	20.0	31.3

Source: Plan and Budget Organization, Statistical Yearbook of Iran 1977,

Teheran, 1978, p. 659

The above figures of the Iranian economy clearly demonstrate that, at least since 1971, the Iranian economy was heavily dependent on oil and that a prerequisite for continued economic growth was the sustained

growth of the oil industry. In reality, however, the Iranian oil industry was never able to play the role of a leading sector, stimulating the development of the other sectors. A comprehensive analysis of this inability to perform a locomotive function is however beyond the scope of this study. Later we shall examine some related aspects in connexion with manpower planning and development in Iran.

B. Population aspects

During the decade 1962 to 1972 Iran's population grew at an extremely rapid rate. With an annual growth rate of 3 per cent Iran now ranks among the world's fastest growing populations.^{3/} One of the most significant consequences of this population explosion is an ever growing increase in the school-age population, automatically leading to an increase in the demand for education.

Accordingly, the Fourth and Fifth Plans (1968-1978) made provisions for attempting to cope with the nagging problems of the educational system.

Prior to the launching of the Fourth Plan (1968-1972), little attention was given to demographic trends and their potential impact on the educational system and manpower training. The cause for this explosion can be traced to the late 1950s, when, as a result of vast improvements in health and hygiene, a rapidly declining rate in infant mortality occurred. Before that, in the mid-1950s, about a quarter of all children had died within the first year after birth.^{4/} In 1972 this rate declined to about 12 per cent on a nation-wide basis, and to less than 10 per cent in the urban areas. Moreover, the same health and hygiene achievements caused an increase in the average longevity of the population. Accordingly, the

under-thirty age group of the Iranian population in 1972 accounted for 55 per cent of the total population. In 1956 the corresponding figure was 49 per cent.

As regards the urban-rural distribution of the population, Table 3 indicates that in the period 1963 to 1973 a rapid increase in the urban population occurred, at the same time reducing the proportion of the population living in rural areas. Evidently, systematic economic development programmes were largely responsible for the observed dramatic shift, as between 1956 and 1963 only an almost negligible 2 per cent change had occurred.

Table 3

Urban-rural distribution of Iran's population
(percentage of total population)

	1956	1963	1969	1973
Urban population	31	33	42	45
Rural population	69	67	58	55

Source: IBRD, Industrialization of Iran and the Problems, 1974, p. 67.

It was projected that by the end of the Fifth Plan, the urban population would reach 55 per cent of the total population (estimated at 36 million) while the rural population would decrease to 45 per cent and that this trend would continue further.^{5/}

As regards the Iranian labour market, only a small percentage of the total labour force, i.e., all persons over 10 years of age, was economically active. This was caused by various factors: 46 per cent of the population was under 15 years of age and 68 per cent under thirty

years;^{6/} gradual expansion of public education programmes at all levels; reduction in the extent of child labour; and low participation of women in economically gainful occupations. As Table 4 indicates, only 1,013,200 of a total of 7,243,400 economically active population were females. Thus, females accounted for a mere 15 per cent of the economically active population, while over 49 per cent of the Iranian population were female. Male participation was, therefore, significantly higher in quantitative terms than female (6 times as high).

Moreover, as can be seen from Table 4, a qualitative imbalance exists in the relative distribution of male and female persons in the various occupational groups. For example, women were relatively better represented in professional and technical jobs (including the teaching profession), while they appear to have been under-represented among sales personnel as well as managerial and clerical staff.

The total labour force was projected to reach 14.3 million by the end of the Seventh Plan Period (1983-1987). The estimates were, however, based on the assumption that the population growth rate would decrease and that the school attendance rates and women's participation in the labour market would gradually increase. Comparable figures forecast for the Fifth Plan (1978-1978) amounted to 10.3 million and for the Sixth Plan (1978-1982) to 12.1 million.^{7/}

Table 4

Economically active population by employment, sex and age (10 years and over), 1973
(in.00)

Population by sex and age	Total employed	Professional and technical workers	Managerial and clerical	Sales personnel	Services	Rural and farm employees	Production and miscellaneous transport	Miscellaneous
a) <u>Male</u>								
- Total labor force (10 yrs. and above)	62 302	1 632	2 489	5 752	3 849	30 849	16 724	1 024
- percentage (%)	100	2.62	4.0	9.2	6.15	49.52	26.8	1.64
b) <u>Female</u>								
- Total labor force (10 yrs. and above)	10 132	740	254	40	862	3 007	5 153	71
- percentage (%)	100	7.3	2.51	0.39	8.51	29.68	50.86	0.7
c) <u>Grand Total</u>	72 434	2 372	2 743	5 792	4 701	23 856	21 877	1 092
- percentage (%)	100	3.27	3.79	8.0	6.5	32.93	30.2	1.51

Source: Iran's Statistical Centre - Population Statistics, 1974, Teheran
 Total population: 35,686,000 (1976 estimate).

C. Pattern of skills and educational level
of the Iranian population

1. Background

Despite the educational reforms initiated by Reza Shah (1925-1941), in 1948 Iran was still facing a high rate of illiteracy among its adult population: 95 per cent.^{8/} In the following 25 years, however, the educational sector experienced a fast growth.

As indicated in Table 5, the enrolment figures for all three levels of the system (primary, secondary and college/university education) had considerably expanded and during 1968/1969 the university-level enrolment figures exceeded 10 per cent for the first time.

The 1960 enrolment rate (Table 5) at the secondary level, however, represented only 16 per cent of the total enrolment, compared with 82 per cent for primary-age children. For urban primary-age children, the corresponding rates reached 85 per cent as against only 25 per cent in rural areas, where two thirds of the country's primary-age children were living.

The data for 1970, compared to 1960, indicate a figure three times greater for enrolment in a centrally controlled network of primary and secondary schools and institutions of higher learning. However, despite sharply rising enrolment figures in primary and secondary schools since the mid-1960s, the extent of participation in the formal education process remained limited, especially in the rural areas. This was partly caused by the shortage of school facilities, by the lack of qualified teachers, and by an inadequate road network^{9/} providing access for teachers to remote areas.

Table 5

Enrollment figures for the Iranian educational system, 1945-46, 1959-60(a) and 1968-69(b)

Level	1945-1946		1959-1960		1968-1969	
	Number	Per cent	Number	Per cent	Number	Per cent
Primary	288,000	89	1,327,000	82	2,575,365	78
Secondary	29,000	9	253,000	16	674,068	20
University	6,000	2	30,000	2	40,000	1.2
TOTAL	323,000	100	1,610,000	100	3,289,433	100

Sources: a) G.B. Baldwin, Planning and Development in Iran, Baltimore, 1967;
b) Smith/Cover, Area Handbook of Iran 1971 op.cit., pp. 168-178.

The 1966 census indicated that more than 70 per cent of the labour force was illiterate, 15 per cent had not completed primary education, 11 per cent had finished primary school and, possibly, some secondary schooling, and only 3.5 per cent had completed secondary education and had, in certain cases, also received a university education.^{10/}

It should be noted that since the introduction of compulsory education in 1962, the proportion of literate population increased tremendously. In addition, literacy campaigns were launched and in their support 2,460 literacy corpsmen with secondary or higher education were assigned, after six months' training, as rural teachers. The duty of these literacy corpsmen was both to organize classes for children between the ages of 6 and 12 and to hold adult literacy classes in the evenings. Such a programme hoped to produce in rural areas cultivators who would be able to read and to gain relevant information from available publications, to keep better accounts, and gradually to be more receptive to the innovations so crucial for agricultural development.

In the 1960s efforts continued to raise the literacy level and to implement nation-wide free primary education. In particular, the Fourth Development Plan (1968-1973) called for the expansion of primary school facilities to enable 93 per cent of urban and 55 per cent of rural children to be enrolled by 1973, the end of the plan period. The plan also called for the reorganization of the secondary level to alleviate the shortage of technically skilled manpower.^{11/}

Pursuing the same objectives, the Fifth Plan projected that by the end of 1978 some 5,500,000 children should be enrolled in the primary schools. This meant an increase of 60 per cent over the goal of the

Fourth Plan. Also, the enrolment for the secondary level students was estimated at 904,000, the highest to date. The most impressive objectives, however, were those for vocational training. As Table 6 indicates, the target enrolment for these students was set 640 per cent higher than in the previous development plan. The main reason for this ambitious goal can be seen in the accelerated economic growth leading to acute shortages of Iranian labour with appropriate skills, technical know-how and expertise. Thus, the planners had to consider the expansion of the technical and vocational institutions of the country as an integral element of the Fifth Plan. Related measures envisaged the reorganization of the secondary school level to alleviate the shortage of technically skilled manpower and the transformation of the junior secondary grades into a three-year guidance stage offering a combined vocational-academic curriculum to help attract and divert more students at the secondary level into technical training.¹² Another reason for offering such diversified training was the inflated number of secondary school enrolments and the resultant flooding of the labour market with not very technically qualified secondary school graduates who had aspired but failed to be admitted to universities, and who consequently encountered considerable difficulties in finding suitable jobs in the 1970s. Earlier, any such surplus of graduates was largely absorbed by the mushrooming variety of private and public institutions engaged in the teaching of useful skills such as learning to type or to keep simple accounts. These emerging problems were largely influenced by the course of Iranian economic development and thus it became apparent that a close linkage between the economic development and the educational system existed. Planning in one area required closely co-ordinated and corresponding activities in the other. These aspects will be more closely examined in the following section.

Table 6

Educational targets of the Fifth Development Plan
(in.000)

Level	Number of students- end of 4th plan	Number of students- end of 5th plan	Increase in 5th over 4th plan	
			Absolute	Per cent
Kindergarten	22	580	558	2,536
Primary	3,446	5,500	2,058	60
Guidance cycle	571	1,670	1,099	192
Secondary	617	904	287	46
Higher education (university/college)	115	190	75	65
Technical	64	331	267	417
Vocational	31	229	198	640
Literacy programmes (age 10-44)	8,250	15,600	7,350	89

Source: Plan Organization, Fifth Development Plan, Section for Education, 1974.

2. The relation between manpower requirements and educational planning

Educational systems cannot function properly in isolation from the economic structure and development of a country. Under ideal conditions the output and the qualification profile of the graduates of the various institutions of the entire educational system would match the requirements for various skills resulting from the demands of the various sectors and subsectors of the economy. As changes or reorientations in the educational system will affect the system's output only after a considerable time lag, it is important to adjust the relevant structures and contents of instruction to the projected long-term needs of the national economy. Such an orientation of the educational sector towards the economic needs of a country is essential for developing countries wishing to sustain their development efforts as far as possible by indigenous resources rather than relying on foreign consultants or foreign labour.

Thus, a fine tuning between projected manpower requirements and educational planning is one of the pre-requisites for achieving a substantial degree of national self-reliance.

The substance of the theoretical approach underlying all practical plans can briefly be described as follows. Given a target growth rate for the economy and given a number of assumptions - relating among others to structural developments, capital investment, inflation rates, productivity developments, etc. - a forecast for the economy at some future date is made, which, depending upon the degree of sectoral and occupational disaggregation, provides a more or less detailed picture of the economy's manpower requirements for the period of time under consideration. These

requirements are then compared with the available manpower, broken down by its skill structure and taking into account retirement and mortality rates as well as the flow of new manpower into the labour market. Availability can be presented in the same breakdown as requirements. Since a balanced situation very rarely exists, a reconciliation of requirements and availability can be achieved by educational planning programmes aimed at satisfying registered and specified shortages of human resources.^{13/} The following chart depicts this approach:

The basic objective is to harmonize the manpower requirements resulting from the projected development of the economy with the availability of appropriately qualified manpower by means of educational programmes. Experience in the United States, the United Kingdom and the Federal Republic of Germany has shown, however, that accurate projections for each occupational level are almost impossible to obtain. This is due to unforeseen developments in the economy or sometimes too simple assumptions,

on which a forecast is based. In order to develop practical and accurate programmes and plans in the educational field, which are in tune with the future requirements of the labour market, the chosen approach is therefore likely to fail. Instead it can serve, in a medium-term perspective, to identify areas in the educational system where adjustments are desirable to provide a more or less sufficient pool of manpower with particular skills.

In the course of the preparations for the Third Development Plan, covering the period 1963-1968, a Sub-Committee on manpower training was established in Iran for the first time in June 1959. The task of this Sub-Committee was to develop objectives for the educational system by forecasting the manpower requirements of the national economy of Iran.

In that exercise all available data on educational and employment aspects were collected and the assistance of some specialized agencies of the United Nations was sought. Several surveys revealed a serious shortage of skilled workers in all sectors of the economy. A first estimate of the requirements for skilled manpower made in 1959 by the Ministry of Labour and the Plan Organization calculated ceteris paribus a shortage of 26,000 skilled workers. Further estimates in 1961 and 1963 led to a figure of 39,000 and 61,000 respectively. In addition to that, the employers estimated that 29,000 already employed workers needed skill improvement training.^{14/}

In 1969 the World Bank (IBRD) concluded that the lack of skilled workers, technicians and professional personnel with technical qualifications and background posed a serious impediment to the achievement of the production goals in the industrial sector. Low productivity

and management problems persisted, mainly owing to a lack of technically trained and experienced middle-level supervisory personnel.

The IBRD report also pointed out that annually 10,000 skilled and unskilled workers were attending training courses in various educational institutions, while the total demand of the Iranian economy was already known to be in excess of 40,000 per year. The report concluded that workers who were trained in small firms or even unskilled workers would have to fill available jobs in order to allow an economic development along the projected lines. In 1970 the Plan Organization undertook a study to determine the manpower needs of the economy for the new decade. The results revealed, inter alia, that 30 per cent of the then 28 million population, or more than 8 million people, could be considered as an economically active labour force in 1970. Of the male population 10 years of age and older, 77 per cent were economically active. This high percentage was due mainly to the large extent of child labour.

In the same year employment in the industrial sector nearly doubled to 1.8 million, a reflection of the industrialization policy. Next to the oil sector, the manufacturing industry (18.5 per cent of total employees) and the service sector (17 per cent of total employees) were the most important sectors of the economy. At the same time some 9,600 foreign experts and technicians were employed in Iranian industry,^{15/} amounting to at least 20 per cent of the total number of experts and technicians employed.

The perceived and existing gap between the output of the educational system and the country's manpower requirements was sought to be bridged during the Fourth and Fifth Plan periods by measures gradually

to improve existing educational possibilities and standards. The Fifth Plan attempted to reconcile both the target of full employment policy and that of reducing the lack of skilled manpower. As Table 7 clearly shows, the rapid economic growth of the country had created manpower requirements of such dimensions that the available labour force, with its qualifications, were far from able to meet.

Table 7

Demand, supply and shortages of manpower
for the Fifth Plan period

(in .000)

Qualification	Demand	Supply	Shortage
Engineers	36.4	20.2	16.2
Physicians	44.1	21.5	22.6
Teaching staff	287.4	230	57.4
Technicians	116.6	75	41.6
Skilled labour	810	250	560
Manual labour	538	528	10

Source: Plan Organization, Iran's Bulletin, 1974 (copy in Persian)

For example, in 1978 Iran would have needed an estimated 22,000 medical doctors and members of other closely related professions. This demand could not possibly be satisfied from domestic resources. At the "Persepolis Seminar", held on 27 March 1975 in Teheran, which all Iranian medical experts attended, it was concluded that, even with a drastic increase in the number of medical colleges and students in the

course of the following few years a shortage in qualified medical manpower would still persist.

Therefore, in order to meet the tremendous anticipated demand for medical doctors, in 1975 Iran had to recruit 6,000 doctors from India, the Philippines and Pakistan.^{16/} While these absolute figures are not so unusual in view of the fact that even industrialized countries such as the United States, Canada or Great Britain had to rely greatly on the recruitment of foreign third-world health manpower during the period 1960-1975, the relatively high proportion of this manpower in relation to the total medical manpower, amounting to more than 25 per cent of the country's needs, made Iran's health system particularly vulnerable and dependent. Language barriers created additional obstacles to an efficient and effective system, particularly in rural areas. On the other hand, foreign doctors were usually recruited only under two-year contracts and thus the country's health system was largely exposed and reliant on short-term outside expertise.

In the Fifth Plan it was estimated that the total manpower shortage of Iran would reach a deficit of some 700,000 skilled and unskilled workers by 1978.

As noted earlier, the educational system of Iran was not capable of producing the required number of workers with the desired skills in the period under consideration. Thus the Government had to consider supporting Iranian nationals, to be trained in foreign educational systems. Moreover, it tried actively to induce Iranian students studying abroad to return home after the completion of their studies. In the course of these efforts the Iranian Government sponsored about 60,000 students who

were enrolled in universities in more than 40 countries by means of grants. A breakdown by country identifies that, of the total number of students,

40 per cent were in the United States

29 per cent were in the United Kingdom

9 per cent were in the Federal Republic of Germany

8 per cent were in France.

The remaining 14 per cent were studying in 36 other countries (see Table 8). A breakdown by field of study shows the following fields of specialization:^{17/}

40 per cent in administration

17 per cent in economics

10 per cent in medicine

9 per cent in the sciences

7 per cent in the arts

✓ 17 per cent, other.

Unfortunately the figures presented above are from two different sources, and do not allow the identification of, e.g., who was studying what where. Such correlations would allow gauging the educational influences and their likely impact on Iranian society and economy after the return of the students to Iran.

Table 8

Iranian students overseas
sponsored by the Government

YEARS	1967-68		1968-69		1969-70		1970-71		1971-72		1972-73		1973-74		1974-75		1975-76		Total	
	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	R	S	P	S	P
Host Country																				
AUSTRIA	7	61	8	76	1	88	20	96	10	87	12	85	18	116	7	92	4	63	87	764
ENGLAND	141	193	150	179	258	250	482	232	657	241	1132	247	1922	419	2796	520	667	606	8205	2887
FRANCE	340	117	34	152	52	136	43	151	84	138	98	143	124	278	154	250	207	236	830	1601
INDIA	6	14	36	22	68	17	88	29	52	32	118	70	53	104	53	118	129	185	603	592
GERMANY	16	327	45	372	45	377	20	402	12	343	26	471	30	698	56	655	43	604	293	4249
UNITED STATES OF AMERICA	461	369	864	403	1006	644	1189	736	1057	817	2112	889	2341	1278	4541	1786	6696	2113	20267	9035
OTHER COUNTRIES	78	174	81	228	132	282	162	226	131	270	151	193	248	515	334	418	422	462	1739	2768
TOTAL	750	1275	1220	1468	1616	1864	2131	1946	2121	2009	3688	2213	4850	3560	8018	3958	8175	4388	32573	22681

Source: Students Affairs Organization, Ministry of Science and Higher Education

S = the number of students sponsored by the government for overseas education; R = the number of sponsored students who completed their studies and returned to Iran. The inconsistency between S and R is due to the fact that many students did not return to Iran right after completing their degrees, and thus the difference between S and R has continued for many years.

D. Bureaucratic impediments to educational planning

The tremendous manpower needs of the country provided enough opportunities for various new private and government-sponsored institutions to develop and offer training schemes to alleviate the indicated shortages. Such possibilities for private entrepreneurs opened up since the Government appeared to have difficulties ensuring a consistent approach. In less than a decade, five different Ministries had assumed policy-making responsibility for manpower training. Since each Minister's priorities differed from those of his predecessor, programmes initiated by one were ignored or discarded by another. The detrimental effects of such bureaucratic haggling tended to discourage any initiative already at the inception stage and resulted in insufficient programmes to produce skilled manpower at the required volume and with the required qualifications. Educational planning requires a certain stability and sustenance to be able to translate the agreed goals into precise, effective educational programmes and projects. Otherwise they are unlikely to have a significant and lasting impact. One reason for the rather unsuccessful programmes in the past was the low degree of integration of educational into national planning. Another shortcoming might have been caused by drawing up plans on the basis of short- or medium-term, rather than long-term targets. The absence of a strategic orientation had a negative impact on the completion of the economic development efforts by the Iranian Government.

E. Conclusion

The shortages of skilled and semi-skilled manpower required to sustain economic development clearly demonstrated that Iranian development

planning had over many years neglected the need for integrating in a systematic manner centralized educational planning. Although steadily rising shortages of skilled workers had been predicted since the early 1960s, no remedial action appeared to have been set in motion. A similar observation applies to the area of skill improvement training, where it might have been appropriate to establish a master plan and to pursue its implementation. Admittedly, the introduction of a guidance-stage with a vocational-academic curriculum at the secondary-school level seemed to be promising. In the absence of a sufficient number of qualified teachers, however, such innovations remained limited to some urban areas and, thus, rather ineffective at the national level.

Already disadvantaged by a high illiteracy rate, rural areas were experiencing a migration of a large segment of the population towards urban centres, mostly of younger persons and of those with some rudimentary school training. In the long run this drain was bound to hamper the prospects for agricultural development, unless corrective measures were taken on a massive scale. The next chapter will explore these aspects further.

As regards industrial development, efforts to institute technical and vocational education remained rudimentary at best. In the face of massive industrialization programmes, the gap between available skilled workers, technicians, craftsmen, etc., and the requirements of the expanding economy had to widen. Similarly, the output of graduates from the colleges and universities in fields like engineering, management, chemistry and other sciences as well as technical education fell far

short of the minimum requirements to sustain the chosen path of economic growth with indigenous resources.

Comparable shortages became evident in the health education sectors, and also in the administrative and governmental structure, both at the level of highly qualified experts and of middle-level personnel with specific skills. The Iranian response to these shortages consisted mainly in the massive recruitment of foreign experts and foreign labour. Short-term measures were thus taken to tackle structural, long-term problems without at the same time pursuing massive education and training programmes geared to produce a flow of qualified personnel capable of replacing foreign labour as soon as possible.

The consequences of the Government's action or inaction in the field of human resource development will be analysed for the industrial sector in Chapter IV and for the services sector in Chapter V.

Finally, it should be noted that, in spite of projected increases in technical and vocational training (400 and 600 per cent, respectively) little practical or tangible fall-out could be observed, given the turmoil developing towards the end of the Fifth Plan period.

In general, one can state that the Iranian case may serve as an example of national development planning which initially failed to co-ordinate economic and human resource development. Attempts in that direction made at later stages came too late and had more the character of corrective, unco-ordinated and singular moves than of a comprehensive, integrated concept.

Notes - Chapter II

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^{14/} Plan Organization, Division of Economic Affairs; Manpower, Third Plan Frame, Teheran, August 1961, pp. 10-27.

^{15/} Ministry of Labour and Social Affairs report, June 1977.

^{16/} Kayhan International, 27 March 1975.

^{17/} Fifth Development Plan, p. 32.

CHAPTER III

HUMAN RESOURCE DEVELOPMENT AND THE AGRICULTURAL SECTOR

Agriculture and rural development deserve an important place in the development planning efforts of developing countries, yet, because many governments are overly concerned with industrial growth, they have failed to place adequate emphasis on agricultural planning, including manpower development, as an essential part of the national planning effort, or to realize the critical relationships between agricultural and over-all economic development.^{1/} The experience gained by Iran in agricultural planning and rural development can serve as an example in this context.

Throughout this chapter an attempt will be made to evaluate certain aspects of the Iranian Government's policies and reform programmes launched under the Third, Fourth and Fifth Plans. It will be demonstrated that a high rate of over-all economic growth, largely generated by the oil industry, was accompanied by a continuous neglect and a diminishing priority attached to the agricultural sector, ultimately creating a situation in which Iran had to rely to a significant extent on the import of agricultural products. Such results have emerged following the realization of the Iranian Government's plans and related policies, in particular on land reform. In the absence of supportive programmes designed to equip the rural population and peasants with skills, knowledge and tools relevant to effective agricultural production, supervision and management, migration from the rural to the urban areas continued. Consequently, agricultural production fell below earlier levels, at

which Iran had been agriculturally self-reliant, and the number of unskilled and unemployed workers in urban areas increased significantly.

A. Basic data

Of Iran's total surface area of 628,000 square miles, 12.5 per cent or about 20,240,000 hectares is farmland and another 11 per cent is used as cropland, given the chronic shortage of rainfall in many parts of the country.^{2/} The main agricultural zones of Iran stretch from the northern region, with its fertile soil, to the Khusistan and the Fars provinces in the south.

According to the first census, conducted in 1956, nearly 70 per cent of the total Iranian population of 18.9 million lived in rural areas (see also Chapter II above). This rate decreased slightly over the years and was estimated to fall below 50 per cent in the 1980s (Table 9).

Table 9

Iranian rural population development, 1956-1987

(in .000s)

Year	1956	1966	1972	1977 (trend estimate)	1982 (trend estimate)	1987 (trend estimate)
Population						
TOTAL	18,954	25,790	31,045	35,921	41,469	47,366
RURAL	12,985	15,995	17,798	18,917	20,115	20,942
RURAL as % of TOTAL	68.52	62.2	57.33	52.66	48.51	44.21

Source: Plan and Budget Organization, Iran: Population - Past, Present and Future, Teheran, November 1973 (in Persian).

Similar figures may be seen in Table 10, which also contains the data for urban population, albeit covering different reporting years. Prior to the land reform of 1962, the rural population, according to the 1956 first census, represented almost 70 per cent of the total population and was scattered over an estimated 40,000 villages.^{3/}

Table 10

Rural-Urban Population Development, 1940-1978

POPULATION	Total (million)	Rural (million)	Percentage of total	Urban (million)	Percentage of total
<u>Year</u>					
1940	16,550	12,885	77.7	3,695	22.3
1960 ^a	22,256	14,600	65.6	7,656	34.4
1967 ^b	24,590	15,000	61.0	9,590	39.0
1973 ^c	31,000	17,700	57.3	13,300	42.7
1978	36,000	18,000	52.7	17,900	47.3

Sources: ^aPlan Organization, Government of Iran, Third Plan Frame, Agricultural Section, 1962, p. 3.

^bN. Katibi, An Analysis of Iranian Agricultural Production, 1960-1966, CENTO Conference on National and Regional Agricultural Development Policy, September 1967, p. 9.

^cPlan and Budget Organization, Fifth Development Plan, 1973, p. 29.

Prior to 1962 the rural population was composed of four distinct categories: large landlords, medium landlords, small proprietors and landless peasants. Some studies indicate that some 400-500 large landlords

(amounting to 0.75 per cent of the rural population) owned 57 per cent of all villages.^{4/} Conversely, 80 per cent of the peasant population consisted of crop-sharing peasants and landlord labourers', of which some 20 per cent to 30 per cent were in effect landless peasants offering only their labour and being subject to dismissal at will.^{5/} The average annual income of an Iranian peasant was less than \$100, whereas landowners, peddlers and brokers drew a profit from each labourer about three to four times as large.^{6/} On the average each cultivator's family earned a gross annual income of \$250, or \$50 per capita.^{7/}

The following Table 11 provides information on the total and agricultural labour force.

Table 11

Estimated active total labour force and agricultural
labour force, 1906-1990

(million persons)

Year	Estimated active labour force	Proportion of labour force in agriculture (percentage)	Agricultural labour force
1906	3,812	90	3,431
1926	4,394	85	3,735
1946	5,104	75	3,828
1956	5,910	56	3,330
1966	7,120	48	3,380
1968	7,220	47	3,410
1970	7,895	46	3,656
1980	10,034	35	3,529
1990	12,348	25	3,071

Sources: Julian Bharier, Economic Development in Iran 1900-1970, London, Oxford University Press, 1971; Statistical Centre of Iran, Statistical Yearbook 1970, Teheran: Plan and Budget Organization, 1971; FAO, Perspective Study of Agricultural Development for Iran, ESP/PS/IRH/74/6, Rome, 1974.

B. Governmental policies towards agricultural development

The national development objectives for the agricultural sector were spelled out for the first time in the Third Development Plan (1963-1968), as follows:

- (a) to increase production at a rate adequate to provide the food and the agricultural raw material necessary to achieve a 6 per cent growth rate of the GNP;
- (b) to improve the living conditions and standards of the rural population; and
- (c) to achieve a more equitable income distribution within the agricultural sector.^{8/}

Consequently, concrete policy measures were adopted in order to achieve the implementation of these objectives. Among them, the "Land Reform Act" represented the most significant action. Its effects on the structure of activities in rural areas and the related consequences for the national employment policy will subsequently be discussed.

In 1960 and prior to land reform the pattern of land ownership of the Iranian agricultural system was dominated by vertical landlord-tenant relationships (Table 12). As may be seen from this table, 65 per cent of the land was owned by large landlords, while only 15 per cent was in the hands of small proprietors (peasants). At that time the country's social and economic system was thus dominated by a traditional structure, which operated to the advantage of the landlords.

Table 12
Categories of land ownership
in Iran, 1960

Proprietor/Status	Number of Villages	Total Area (hectare)	%
State land and Crown estates	2,500	800	5
Endowed land, owned by religious institutions	7,500	2,400	13
Large private estates	32,500	10,400	65
Peasant ownership	<u>7,500</u>	<u>2,400</u>	<u>15</u>
Total	50,000	16,000	100

Source: B. Nirumand, Iran: The new Imperialism in Action, New York,
Monthly Review Press, 1969, p. 126.

The power of the landlords extended to Parliament (Majlis) and, thus, any legislation which might have infringed upon such interests was bound to fail.

The enactment of the Land Reform on 9 January 1962, however, brought about some changes. The basic objectives of this Act were aimed at:

- a destruction of feudalism;
- an improvement of general living standards;
- the development of a rural constituency replacing the exclusive influence of landlords;
- a distribution of land between peasants and farm labourers;
- an implementation of agrarian reform programmes towards growth;
- an increase in the income levels of farmers.^{9/}

As a first step the Land Reform provided for the sale of land owned by large absentee landlords to the peasants. Each landlord could only retain one village of his choice and had to sell the remaining villages to the government. This land was then resold to the peasants, allowing for payment in 15-year installments, at 10 per cent interest and administration costs. At that time an estimated 13,000 to 15,000 villages (14 to 16 per cent of all villages) mostly of inferior quality due to lack of irrigation and water, low yield or non-arable soil, were traded. Half of these villages went to previously landless peasants. The foundation for a new class of landowners appeared to have been laid,^{10/} although it appeared to be a minute accomplishment rather than a significant reform.^{a/}

In the Shah's words:

"Our aims are not to destroy small landlords, what we are doing is a means of making it possible to become small landowners. Those who become owners of land today, we hope, will become small landlords tomorrow."^{11/}

The second stage of the land reform, initiated in 1964, offered five options to the landlords. They could

- (a) rent the land to the peasants on the basis of the average net income of the past three years, for a period of 30 years, subject to five-year revisions;
- (b) sell the land to the peasants, retaining a section equal to the share of the crop formerly received by the landlord;

^{a/} Many landlords had evaded the mandatory sale of villages by transferring the title of their villages to children or relatives.

- (c) sell the land to the peasants at a mutually agreed price;
- (d) by mutual agreement set up a joint stock company with the peasants, with the landlord's share in the company to be equal to his former share of the crop;
- (e) sell his share to the government, to be resold to the peasants on terms equal to those governing the first stage.^{12/}

Interestingly enough, the Government itself had, on earlier occasions, labelled options (b) and (d) as feudal. The suggested measures were therefore not aimed at a redistribution of land and the creation of a new class of landowner, but at maintaining the status quo, modified with a participatory element. Option (e) alone did not fall behind the stipulations of the reform's first stage. Since it was not mandatory, however, it could be circumvented by choosing any of the other options.

Thus, Keddie was correct in her conclusion that the second stage appeared to be

"... a regularization of the existing situation rather than any profound reform. Particularly where leases revisable every five years are chosen, the landlord loses nothing and gains a government-enforced lease",

while under the other options (except (e)), "the peasant may lose as much as he gains."^{13/}

In 1967, at the end of the second stage, the Government claimed - without providing concrete data - that over 2.5 million families had benefited from the land reform. On the other hand, only a total of 3,202 landlords had chosen to sell their land while 232,000 landowners had opted to lease their land. In reality, however, only 10 per cent of

these families were the true beneficiaries of the reform, in gaining ownership of all or part of the land which they had previously cultivated.^{14/}

In view of the inability to bring about the desired sweeping changes in land ownership during these two phases, the third phase of the reform in the period 1967-1971 focused exclusively on the alternative of selling or dividing available land. During this phase, emphasis was laid on mechanization and on the creation of farm corporations and co-operatives, allowing a consolidation of fragmented land holdings. No data on the results of this phase have ever been released by the Government.

C. The impact of the land reform on the manpower structure

Although thousands of farmers received land in the course of the land reform programme, no data corroborating an income shift in favour of Iranian farmers have been made available. Further, land was distributed by preference to those peasants who were already tenants with "root" rights.^{a/} Most of the poor (40 to 50 per cent of the village population), however, received no land and had to continue their work as agricultural labourers. These landless villagers comprised farm labourers, workers involved in animal husbandry and those in non-farm activities. Before the land reform programme, these labourers were employed by the landowners for carrying out work on irrigation, road-building, etc.

After the implementation of the land reform, the small landowners involved a larger proportion of their own family members in rural work rather than employing landless peasants. This structural shift was

^{a/}"Root" rights (nasgh) were established by living on, cultivating, or residing on land owned by a landlord. The landlord could hire these peasants on a daily basis whenever needed, but could not evict them without buying their huts. Once root rights had been sold the tenants could no longer receive land and become agricultural labourers.

confirmed by a Labour Ministry's sample survey in 1969, which found that between 1966 and 1969 the category of "unpaid family workers" had risen from 9.9 to 16 per cent and the "wage and salary earners" had decreased from 39.6 to 27.3 per cent of the agricultural population.^{15/}

The peasants suffered from further disadvantages and open discrimination. The Rural Co-operative Law, for example, excluded this group from eligibility to apply for credit. They were further denied access to other services provided by the Government; these services were available to members of a co-operative or shareholders of large, government-run farm co-operatives.^{16/}

Consequently, owing to the lack of employment opportunities and a feeling of social injustice, many agricultural labourers and peasants migrated to the urban areas, where they began a new life as urban unskilled labourers. Khosravi found the following pattern of migration of landless labourers and related categories (Table 13):

Table 13

Social situation and land ownership in Iran, 1971

Group	Persons per family	Average number of educated persons per family	Seasonal migration %	Annual income (Rls.) ^{a/}
Landless	5.4	1.1	66	50,177
Owning less than 1 1/2 hectares	5.7	0.6	60	57,126
Owning more than 1/2 hectares	7.6	2.1	27	75,598

^{a/} \$US 1 equals 76 Rials.

Source: Khosravi, Le pays sans Terre en Iran: Le Kochnechin, Vol. XIII, 1973.

In general, three types of internal migration occurred in Iran during the early 1970s, each of which was triggered by different motivations:

- (a) from rural areas to urban areas;
- (b) from urban areas to other urban areas;
- (c) from rural areas to other rural areas.

The perceived widening gap in economic development and employment opportunities in favour of urban areas increased the drain of rural dwellers. Educational opportunities, social services and a growing penetration of status symbols compounded the attractiveness of life in urban regions in the eyes of the peasants. The structure of migration showed a large proportion of young people who had some schooling and who no longer hoped for prosperity in rural life were among the first and largest group of migrants to urban centres. This may also be explained by the fact that the school might have served as a place to inculcate urban values, thereby indirectly driving better educated youth from rural areas.

This development slowed the growth of agricultural resources and even weakened rural productivity, particularly through the loss of young and ambitious village people.

Although exact data on the number of landless farm workers have never been made available, their number was estimated in the late 1960s at 0.8 to 0.9 million, equivalent to some 20 per cent of the total agricultural labour force.^{17/}

It should also be noted that the land reform did not significantly alter the previous power relationships in the villages. On the contrary, the absence of an adequate state-administered credit system allowed a

small class of wealthy middlemen to emerge as the villages' major money lenders, replacing the absentee landlords. These people were easily able to control most of the socio-economic activities of the village. The lack of working capital available to the new peasant proprietors prevented their obtaining the necessary tools and fertilizers and ultimately resulted in a drastic decrease in agricultural production, causing a new wave of migration from the rural to urban regions.

These developments were closely related to the decreasing priority attached to the agricultural sector in the industry-oriented development planning of Iran since 1963.

The neglect of the agricultural sector is evident in the Fourth Development Plan (1968-1973), where the fact of an increasing dependence on foreign agricultural imports is acknowledged without calling for counter-measures. Table 14 indicates that only 8.2 per cent of the total planned investment during this period was earmarked for agricultural purposes, compared to 21.3 per cent during the Third Plan period. Moreover, the growth target was pegged at 5 per cent per annum, while ex post facto the actual average annual growth proved not to have exceeded 2.5 per cent.

It might also be argued that during this period much emphasis in the agricultural sector was put on the mechanization of farm operations. This policy was motivated less by the objective of increasing food production than by the expectation of raising rural purchasing power, leading to an increase in the demand for locally produced industrial goods. Agricultural policy therefore served as an instrument in the drive towards industrialization.

In reality, however, local organizations were not effective enough to provide the required level of inputs such as skilled manpower or credit

Table 14 /

Public investment in two development plan periods (1963-1973)
(millions of dollars)

Sectors	Third Plan (1962-67)			Fourth Plan (1968-73)		
	Planned	%	Actual	Planned	%	Actual
Agriculture and irrigation	653.33	21.3	630.67	886.00	8.2	
Transportation and communications	746.67	24.3	717.33	1853.30	17.2	
Industries and mines	360.00	11.7	228.00	2773.63	25.5	
Regional development	93.33	3.1	96.00	416.71	3.8	NA.
Social welfare	412.00	13.5	409.33	1105.44	10.2	
Fuel and energy	553.33	18.0	426.67	2602.13	23.9	
Manpower	48.00	1.6	37.33	24.12	0.2	
Housing	189.33	6.2	162.67	1159.06	10.7	
Others	10.67	0.3	20.00	33.50	0.3	
Total	3066.66	100.0	2728.00	10853.90	100.0	

Source: Iran Almanac and Book of Facts, 1976; Teheran: Echo of Iran, 1976, p. 311.

in order to achieve the agricultural objectives of the Fourth Plan. As a first step to alleviate these shortcomings the Government initiated programmes to expand existing educational facilities. For example the supplement to the Fourth Development Plan envisaged that 55 per cent of rural children should be enrolled in primary school by 1973. Provision was also made for reorganizing secondary schools to increase the number of technically skilled graduates (see also above, Chapter II, C).^{18/}

This provision called for the transformation of junior secondary grades into a three-year guidance stage, offering a combined vocational-academic curriculum to help divert more secondary students into agro-industrial or technical training.

At the technical level, eleven agricultural training centres were in existence throughout the country in 1975. Students with some secondary school education (9 years) were admitted for a three-year course. Available statistical data indicate that the introduction of this system proved not to be entirely successful since most students subsequently assumed positions in urban areas or with government agencies. In hindsight, the quality of instruction offered in such programmes also appeared open to question, as much of its substance or design did not prove to be practical for training middle-level agricultural administrators. It might also have been the case that middle-level agricultural administrators set too high qualifications and that such curricula would have been more appropriate if set at the end of elementary school.

A further measure to overcome the decline in agricultural production involved the creation and expansion of rural co-operatives. This policy was more vigorously pursued after the establishment of a Ministry of

Co-operation and Rural Affairs in 1970, which was assigned a wide range of responsibilities.^{19/} The Ministry's nine different departments each dealt with separate aspects of rural life, including the training of co-operative staff. In a short time instructions were prepared for the purpose of training staff in the management of co-operatives and for the purpose of building up the required technically skilled staff and a number of newly recruited personnel were sent abroad for studies.

All efforts to raise the level of managerial skills in the agricultural sector, however, did not quickly yield the desired results. In order to avoid a further decline in the sector's production, to reverse the strongly detrimental trends and to improve rural living conditions as a means of raising their attractiveness, the Government resorted to foreign technical assistance programmes during the Fourth Plan period. By 1970 some 6,000 salaried foreign experts were working in a wide range of positions, such as the mechanization of farm lands, irrigation, soil improvement, drainage and water supply systems, as well as marketing techniques.^{20/}

D. The Fifth Development Plan

The launching of the Fifth Plan (1973-1978) coincided with a tremendous increase in oil revenues and soon required a revision of the original Plan. Table 15 indicates the planned distribution of government credits during the Plan period.

Approximately 45 per cent of total credits were allocated to general and military affairs. Credits to agriculture and natural resources amounted to 364.44 billion Rials (\$US 4.86 billion), slightly below

Table 15

Distribution of government credits during the Fifth Plan (1973-1978)
(billions of Rials)

	Current credit for maintenance of operational status quo (1)	Development credits			Grand total (5) = (1 + 4)
		Fixed/ (2)	Non-fixed (3)	Total (4) = (2 + 3)	
Econ. affairs (total)	131.85	1 911.47	85.93	1 997.50	2 129.25
Agric. and natural resources	72.70	236.85	59.89	296.74	369.44
Industry and mines	13.00	414.14	6.31	420.45	433.45
Trans. and comm.	25.60	400.00	--	400.00	425.60
Oil and gas	--	384.14	--	384.00	384.00
Water resources and electricity	5.57	399.24	9.83	409.07	414.64
Others	14.98	77.24	9.90	87.14	102.12
Social affairs (total)	369.12	556.07	384.89	940.96	1 310.08
Education	216.80	128.87	205.57	334.44	551.24
Public health, medical service and nutrition	76.63	42.50	117.61	160.11	236.74
Urban development	1.40	45.00	3.60	48.60	50.00
Rural development	4.60	60.00	1.80	61.80	66.40
Housing	--	230.00	--	230.00	230.00
Others	69.69	49.70	56.31	106.01	175.70
General affairs (total)	402.90	380.56	49.86	430.42	833.32
Military affairs (total)	1 968.70	--	--	--	1 968.70
GRAND TOTAL	2 872.57	2 848.10	520.60	3 368.78	6 241.35

Source: Plan and Budget Organization of Iran, Iran's Fifth National Development Plan (1973-78, Revised),
Teheran, 1975.

6 per cent of the total credits, which again indicates the low priority accorded to this sector.

As in the earlier plan, top priority was given to the industrial sector in order to foster the GNP growth, with the oil industry as the major contributing sector. The average annual growth rate target was set at 51.5 per cent, while the planned average annual rate of growth for the agricultural sector was set at 7 per cent. Within this context, the increase of production, the better distribution of income and the improvement of rural life were specified as the major objectives for the agricultural sector. These rather crude objectives reveal that during the Fifth Plan period no substantial effort was to be devoted to a systematic development of manpower for the agricultural sector, and accordingly no new programmes were initiated in that regard.

Although the Fifth Plan assumed an annual population growth rate of 2.9 per cent and although 52.7 per cent of the population (18.1 million) were living in rural areas (see Chapter II), no specific measures were proposed to improve existing training facilities for technicians and skilled labour, particularly to take account of the needs of modern agro-industries and mechanized farms. Accordingly, Table 16 indicates that only 6.1 per cent of the projected 2 million new jobs to be created during the 5-year period of the Fifth Plan were anticipated for the agricultural sector, compared to 40 per cent for the industrial and mining sectors, and 26 per cent for the services sector.

These figures suggest that it was the policy of the Government to "push" people from the farms in order to obtain manpower for the expanding industrial and resource sectors, although the jobs in these sectors

required qualifications unlikely to be met by the uprooted rural population, which would more likely augment the ranks of the army of unemployed.

No data, however, exist which would allow an analysis of the actual development in each sector and an assessment of the degree to which the Government's objectives were fulfilled during the period in question.

Table 16

Distribution of new employment opportunities by
economic sectors - Fifth Plan

<u>Sector</u>	<u>Number of jobs to be created</u>	<u>Percentage</u>
Agriculture	129,600	6.1
Industries and mines	846,000	40.0
Oil and gas	12,500	0.6
Water and electricity	44,000	2.2
Construction	528,000	25.0
Services	<u>551,900</u>	<u>26.1</u>
Total	2,112,000	100.0

E. Conclusion

In this Chapter III, we have tried to evaluate the situation of the agricultural sector and the impact of various Governmental policies and planning on its development. It has been shown that as a result of the relatively low priority given to this sector the production performance fell substantially short of projected and desired targets. The rural sector experienced a massive loss of population as a consequence of migration to the urban centres. Some of the migrants were agricultural

labourers, landless peasants, and also small proprietors of land. Many of those were relatively young and had received some schooling, which, however, was not sufficient to qualify them as semi-skilled or even skilled workers. Others had little to lose but a feudal dependence on landlords. The educational infrastructure of the country was, as has been shown in Chapter II above, biased against the rural areas and schooling opportunities were scarce and generally of lower quality than in areas of higher agglomeration.

This vicious circle came to a close when the migrants joined the labour market in urban areas, already characterized by surplus unqualified labour. The likelihood that this migrant rural labour would find jobs in the cities was not only reduced by their inadequate or virtually absent education and their lack of technical knowledge, but also by their traditional social attitudes and habits as well as firmly held religious beliefs.

What could the Government have done to avoid such an escalation?

First, a systematic programme to reduce illiteracy and firmly to establish a large number of primary and secondary schools, with the latter's special focus on agricultural and related administrative skills could have been devised.

Second, the Government could have provided a range of technical training programmes to improve the productive capacity of the agricultural labour force.

Third, the provision of special assistance (e.g., fertilizers, seed) and adequate credit facilities, particularly for small proprietors, could have enabled them to achieve results well above subsistence level and thereby induced them to stay.

Fourth, programmes could have been launched to improve educational facilities, health and social services and to provide nutritional programmes as many rural dwellers were living on an inadequate diet. This could have helped to raise the level of attractiveness of rural areas.

Fifth, Government programmes such as certain input subsidies and minimum price support programmes, which in theory were relatively very sophisticated and somewhat generous, suffered not only from an insufficient data base but also from a lack of skilled administrators. The resultant poor food import planning caused seasonal shortages of some products.

Sixth, a more careful selection could have been made of rural (technical) advisers to teach skills to the population of a country in the early period of the industrialization and mechanization process, rather than introducing sophisticated farming machinery.

Seventh, active encouragement to establish labour-intensive joint ventures of private and foreign agricultural corporations might have saved a number of jobs; instead the Government policy supported agro-business corporations operating with highly mechanized and efficient methods.

Eighth, little attention was given to the employment and income-generating potential of the rural non-farm sector, encompassing a range of activities from manufacturing, processing, services, infrastructure, building and trades. Systematic Government training programmes could have been offered to peasants and labourers to facilitate their absorption by this rural non-farming sector and, thus, to prevent their turning to the cities.

It is therefore contended that the poor performance of the agricultural

sector in Iran in the 1970s was to a significant degree due to the virtual absence of appropriate human resource development, with the exception of a few scattered projects. Action in the indicated areas would have represented a positive step in such a human resource development effort, aimed at an improvement in the skill base of rural manpower and at the upgrading of local living conditions.

A better co-ordination of national human resources, in particular manpower, with over-all economic planning might have been able to alleviate many problems of the agricultural sector, ^{and} for other sectors as well, where unemployed, migrant rural labour might represent a heavy burden.

On the other hand, it has to be recognized that without reliable data it was not easy to determine where and how to expand employment opportunities in the desired manner. Evidently, detailed surveys would have had to precede any policy formulation in order to provide precise measurement indicators. Employment in rural areas is, however, not amenable to such endeavours, partly because a person's employment status is not always easily established given the fact that many people might engage in several activities at the same time and the fact of a high frequency of part-time or seasonal work.

Notes - Chapter III

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CHAPTER IV
THE DEVELOPMENT OF THE INDUSTRIAL SECTOR IN IRAN
AND ITS MANPOWER IMPLICATIONS

A. Introduction

Almost every development plan of developing countries stresses the importance of industrialization as a "force of dynamism and as the engine of modernization". Industrial development is sought in order to initiate technological advances in the economy, to raise the productivity of labour, to expand output in all sectors and to lay the basis for a continuing economic growth. In other words, a drive towards industrialization reflects an intense desire to transform an existing economy so that by virtue of an accelerated tempo of modern activities standards of living can be raised and poverty and unemployment alleviated.

One aspect associated with industrialization programmes was that they were considered as a tool for a national income policy. As industrialization programmes usually provide higher income employment than non-industrial activities, they were expected to induce self-sustaining growth and to stimulate linkages with other sectors of the economy, which in turn would need products of the domestic industrial sector or provide inputs for or other support services in connexion with ongoing industrialization projects.

Industrialization has many facets and implications. For example, in countries where foreign exchange earnings from traditional exports have tended to stagnate, efforts to increase the production of new

manufactured and semi-manufactured goods for export purposes have been stressed in connexion with industrialization programmes. Moreover, as the scope for absorbing considerable increases in the labour force and industries was perceived to be small in traditional activities, it was anticipated that the bulk of new employment opportunities could be found in new industries.

Although many developing countries managed to achieve a respectable annual increase in their industrial output during the 1960s and 1970s and were able to promote manufactured exports, still industrial employment - although expanding at moderate rates - did not have a significant relief effect on the prevailing unemployment situation. The rise in total employment figures was not even able to offset the growth in population.

One of the main underlying reasons for this disappointing result was attributed to the choice of technology for the industrialization process. As higher capital investment tends to produce a larger volume of industrial output, the growth rate of which was perceived to express the success of the development events per se, the introduction and use of capital-intensive technology was generally favoured over the use of labour-intensive technologies. Such an industrialization strategy allowed the absorption of only a small part of the increase in the labour force of developing countries and the rest of the growing labour force augmented the pool of unemployed and contributed to a rapid expansion of slums in urban areas.

Furthermore, the impact of a capital-intensive industrialization strategy poses a significant demand on the manpower potential of a developing country, which usually cannot be met. The introduction of

production techniques developed to suit the need of industrialized nations gives rise equally to a large demand for highly qualified and highly skilled labour, which in many instances was either virtually non-existent or not available in the necessary quantity. Consequently, many developing countries had to rely on a large amount of foreign manpower.

The pursuit of a predominantly capital-oriented industrialization strategy was further facilitated by a systematic bias in the form of tariff policies, fiscal policies providing for generous exemptions and manipulated currency exchange rates. Such direct and indirect subsidies supported a capital-intensive orientation of the industrialization process and was further matched by complementary policies of industrialized countries encouraging and facilitating direct investment of their private corporations in developing countries.

Such a policy has, at times, particularly encouraged the installation of an unnecessarily large capacity or of a type of industrial complex which a developing country is usually unable to run by itself. In that connexion developing countries then become vulnerable shortages of, for example, imported machines and spare parts, which eventually causes an under-utilization of expensive equipment and a slow-down in the industrialization process.

The introduction of sophisticated capital equipment and machinery also posed managerial and organizational problems. Many of the investment projects could only operate efficiently and produce competitively-priced goods if they were utilized 24 hours a day, thus requiring shift work. Such an organization of work operations would furthermore have a positive

impact, given the abundance of labour in developing countries, as the operation of factories on a multiple-shift basis would create additional employment opportunities apart from an increase in industrial output and an economic use of available machinery and equipment. The absence of a sufficient number of suitably trained managers, however, prevented the systematic application of such multiple-shift operations in many developing countries.

In view of the described difficulties involved in the capital-intensive strategy, it may therefore be appropriate to consider the merits of a more labour-intensive type of industrialization for developing countries. Reliance on such technologies, however, gives rise to different complexities. Many labour-intensive goods traditionally produced by developing countries, such as textiles and shoes, are encountering growing resistance in the form of trade barriers and protectionist measures by potential countries of import. The parallel production of similar goods by many labour-rich countries might also lead to an over-production of certain goods in the world market, thus reducing the level of potential revenues.

It is therefore of the utmost importance to plan carefully the production of such industrial products which might be competitive and result from a reasonably efficient production process. In addition, it would be quite conceivable that appropriate protective and encouraging domestic and export policies could be adopted to foster labour-intensive programmes.

It may thus be concluded that there is a need for developing countries to define appropriate technologies tailored to their particular

development goals. These technologies should be both efficient and able substantially to increase employment.^{1/}

Another conceivable approach might be a deliberate linkage of large-scale capital-intensive industries, through sub-contracting and other means, with smaller units of production, to stimulate their expansion and thus the creation of related jobs. Even if a product itself is not of a labour-intensive type, its packaging and distribution for sale, for example, could very well follow labour-intensive methods, the potential of which should be fully exploited.

Finally, consideration should be given to the employment aspects of industrialization programmes. It has been mentioned that rapid industrialization might not bring about as many employment opportunities as anticipated. While it is true that manpower requirements to support the industrial process have been staggering, including the demand for other related activities such as transport, trade and raw materials, only a small portion of the labour force of a developing country is likely to benefit from it. This is due to the observed relatively small impact of industrialization on employment and to the prevalence of jobs requiring special skills which are not easily available in developing countries.

To change this dim situation, developing countries inevitably require the formulation and implementation of specific educational and employment policies, lest the manpower to sustain the industrial process has to come from foreign countries for a long time.

Iran provides a good example of a country which, having chosen a policy of capital-intensive industrialization, soon reached the limits

of its domestic expansion potential in the absence of a better utilization of the existing manpower reserves and insufficient efforts to enhance the skill structure of the labour force. As a consequence the country had to rely in its industrialization efforts almost exclusively on foreign manpower to implement its ambitious programmes. The only viable alternative would have been a delay in projects or even an indefinite postponement until such a time when the supply of skilled labour could, to a reasonable extent, have sustained the national industrialization process. The stages of Iranian industrialization, their goals, their achievements and failures, will therefore be reviewed in the following, taking account of the considerations outlined in this introductory part.

B. Iranian industrial development prior to
the Fifth Development Plan

Before World War II, Iran's industrial base was rather limited and was dominated, with the exception of the oil companies and a few textile mills, by State-run enterprises. Their main areas of activity covered three sectors almost exclusively: textiles, sugar and cement. When the studies for the first Plan began in 1946, the Government owned and operated 34 industrial and mining establishments and 39 tea factories and rice mills.

During the Second Plan period (1955-1962), efforts were made to reorganize, rationalize and modernize the equipment in the existing industries. This period was also characterized by an unexpected emergence and strengthening of the private sector. This boom in the private sector was facilitated, or even induced, by an extremely liberal policy vis-à-vis industrial credit, by the relatively high level of infrastructure

investment as well as by the availability of foreign exchange.

By the end of the period in September 1962 industrial production accounted for approximately 13 to 14 per cent of total domestic production, while the oil industry contributed 12 per cent. The Third Plan (1963-1968) put a stronger accent on the support of smaller projects and appeared to be rather successful. This period was characterized by the interpretation of the private sector as an essential element in the country's development efforts and by the increasing share of oil revenues allocated by the Government for that purpose.

During the decade 1965-1975, the industrial sector registered an average annual growth rate of 15.2 per cent, well ahead of the 9.4 per cent target set in the Fourth Development Plan (1968-1973). The industrial sector then accounted for 13 per cent of GNP, generated by an industry greatly differing in the size and productivity of its single components. For example, 3 per cent of the manufacturing companies employed 33 per cent of all industrial workers and produced 66 per cent of the national industrial output. Employment in industry and mining combined amounted to 1.4 million at the beginning of the Fourth Plan period and 1.9 million at its end in 1973.^{2/} Although rapid growth rates could usually be achieved only by Government deficit spending and increasing rates of inflation, this did not occur then in Iran. The sudden increase in oil revenues, at an annual rate of about 22 per cent, providing 75 per cent of the country's total foreign exchange earnings in 1971/72, allowed the balancing of an otherwise deficit budget in 1972, in the amount of 55 billion Rials.

With the growing income from oil and gas and the dominant role played by the petroleum sector in the development of the Iranian economy, the Government did not, however, ignore the finiteness of these resources. Consequently, the objective of diversifying the economic structure, in order to establish a firm industrial base to support Iran's development, received special emphasis in the Fifth Plan.

Against this background, in 1972/1973 automobile assembly plants, commercial vehicle manufacturers, tire manufacturers, petrochemical industry, pharmaceutical, chemical, electrical and electronic industries, which were mostly financed by foreign, private capital investment, started their operations in Iran. At the same time the Iranian domestic demand for clothing, foodstuffs, Western consumer goods, automobiles, tires and automotive parts began to rise.^{3/}

Owing to a heavy demand for light steel products, the Iranian Rolling Mills were set up in Ahvaz (south-west Iran) in 1970. This first steel mill in the country was followed by the launching of a \$226 million investment for an integrated steel mill near Isfahan. To accommodate all the workers involved in that huge project, a separate town for an estimated 50,000 employees and their families was even set up, with an ultimate potential of housing up to 200,000 people, making allowance for later stages of the construction of this complex and the possible emergence of other industries.

From its very inception, however, the mill suffered from a serious shortage of trained and skilled workers. To produce a labour force with the prerequisite skills, a technical and metallurgical school therefore offered vocational training programmes, long before the plant's completion.

The mill became operational in 1971/1972 and specialized in ingot steel production. After an initial potential output of approximately 750,000 tons per year, it reached a level of output of 1.9 million tons in 1975/1975.^{4/}

C. Objectives for Iranian industrial development under the Fifth Development Plan

Buoyed by the rapid growth of revenues generated by its vast oil and gas production and sales, Iran's planning authorities decided in early 1970 to pursue the establishment of a strong industrial sector. It was envisaged that Iran should rely in future not only on exports of agricultural products, oil and other natural resources, but also on those of industrial products and manufactured goods. Although this policy change was already prepared in the course of the development plans preceding the 1970s, it was only in the Fifth Development Plan that top priority was explicitly attached to industrial development. The first two Plans (1949 to 1956 and 1956 to 1963) had laid their main emphasis on the development of infrastructure, particularly for transport and irrigation and largely ignored educational planning. The Third (1962 to 1968) and Fourth (1968 to 1973) Development Plans prescribed strategies to achieve a substantial increase in the Government's share of industrial and mining operations. The Fifth Plan, launched in March 1973, then postulated for the first time in unequivocal terms industrial development as a primary objective:

"The industrial development is of major and particular importance in the advancement of the Iranian economy, since it provides protection and incentives for the progress of other sectors and

plays an important role as a factor in raising the national income and opportunities for productive employment."^{5/}

The specific and detailed quantitative and qualitative objectives derived from this over-all objective were defined in the Plan as follows:^{6/}

1. Qualitative objectives

(a) to complete, equip and expand existing industrial units and to encourage mergers of similar units in order to allow an optimum utilization of the country's industrial capacity, thereby effecting economies of scale, reducing production costs and improving the quality of goods;

(b) to establish new industries linked to existing industries and available resources, which could produce capital and intermediate goods, thereby reducing future dependence on imported goods;

(c) to expand export markets in order to reach the goals established for the "export decade", aiming at an improved quality of industrial goods, price stability and increased foreign exchange earnings;

(d) to utilize labour-intensive technology in the large-scale and heavy industries which are expected to be established during the Plan period, thereby restricting the introduction and import of expensive capital intensive technology;

(e) to establish satellite, subsidiary and complementary industries, in the form of small-scale industries which are supplied by, and in turn themselves supply, large-scale industries, so as to strengthen the country's industrial base;

(f) to place greater emphasis on industries linked to agriculture so as to quicken the pace of agricultural development and hence to raise

per capita income levels in rural areas, to help overcome shortages of food and livestock consumer products and to generate permanent and temporary employment in rural areas and on the outskirts of urban areas;

(g) to encourage and protect foreign investment in order to attract advanced technology, to gain access to new export markets for Iranian industrial goods and to mobilize additional financial resources;

(h) to emphasize and to encourage industrial research at higher educational levels and in productive units in order to allow the operation of advanced industrial technology by Iranian nationals;

(i) to broaden the base of industrial ownership by transferring shares in industrial units to workers, staff employees and the general public so as to achieve a more equitable distribution of the fruits of industrial progress;

(j) to train industrial managers at various levels;

(k) to promote the gradual sale of public sector industrial units to private interests;

(l) to provide credit facilities and infrastructural assistance to remote regions of the country that are suitable for development outside existing industrial development poles.

2. Quantitative objectives:

(a) The value of industrial production shall increase from 509 billion Rials in 1973 (the last year of the Fourth Plan) to 972 billion Rials in 1978, requiring an average annual growth rate of 14 per cent, while the value added will increase in the same period from an estimated 163.7 billion Rials to 330 billion Rials.

The achievement of this objective necessitates an average annual

growth rate of 15 per cent (at 1973 prices), implying an increase in the contribution of the industrial sector to the gross domestic product from 13.4 per cent (1973 estimate) to 16 per cent in 1978, the end of the Fifth Plan period.

(b) Total industrial employment, which amounted to 1.75 million in 1973, shall increase at an average annual rate of 7 per cent to about 2.5 million in 1978. Thus, 735,000 productive jobs will have to be created. Industrial employment shall therefore reach 25 per cent of total employment in 1978 as compared to 20.7 per cent in 1973.

These very ambitious goals seemed to be attainable with the influx of oil revenues. Moreover, they would enable Iran to repay a large part of the nation's outstanding earlier loans prior to their maturity.

As outlined above, the revised Fifth Plan (1973-1975) envisaged that the value of industrial output would rise from 500 billion Rials to 972 billion Rials in 1978 and that industrial manpower would rise from 1.75 million to 2.5 million in the same period.

Circumstances in Iran, however, changed fast, much faster than anyone could forecast, accompanied by an emerging economic crisis. In January 1975 the Government was forced to introduce major economic stabilization programmes and to impose tight budget controls over the expenditures of all major ministries, as the country's balance-of-payments deficit had suddenly grown to more than \$3 billion. Thus, it also became necessary - despite the large oil revenues - to borrow funds for the financing of individual industrialization projects in international capital markets. This move was considered inevitable, following a fall-off in international demand for petroleum products between the summers of 1975 and 1976.

The economic development process itself ran into bottlenecks as a consequence of manpower shortages, port congestion and a shortage of essential parts and products, such as spare parts, building and construction material. Iran also experienced a high level of inflation. All these problems combined came to a critical point when the oil revenues fell short of their projected levels. The planned doubling of expenditures stipulated in the Fifth Plan thus turned out to be unattainable.

Despite the contraction in oil income a substantial amount of the oil revenues continued to be allocated for the purchase of modernized, expensive and sophisticated military equipment, mostly from Western countries, establishing Iranian dependence on future supplies and expertise for the weapon systems purchased from these countries. It might therefore be contended that the efforts to industrialize the economy were sacrificed for the military posture of the country, suggesting serious doubts about the sincerity of the proclaimed goals of national economic development. During 1973-1978 the Government spent almost \$28 billion for defence hardware. Between 1973 and 1977, defence outlays absorbed an average of 27 to 29 per cent of the total governmental budget. Most of the Iranian military deals were arranged on the basis of cash payments or oil-for-arms barter schemes. Iran's efforts to reduce its dependence on foreign countries in that sector and to develop its own arms industry remained in the infant stages as by the late 1970s Iran was only able to manufacture pistols and machine guns.

The massive military build-up of the 1970s contributed little to enhancing or generating indigenous productive potential; rather, it perpetuated the pattern of Iran's dependency on foreign products and

goods. With the militarization of the country's development a large portion of the most educated and highly skilled labour available in Iran came to be employed by the military. This drain of scarce highly qualified manpower to non-productive activities was bound to affect negatively the availability of required skilled manpower for potentially more productive sectors relevant for the development of the country's economy.

D. The impact of manpower shortages on the course of industrial development

In general, Iran experienced serious difficulties in providing a sufficient number of workers with certain desired skills to sustain the industrialization programmes. The Fifth Plan had, for example, projected a need for 40,000 new skilled workers per year for the purposes of the manufacturing industry alone. Iran's educational system in 1976, on the other hand, could provide annually only a total of less than 10,000 skilled and semi-skilled workers for the entire economy. The qualifications of that labour, moreover, only partly matched the various skill requirements. The lack of skilled workers and the resultant employment of unskilled workers frequently impeded the operation, repair and maintenance of expensive, imported equipment which was mostly essential for the operation of a plant.

Table 17 indicates ^{the} manpower deficit in 1978 for various manpower categories, required for the industrialization projects, as projected in the Fifth Plan.

Iran's development confirmed the above observation (Chapter IV, Introduction) that industrialization programmes have labour-absorbing effects, albeit to a limited extent. Official Government statistics

Table 17
Manpower deficit by 1978

	Estimated man- power require- ments	Estimated avail- able manpower	Estimated shortage of manpower
Chemical and mining engineers, metallurgists, etc.	2,000	1,000	1,000
Other engineers	14,200	8,300	5,900
Doctors, surgeons, dentists, etc.	8,500	7,200	1,300
Other medical workers	35,600	14,300	21,300
Educational personnel	287,400	230,000	57,400
Senior personnel	22,500	21,000	1,500
Technicians	116,600	75,000	41,600
Other technical personnel	185,000	185,000	-
Administrative, clerical and sales staff	23,000	15,000	8,000
Miners, drillers, etc.	23,000	15,000	8,000
Transport workers	41,000	41,000	-
Skilled and semi-skilled manufacturing workers	520,000	230,000	290,000
Skilled construction workers	290,000	20,000	270,000
Unskilled workers	538,000	528,000	10,000
TOTAL	2,122,000	1,390,800	721,200

Source: Bank Markazi, Statistical Centre, Teheran.

indicated a total of 178,000 industrial workers for 1976/1977 (see Table 18), representing a growth of only 4 per cent over the 1972/1973 total. This table identifies the largest share of employees in textile spinning and weaving, although the relative importance of this sector for employment declined from 47 per cent in 1972/1973 to 30 per cent in 1977/1978. This development might point to a drain of skilled workers from textile jobs to better paid industrial jobs, e.g., in the automobile, electrical equipment or appliance industries, which register a net gain in their employment figures in the statistics. These figures underline the earlier statement that an economy in the process of industrialization might undergo structural changes mainly caused by productivity developments as a consequence of the chosen type of technology (here a shift from the relatively labour-intensive, low efficiency textile industry to the relatively capital-intensive, higher efficiency mechanized sectors).

The official Government response to the acute shortage of skilled labour consisted in the massive recruitment of foreign specialists and skilled labour, intended only as an interim, short-term measure. In 1976 official data, provided by the Bank Markazi, indicated that some 27,000 foreigners were working in Iran. By the end of the Fifth Plan period (March 1978) 70,000 workers from Western countries (out of which 50,000 were working in Teheran alone) were employed in Iran. In addition, workers from India, Pakistan and Afghanistan, mostly engaged in the construction sector and in small factories, amounted to some 120,000.

While the policy of recruiting foreign expatriates sought to overcome existing shortages of skilled labour, the Government also developed programmes at the national level to overcome the existing

Table 18

Number of workers in selected industries

Industry	1972/73	1973/74	1974/75	1975/76	1976/77	% of total		% increase 1972/73 to 1976/77
						1972/73	1976/77	
Dairy products	1,331	1,428	1,581	1,898	2,205	1.0	1.2	66
Vegetable shortening	4,492	4,818	5,230	5,520	5,993	3.3	3.4	33
Alcoholic beverages	1,639	1,824	1,935	1,912	1,858	1.2	1.1	13
Nonalcoholic beverages	2,590	2,854	3,142	3,929	5,137	1.9	2.9	98
Tobacco	7,191	7,142	7,652	8,137	9,024	5.2	5.1	25
Spinning and weaving	64,804	67,970	70,277	70,471	68,413	47.0	38.5	6
Leather	1,739	1,655	1,611	1,574	1,611	1.3	0.9	-7
Machine-made shoes	6,332	7,426	6,983	7,664	8,062	4.6	4.5	27
Petrochemicals	3,248	3,676	3,843	4,127	4,318	2.3	2.4	33
Paints	993	1,020	1,114	1,282	1,479	0.7	0.8	49
Pharmaceuticals	2,239	2,572	2,768	2,884	3,170	1.6	1.8	42
Cosmetics and soap	2,162	2,367	2,912	3,176	3,449	1.6	1.9	60
Automobile tires	1,635	1,754	1,943	2,076	3,001	1.2	1.7	84
Glass rock	1,505f	1,854	2,023	1,823	1,597	1.1	0.9	6
Cement	4,615	4,758	6,115	6,394	7,227	3.3	4.1	57
Basic metals	4,901	5,738	6,256	6,380	6,616	3.5	3.7	35
Electrical and non-electrical appliances	9,270	10,655	11,776	13,069	13,585	6.7	7.6	47
Radio, TV and telephone	4,633	5,124	6,245	6,576	6,294	3.4	3.5	36
Electrical equipment	2,519	2,988	3,306	3,879	4,532	1.8	2.6	80
Automobiles	10,117	12,188	14,307	18,228	20,270	7.3	11.4	100
Total selected industries	137,995	149,811	161,015	170,999	177,841	100.0	100.0	29

Source: Bank Markazi, Iran

deficiencies. The activities initiated included crash programmes in vocational training and technical education, the mandatory establishment of on-the-job and in-service training schemes for Iranian workers by foreign companies operating in Iran, the offer of incentives to expatriate Iranian engineers, experts and technicians who had studied in Western countries and had found employment abroad. Thus, it was speculated that persons trained within Western companies might return to Iran and be able to supervise domestic projects. Once the start-up phase of production was reached, these Western-trained Iranians should then agree to accept permanent contracts at the relatively high level of supervisory or managerial jobs. To encourage and to facilitate the return of Iranians, the Government waived the normal two-year military service requirement for all graduates who agreed to serve the same period in industrial jobs. Instead, they were only expected to complete a brief basic military training period.

The effect of this programme to attract qualified Iranians to return home was, however, negligible. Many students abroad were unwilling to return to Iran out of fear of prosecution, as known political dissidents, or they were not prepared actively to support the political and bureaucratic system existing in Iran.

The quantitative objectives of the crash programmes to train semi-skilled and skilled labour for immediate industrial needs could, to some extent, be realized. The Ministry of Labour and Social Affairs announced on 22 November 1977 that by the end of the Sixth Plan period (presumably 1983) 200,000 workers were expected to have completed skill-improvement or refresher courses.^{8/} These figures, representing more

political targets than actual achievements, were not meaningful, however, in measuring the success already achieved.

In 1977 the Ministry of Labour and Social Affairs had also established 38 permanent training centres in the vicinity of factories and was operating 10 mobile training centres. These centres had a total output of nearly 10,000 foremen and low-grade technicians per year. In 1978, as a further step in its crash training programme activities, the Government, with the help of the United States Department of Labour and the International Labour Office, launched a \$280 million programme, designed to set up 150 mobile training units capable of training 30,000 workers per year, as well as 10 specialized vocational centres capable of training an additional 10,000 workers per year. The United States Government agreed, moreover, to arrange on-the-job training in the United States for some 2,000 Iranian technicians, and the ILO Vocational Training Institute in Turin offered specialized training courses for a three-year period.^{9/}

Contrary to those programmes for semi-skilled workers and technicians, very few training programmes existed in Iran itself to provide training for managerial posts. One of the few institutions in that field, the Industrial Management Institute in Teheran, provided 11-month training schemes for managers sponsored by their Institute. Experience showed, however, that many graduates of this Institute tended to pursue careers with international rather than Iranian companies, as they tried to evade the problem of succumbing to the static, highly centralized management and hierarchical structures of Iranian companies (see Chapter V below).

Regional management centres established by the Iranian Government

in the 1970s were mainly intended for lower- and middle-management training. One might be led to conclude that the Government apparently considered the development of highly technical expertise and training in managerial skills as too time-consuming, resigned to the fact that it might take years, if not generations to produce tangible results. Consequently, the managerial direction of the country's economic development programmes was entrusted mainly to foreign experts and advisers.

In adopting such a selective, almost passive employment policy for higher and top echelons, the Iranian Government, however, tended to neglect the relevance of the following important factors:

(a) the social impact of importing large numbers of foreign workers from various countries having different social attitudes and values;

(b) the need for adequate organizational arrangements to integrate foreign and domestic labour on such a large scale; and

(c) the need to pursue concurrently and actively a well-defined national manpower policy geared to train Iranians in order to replace the foreign workers after a period of time.

To provide for a self-sustaining manpower base in the country, capable of pursuing the implementation of the development plans, the Government ought to have systematically identified priority sectors and job categories, where the employment of foreign workers was indispensable for a certain time, until specific training for Iranians, to be organized at the same time, yielded results.

E. Conclusion

The year 1974 marked for Iran the beginning of the "petroleum era" for which the Shah had set the objective of reaching, within 20 years, the stage of a highly industrialized country with all its constituent elements. Accordingly, the Government launched an ambitious industrial development policy which put much emphasis on the introduction and application of highly advanced and capital-intensive technology, and attempted thereby to lessen Iran's dependency on one natural resource alone, oil, and to broaden its future economic base. In that quest, the development of smaller scale and more labour-intensive industrial activity received little attention and governmental assistance.

The failure to devise and implement an industrialization strategy which integrated modern industries, rural industries and co-operatives as well as small-scale industries in a modern, structurally and regionally diversified economy proved to be a crucial shortcoming. The absence of such a strategy and of a true master development plan led to a situation where the most dynamic and favoured sectors and regions created such heavy demands on the material and intellectual resources of the country that a deteriorating effect on the development potential of other activities and sectors, and the rest of the country's territory, was practically unavoidable.

The dilemma and deficiencies of Iran's industrialization efforts were reviewed in detail by a 1975 visiting mission organized by the United Nations Industrial Development Organization (UNIDO) in conjunction with the United Nations Development Programme (UNDP). In its report the mission concluded that "the current industrial policy consisted simply of a set

of ad hoc decisions concerned with a wide variety of issues, possibilities and constraints. The large-scale natural resources processing plants were being developed as individual projects, each with its own locational logic and its own individual development or captive infrastructure and service facilities. Rapid industrialization was the only objective of the Iranian Government without further consideration of the quantitative and qualitative aspects of advancement, such as the selection of suitable industries attaining maximum efficiency along with compatibility of products in the market."^{10/}

The report also referred to the inefficiency of the Government machinery itself and considered the Iranian Government bureaucracy not only over-staffed, but also suffering from a chronic shortage of trained and experienced specialists (see also Chapter V below). The report then suggested a number of measures for any future economic planning to be undertaken by the Government of Iran, which can be summarized as follows:

A successful programming of skills for Iranian labour needs to be planned on the basis of the pattern of industrialization envisaged for the next 15 years. This pattern comprises information about the structure of industries, the desired levels of output, the choice of technology and desired labour productivity levels. Then, five groups of critical importance for the development of skill formation programmes:

- (a) skill formation for selected sub-sectors of the industry, necessitating a classification of the required skills into broader categories and the provision of training and educational facilities for each category;
- (b) consolidated skill requirements for the industrial sector by estimating the intersectoral categories of skill requirements and a subsequent aggregation;
- (c) consolidated educational and training programmes for each identified category and provision of training for Iranian nationals at home or abroad in connexion with on-the-job training.

This programme shall cover facilities for apprenticeships, vocational training facilities for, at least, primary and secondary education, and tertiary educational facilities for the training of engineers, technologists and scientists, who are required for the planning and construction of projects and the operation of projects, and infrastructure services.

These shortcomings contributing to the failure of the industrialization policy shall be illustrated by a number of singular developments. In the period 1974-1977 Iran's economy grew at remarkably high rates. While economic growth might be used as an indicator to reflect a successful industrialization programme, this was hardly the case with Iran: an increase in oil production and the introduction of highly sophisticated technology in some sectors were the main sustaining factors of Iran's economic growth. Conversely, the achievements of other sectors tended to become negligible. The number of employees in the petroleum industry more or less stabilized at a level of 27,000 as of the mid-1970s, while oil production rose tremendously.

The introduction of capital-intensive technologies limited the active labour force, even substituting ^{for} a sizeable amount of labour previously needed in that industry. An intensification of the introduction of capital-intensive technologies in various branches of the industry might therefore almost be viewed as a perversion - given a huge labour force on the one hand and a shortage of qualified manpower on the other hand.

Moreover, the introduction of complex technologies in the oil industry required the availability of an increasing number of highly skilled workers for their operation and management. Foreign experts and advisers represented the only capable and qualified personnel. A detailed breakdown and analysis of the employee structure in the petroleum

industry might thus reveal a shrinking proportion of Iranian workers in the employee structure of this most important industrial activity. The effects of most of the ambitious and expensive industrialization projects on the domestic employment situation remained minimal, compounded by the fact that the equipment was almost exclusively contracted abroad and installed by foreign companies, in addition to being run by foreigners.

An alternative to ^{the} ^{of} support large-scale investment programmes utilizing capital-intensive technologies might have been the promotion of the previously well-developed manufacturing sector. It comprised not only companies engaged in the production of traditional handicrafts, but also those providing mass consumption goods such as textiles, knitted goods, shoes, furniture and metal products. The production of spare parts for some larger-scale industries had also played a role in the initial stages of industrial development.

Iran's indigenous manufacturing industry with its diversity of products, skills, techniques and processes, was able to react flexibly and to adapt quickly to market changes. Hence, it carried a substantial potential to sustain industrial expansion and to provide additional jobs with limited skill requirements.

The negligence, however, with which such small-scale industries were treated by Government planners, who favoured capital-intensive development, was directly responsible for the continuous decline and contraction of small business activity as well as its decreasing share of GNP towards the end of the Fifth Development Plan period.

For example, until 1974 the carpet industry had been the second most important generator of export revenues after the oil industry. By

1978 carpet production had, however, reached its lowest level in a decade, caused partly by the migration of skilled carpet workers to industrialized areas where they expected to find better paid jobs, even as non-skilled workers. Statistics for 1978 show that the activity of the carpet industry declined by 13 per cent, in terms of both value and volume, compared to 1977. As carpet weaving, with its painstaking and time-consuming work, requires specially skilled workers, their scarcity and the increasing wage demands by the remaining labour forced many workshops to stop their production. Instead, leading carpet workshops in Kerman and Kashan gradually turned to other activities or even relocated their carpet production in India.^{11/}

Carpets were not the only non-oil export item which experienced such difficulties. Exporters of cotton, the next most important export, suffered a reduction of 45 per cent in volume and almost 50 per cent in value in 1978. Stiffer competition in world markets, the aggressiveness of other exporting countries, such as South Korea, in the domestic market and the lower quality and higher prices of Iranian cotton precipitated the downfall of this industry. A similar observation is valid for the textile industry. The relative position of these traditional industries further declined over time as they were not offered access to credit facilities on liberal terms, which would have permitted modest modernization programmes, possibly enabling them to improve their competitive position, at least in the domestic market, vis-à-vis foreign importers.

The Iranian economic and trade policies did not attempt to introduce specific measures to prevent this decline of important domestic small-scale industries. Instead of utilizing the dynamism of this sector

for the absorption of unemployed labour, the Government turned its back on it, causing ultimately a further increase in the level of unemployment.

Iran's industrialization policy ended up in a dilemma, since its high industry, capital-intensive orientation did not allow the creation of enough jobs to absorb the country's available labour force, and since those jobs that were created required skills generally not available in Iran, thereby perpetuating Iran's dependency on foreign expertise.

One option by which this dilemma could have been resolved would have been the establishment of effective training schemes geared toward the needs of Iran's industry. Effective crash programmes could have produced a sufficient number of skilled workers, foremen and low-grade technicians, within a relatively short time, while deficiencies in higher categories could have been offset only after a longer educational process. The programmes initially offered were, however, found to suffer from a lack of qualified instructors and from the absence of effective curricula.

Iran attempted solutions but the efforts quickly disintegrated. The training of engineers and technicians abroad was only palliative and constituted a potential source of brain drain, when Iranian nationals were not willing, after completion of their studies, to return home. It can only be summarized that Iran's attempt to close the gap in qualified manpower resources for industrial development failed. The failure in human resource development prejudged the failure of the objectives of the economic development in this sector. The preoccupation of Iranian industrialization efforts with capital-intensity proved to be a built-in obstacle to the significant amelioration of the employment situation. An industrialization policy which would have supported and actively promoted both capital and labour intensive technological development might, in retrospect, have had a more positive impact.

Notes - Chapter IV

^{1/} See Luis de Sebastian, "Appropriate Technology in Developing Countries: Some Political and Economic Considerations", in Jairam Ramesh/ Charles Weiss, Jr., eds., Mobilizing Technology for World Development, New York, 1979. . .

^{2/} Plan Organization, Annual Report, Industry and Mineral Development, Bank of Iran, 20 March 1973.

^{3/} Jane Perry Clark Carey/Andrew G. Casey, "Industrial and Development Planning in Iran", ¹⁷The Middle East Journal, Winter 1975, p. 2

^{4/} Bank Markazi, Annual Report, 1975, p. 25.

^{5/} Iran's Fifth Development Plan 1973-1978, Revised - A Summary; Plan Organization, May 1975, p. 301.

^{6/} Ibid., pp. 31-32. This portion consists largely of quotations, although in a somewhat simplified presentation.

^{7/} Amir Saikal, The Rise and Fall of the Shah, Princeton, at the University Press, 1980, pp. 154-161.

^{8/} Embassy of Iran, Washington, D.C., Protocol of Iran, April 1976, p. 22.

^{9/} UNIDO, Report of a Joint UNDP/UNIDO Industrial Sector Review Mission (TCD 278/Rev.1), 8 May 1978.

^{10/} UNIDO report on Long-Range Industrial Planning - Iran (by P. Borel) (TCD/457), 13 June 1975.

^{11/} R. Wilson, "Industry feels the squeeze from high-wage labour", in MEED, 30 June 1979.

CHAPTER V
IRANIAN NATIONAL DEVELOPMENT AND HUMAN RESOURCE
DEVELOPMENT IN THE SERVICES SECTOR

In many developing countries, the services sector is considered a labour-absorbing sector because the traditional over-staffing of administration and public services, although characterized by low productivity, fulfils this function. While shortages in the number of scientific, professional and technical personnel for purposes of modern industries cannot be reduced easily and quickly, there appeared to be generally little or no difficulty in filling administrative positions in public and private administrative services from existing manpower resources.^{1/} Jobs in the public services sector provide a livelihood for a large portion of the economically active population. But it also has to be recognized that economic and social national development plans cannot be successfully translated into reality without the existence of a capable administrative-managerial infrastructure, an effective bureaucratic machinery and functional and effective institutions of various sizes and at various levels. These requirements pertain to both the public and private sector. Accordingly, a sectoral strategy of human resource development has to ensure that the workers, mostly white-collar workers, have the skills required by the development scheme adopted. The development of those skills should become one of the basic objectives of a responsive education policy. Individuals having acquired the prerequisite skills have to be absorbed and utilized in an economically rational

fashion by the labour market, so that the supply of labour can meet the demand.

As one example, the national development plans of Iran projected implicitly a dominant role of the public sector, as evidenced by the volume of budgetary allocations to this sector and others dominated by public enterprises (e.g., oil, chemicals). The emerging influence of the State on economic development was compounded by plans to launch gigantic public works projects to lay the foundations for a proper infrastructure of the economy. This infrastructure encompassed, for example, not only irrigation and road construction projects, but also the establishment of health, educational and other related services. These activities caused an inevitable growth of the administrative process and requirements in the public sector.

The complex structure of the entirety of activities to be performed by the public sector required the availability in sufficient numbers of a well-trained and experienced manpower corps with varying levels of skills to ensure the proper implementation of the development plans.

The main emphasis in this sector had therefore to be laid on human resource development, most specifically, the Iranian civil service. Despite the preponderance of the public sector in the following discussion, aspects and requirements of the private sector as they relate to administrative and managerial skills cannot be neglected and will be considered, albeit briefly, at the end of this chapter.

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A. The emergence of the Iranian civil service

To understand the problems and difficulties which Iran had to cope with in the establishment of an efficient and effective public administrative infrastructure, it may be helpful briefly to review the origins of the Iranian civil service. It can be traced to the second half of the nineteenth century, when a few ministries were set up under the Qajar dynasty. Influenced by ideas emanating from the economic and social developments in Western Europe, the scope of governmental activities gradually expanded as the Government attempted to pursue certain goals in the economic and social fields. This evolutionary process was accompanied by a gradual expansion in the number of governmental organizations and agencies. In reality, however, the emerging administration was largely concerned with the needs of the royal family and court and public revenues were considered to be an integral part of the Shah's treasury. Characterized by a highly personal style of administration and organizational practices, and given the weak position of the central ruler, the Shah, the civil service and administration were not particularly effective and operated largely in a decentralized fashion, without central co-ordination.

Moreover, even in the discharge of its few functions, the effectiveness of the public sector was hampered by the prevalence of the interests of the ruling class, by a lack of leadership and by widespread incompetence. This was due largely to the fact that civil servants were typically recruited from the ruling class and relatives of the royal family and, accordingly, nepotism and favouritism were common features of the administrative system in that period. Incumbency in any public office thus represented a means for self-enrichment.^{2/}

Given such foundations, the civil service in the late nineteenth century lived through a period of stagnation and retrogression. It was only after the emergence of the Iranian constitutional movement, inspired by Western ideas, that attempts were made to replace the prevailing autocratic and absolute authoritarianism by a more enlightened approach. Despite those intentions, the new constitution, which was adopted on 3 December 1906, and which created the Majlis (House of Commons), afforded new opportunities and instruments for the ruling class to perpetuate their power over the people. Rampant corruption and incompetence continued to characterize the public administration and led to a growing dissatisfaction among the people, especially the middle and lower classes.

After taking power, from the early 1920s Shah Reza promoted efforts to modernize and centralize the governmental administration, seeking to provide for the first time a firm base for effective governmental intervention following a definition of national goals and objectives.^{3/} The fourth Majlis enacted the first civil service law on 12 December 1922. Patterned after Western models, this law emphasized the need for generalists to be employed by the public sectors. Competitive examinations became the principal means of recruitment, but with the growing complexity of the governmental role, special training classes for public servants were organized by the Ministry of the Interior as of 1932.

Until the early 1940s the administrative system of Iran expanded continuously, both in qualitative and quantitative terms, and the central Government came to assume an active role in virtually all areas of Iranian life and development. In that period it was also recognized that civil servants should possess both general and special educational qualifications.

After a temporary interruption caused by political developments between 1943 and 1953, the governmental role continued to expand further. This trend, however, was hampered by the scarcity of trained and qualified manpower. Additional problems were caused as a consequence of the highly centralized structure of governmental operations and the concentration of most activities in Teheran, the capital.^{4/} This centralized administrative structure lacked an internal rational division of work, characterized by authoritarian hierarchical structures as it was, and by inflexibility (insistence on legalistic and formalistic procedures) as well as by administrative laxity (avoidance of the assumption of responsibility, which consequently caused delays in decision making and in the execution of projects).

This situation clearly impeded the execution of development projects and underlined the acute need for officials specifically educated for administrative positions. To relieve this shortcoming the Government intensively pursued programmes in administration and management. Beginning in the mid-1950s, American institutions, such as the University of Southern California, assisted the University of Teheran in the establishment of an Institute for Public Administration and the conduct of related programmes.^{5/} This Institute was designed

(a) to provide services in the fields of organization, administration and management to ministries and agencies engaged in education, training and research for publication;

(b) to train ministry and agency personnel and university staff in those subjects;

(c) to develop a corps of Iranian teachers capable of running the Institute; and

(d) to promote management skills, techniques, education, training and services.

Parallel to this domestic programme, Iranian Government officials and professors could, in the context of an exchange programme, study public administration at American universities. Those graduates were supposed to serve as nuclei for implementing reform projects in the Iranian administrative system.

As a further step, a governmental agreement was concluded in 1956 between Iran and the United States to launch a project for administrative reform in almost all areas of governmental administration. The success of all these programmes, however, remained without significant tangible results and impact on the conduct of Iranian public affairs.^{6/}

Systematic studies soon revealed that the failure of these measures was largely related to the unsystematic, irrational and highly personal structure of governmental organizations and agencies. Socio-cultural factors in Iranian attitudes were considered to be mainly responsible for low administrative efficiency. Some of the factors cited were: little concern for long-term planning, limited initiative, lack of co-operation, authoritarianism, individualism and person rather than task-orientation.^{7/}

Thus it became evident that the successful implementation of ambitious national development plans required a radical new beginning in the training of manpower capable of administering, supervising and managing the various programmes to achieve the national development goals.

B. National development plans and administrative reform programmes

After the completion of the First Plan (1949-1954) and the Second Plan (1956-1963) some 300,000 administrators were employed by the public sector.^{8/} Taking account of the high degree of centralization of Government offices in Teheran, this figure suggests that about one out of 10 persons of the labour force living in urban areas at that time was employed by the Government. Such a high ratio suggested the possibility of overstaffing. As has been mentioned above, governmental activities in that period suffered from red tape, nepotism, favouritism, and lack of initiative, leading to intolerable delays in the implementation of projects.

It was estimated in 1964 that about half of the civil servants were superfluous, as they were hired mostly on the basis of political expediency rather than on the basis of administrative needs.^{9/} A consequence of this situation was that 17 per cent of the national budget (excluding military appropriations) had to be earmarked for salary payments,^{10/} averaging some \$100 per month per employee.^{11/}

Subsequently in 1967 Shah Reza Pahlavi proclaimed the launching of an administrative and educational "revolution", which was perceived to be necessary in order to ensure the successful and efficient implementation of the national development programmes. In his opening speech of a new term of the Majlis on 6 October 1967, the Shah specified the goals of this operation as follows:

"... all the individuals who have a duty entrusted to them in the country's administrative and governmental organization - no matter how small that duty might be - should try to perform it with the utmost sincerity and conscientiousness and with a

feeling of responsibility. Wasting time and red-tape bureaucracy should leave our offices. Each official should know his duty, first and foremost, is to hasten to perform the requests of the public. This includes the correct and unbiased execution of administrative functions to facilitate and expedite the administration of the country's affairs. Public officials should not forget that it is the people who provide funds by paying taxes to pay their salaries. ... Unjustified and excessive concentration of the affairs in the capital city should be ended and all the provinces and townships in the country should be given a chance for initiative and a bigger measure of responsibility in the affairs which concern them. It is even fitting that service in the various parts of the country should become complementary with tours of duty in the capital and other large cities." a/

In February 1968, a 12-day Administrative Reform Congress was held and attended by representatives of both private firms and institutions and the public sector. Resolutions adopted by this Congress called for amendments to civil service regulations, improvements in the salary structure and the elimination of red tape and of redundant formalities as well as for the application of the principles of management, efficiency and training in the administrative system.^{12/} The Congress also resulted in the creation of a governmental council supervising the implementation of the various reform programmes suggested and in the establishment of permanent committees on administrative reform in each ministry and governmental organization, both in the capital and in the provinces. These committees were charged with continuously studying and recommending means of improving the efficiency and effectiveness of the organizational structure, expediting public affairs and simplifying governmental laws and regulations.

Emanating from such proposals was a United Nations technical co-operation project which may serve as an example of the scope of the efforts undertaken. Upon the request of the Iranian Government, the United Nations in early 1970 conducted a position classification and pay-plan

a/ Kayhan International, 7 October 1967

project. Its objectives were to advise and assist the Iranian State Organization for Administration and Employment Affairs (SOAE) for a period of two and one half years in the implementation of a position classification, salary administration and job evaluation programme for over 300,000 public service employees. These tasks had been called for in the State Employment Law enacted on 22 June 1966. The United Nations project was also intended to train Iranian technicians to be able to maintain and continue the programmes after the initiation phase.^{13/}

The position classification exercise aimed at a standardized grouping of posts into classes on the basis of duties, responsibilities and qualifications. A sound classification system was expected to establish uniformity in the method of describing posts and titles and to provide a basis for a rational salary structure throughout the civil service. Moreover it was expected to foster mobility within the career service by facilitating transfers and promotions, to provide standardized job titles for the personnel component of the budget and to reduce the existence of excessive pay differentials based on political connexions and favouritism.

After a period of three years the project had accomplished the formulation and testing of a comprehensive job class structure in all ministries and organizations. The classification plan consisted of 468 series containing 1,593 classes, providing an occupational framework for the comparative evaluation of 382,000 officials in the civil service of Iran, as follows: the Ministry of Education (152,000 posts), the Ministry of Health (30,000 posts) and other Ministries, with approximately 200,000 posts.

Moreover the project had developed a revised pay structure for teaching personnel (132,000 posts), which was subsequently applied. Comparable adjustments in the pay structure were envisaged to follow suit for another 157,000 posts in other occupational groups.

Finally, the United Nations group managed to train some 80 SOAE technicians and 400 technicians and supervisors from ministries and organizations, who had been selected as a core group further to implement and maintain the proposed plan.

Unfortunately, concrete data on the results and the impact of the above project on the Iranian civil service are not available, but it is assumed that the proposed criteria governing the recruitment of personnel and the introduction of a systematic and modern career development system, administered by a central personnel bureau for the various governmental organizations, had a significant impact on organizational development, personnel management, employee compensation, planning, budgeting, financial management, assessment of manpower requirements and development, training and education, and decentralization and regionalization of the Iranian civil service.

All these activities and efforts constituted only a first step in a long-range and evolutionary process. On the other hand, the lack of visible success gave rise to objections and a critical evaluation of the chosen approach. The main criticism was directed at the apparent failure to introduce revised administrative regulations and procedures, despite all the sophistication involved. In addition, the lack of adherence to and compliance with more responsive and efficient administrative practices was considered to be another reason for the failure to achieve the stated objectives.

Following the dramatic increase in oil revenues, the Fifth Development Plan was revised in October 1973 in order to take account of the new financial resources available to the country's development. At a time when Iran gained control and management of its oil installations and oil trade, the need for an efficient and effective administrative machinery became particularly pressing. With the increased volume of investment and the large number of development projects envisaged under the revised Fifth Development Plan the need for a significant change in the administrative environment to ensure a rapid and effective progress of these projects came to be recognized. According to the Plan proposals some \$364 million were to be allocated to administrative expenditure, representing a threefold increase over the amount originally budgeted in 1973 at the beginning of the Plan.^{14/} The revised Plan defined the following objectives for the administration of the public sector:

(a) to ensure the establishment of a system of administrative and organizational decentralization and to create the groundwork necessary to strengthen technical and executive capabilities at the provincial and governorate-general level;

(b) to provide the necessary opportunities for workers' literacy programmes, in co-ordination with adult literacy programmes and on-the-job training;

(c) to carry out the studies necessary to identify the country's manpower resources, to compile a national employment register, to prepare identity cards for the public sector workers, and to complete the job classification projects in all ministries, offices and factories;

(d) to hold some national and international labour conferences in order to study problems and difficulties affecting manpower engaged in the public sector of the Government of Iran;

(e) to co-ordinate Government agencies in line with the country's social and economic transformation and to increase their efficiency by improving administrative procedures and developing and propagating management standards and techniques. ^{15/}

Accordingly, the revised plan projected a need for an additional 200,000 civil servants. Subsequently the Government of Iran, in November 1974, requested the Development and Resources Corporation, an American firm, to continue and to complete the classification plan launched under the United Nations project. The consultants were further asked to review Iran's public sector with a view to recommending further administrative reforms and modifications. The resultant recommendations called for, inter alia, a massive expansion of training efforts to increase the supply of qualified manpower for the public sector at all levels and for a review of the deficiencies of higher education in meeting the public sector's needs for well-educated graduates in management and related areas.

The implementation of all such recommendations was entrusted to Iranian Government officials in collaboration with private and international experts. The influx of graduates from Iranian and foreign universities with a knowledge of administrative disciplines certainly provided a better educational basis for the civil service of the future. Nevertheless, despite all the frantic efforts to stimulate a process of administrative development and reform, results could not be achieved overnight, and early results were unlikely to be obtained. Thus Iran had before it a

frustrating and protracted formative phase in public administration, while at the same time the volume of administrative tasks grew tremendously as a consequence of the economic development projects.

By the end of 1978 the objective of strengthening the technical and administrative capacities of the Government, particularly in the provinces, was still far from realization. Nevertheless it has to be acknowledged that the Government had recognized that knowledge and skills were the key to the success and achievements of the development objectives and that diversified educational programmes were required. The complexity of the development process necessitated a change from the general orientation to a specialization of civil servants.

Other broadly based educational campaigns were also intended to produce more person and group-oriented employees, creating an environment more conducive to the delegation of authority and to individual motivation, thereby preventing dissatisfaction or voluntary fluctuation of employees.

C. Administrative needs of the private sector

The quality of managerial resources available to the private, in particular to the industrial sector, constituted a significant factor determining the success or failure of Iranian development efforts. The degree of efficiency in which skills and resources were able to be organized and utilized in the productive process depended on the ability, knowledge and skills possessed by the managers themselves.

Prior to the massive industrialization programme, Iran's economy was dominated by a type of owner-management of factories, usually former bazaar merchants operating on the basis of traditional management methods.

These entailed little emphasis and concern for productivity, efficiency, personnel development, supervision, on-the-job training or qualifications of workers.^{16/} Moreover, the firms mostly lacked cost accounting systems and mechanical office equipment, but were characterized by a high ratio of administrative to other personnel. Such methods of operation became highly inefficient in larger enterprises and with the introduction of sophisticated production equipment and technology. The implementation of the projects of the national development plans therefore required in the private sector not only a new class of managers but also the presence of highly specialized manpower such as accountants, personnel experts, financial specialists, trade and marketing experts, lawyers, and so on. As the level of the development efforts required a large group of manpower with such skills, which was not available in the required number in the domestic labour market, resort had to be had to foreign managers and specialists. Similar action had to be taken in view of the scarcity of middle-level manpower. In the absence of qualified administrative personnel, projects had to be delayed by months or even postponed indefinitely. In competition with the demands of the public sector, the private sector was able to attract highly qualified manpower to a larger extent, in view of better financial conditions and career opportunities. Hence, although both sectors had to interact efficiently in order to realize the objectives of the development plan, they behaved in a competitive fashion as regards the recruitment of qualified manpower and therefore jeopardized the achievement of the development goals.

The country was therefore undoubtedly in need of manpower to assume teaching positions, at the primary, secondary and university levels and

as already mentioned in an earlier chapter, in vocational training. Only with a sufficient base of teachers was it conceivable that the educational system could produce the output of skilled and semi-skilled manpower required to sustain the development efforts. Accordingly the revised Fifth Plan specified a target of creating 2.1 million new jobs, with a large number to be dedicated to teaching and the medical profession. Realistic estimates, however, came to the conclusion that the domestic labour potential could at best provide two thirds of that manpower and that the rest had to be retained from foreign countries. The shortfall of the educational sector was projected to be 50,400 qualified teachers, particularly for vocational training.

D. Conclusion

Iran may serve as an example of a country where a balance between the demands of the administrative structure, both of Government and of private corporations, and the supply of suitably qualified manpower resources could not be achieved. This imbalance represented a serious obstacle to the entire development process. It may thus be argued that an insufficient administrative infrastructure may present an insurmountable barrier to national economic development.

The acceleration in Iranian development efforts brought about an ever increasing complexity in administrative work, particularly in the realm of the Iranian Government. It has been observed that the administrative structures and practices were not generally responsive to the expanding needs and requirements of the country. In view of the dominant position of the public sector for the development of the country, effective and efficient administrative systems had to play a crucial role.

This correlation had been recognized by Iranian authorities only since 1963 and many reforms and modifications were introduced in order to reduce the prevailing rigidity and to stimulate administrative flexibility and decentralization. Most of those efforts failed, owing largely to socio-cultural factors, the lack of ethical standards for the civil service and shortcomings of the internal administrative hierarchies. It also became increasingly evident that the administrative system required well-educated and skilled civil servants, a need painfully felt in the period following the 1973 increase in oil price revenues.

The transformation of an administrative system in a country like Iran with strong cultural and traditional values could only have been achieved, however, by a long process of re-education, which may have proved tantamount to a cultural revolution, involving a change in individual normative orientations, attitudes, values and skills. Thus it would not have involved solely an increase in the number of qualified and knowledgeable personnel. The industrialization process and the growing complexity of the economic system, in both the public and the private sector, nevertheless required a larger pool of better educated and higher qualified manpower to direct the execution of the various projects. Little can be said about the success of pertinent Government policies, as the revolution, which got under way in 1978, did not allow for a period sufficient to gauge the effect of the required transformation process initiated prior to the revolution.

Notes - Chapter V

1/ See Harbison/Myers, op. cit., p. 76.

2/ See Amin Banani, The Modernization of Iran, 1921-1941, Stanford, 1961.

3/ See Gable/Storm, "Public Administration in Iran: Sketches of a Non-Western Traditional Bureaucracy", in Philippine Journal of Public Administration, July 1961, p. 227.

4/ See Wilson F. Harwood, Advice to the Plan Organization of Iran; Washington, D.C., Governmental Affairs Institute, 1950-1951.

5/ "Seven Years in Iran: The Final Report of a Technical Assistance Project in Public Administration under contract No. ICAC-1299", Los Angeles, School of Public Administration, University of Southern California, 1962.

6/ See Manouchehr Goodarzi, "The Significance and Problems of Civil Service Reform in a Developing Nation: The Experience of Iran", Ph.D. dissertation, University of Southern California, 1969, p. 52.

7/ See Richard W. Gable, "Culture and Administration in Iran", in The Middle East Journal 13, Autumn 1959, pp. 407-421.

8/ Plan Organization, Budget (of Iran) for Fiscal Year 1964-1965; Teheran, June 1964.

9/ M. Tabatabai, Administrative Law of Iran, Vol. I (in Persian), Teheran, 1964.

10/ Plan Organization, Budget for Fiscal Year 1964-1965, op. cit.

11/ Tabatabai, op. cit.

12/ Iran Almanac, Teheran: Echo of Iran, 1972, p. 138.

13/ Public Administrative Service: Final Report on the Plan of Action for the Position Classification and Pay Programme, Public Service

Reform and Training (Special Fund) Project Iran, Chicago, 1972.

14/ Banque Etebarat, Iran Statistics, 1975 edition, Teheran, p. 47.

15/ Kayhan Research Associates, A guide to Iran's Fifth Plan 1973-1978,
Teheran, pp. 45-48.

16/ M.K. Looney, The Economic Development of Iran - A Recent Survey with
Projections to 1981; New York - Washington - London, 1973; p. 123

CHAPTER VI

LESSONS FROM THE PAST - PERSPECTIVES FOR A POSSIBLE
NEW APPROACH IN IRANIAN DEVELOPMENT POLICY

In the preceding chapters we have elaborated the main thesis of this study that the lack of integration between national development planning and human resource development in Iran constituted a major constraint on the country's development, as evidenced by rampant unemployment on the one hand and a serious shortage of skilled and semi-skilled manpower on the other hand.

The revolution, beginning in mid-1978, was certainly also fomented by such a situation. After two decades of attempts at systematic development planning in Iran, those efforts came to a grinding halt. At the present time the country is confronted with a situation in which, as a consequence of the protracted war with Iraq, its economic base is functioning either badly or not at all, partly destroyed or no longer extant. While the steady deterioration of Iran's economic viability is deplorable, it provides the country with a unique opportunity and challenge: once the war problem is settled the Government will be able to initiate development efforts virtually from scratch. In that connexion it can only be assumed that the necessary financial resources can be obtained from oil revenues, which will again increase when Iran regains the position, albeit not at earlier levels, of an oil-exporting country.

We have analysed the deficiencies of the Iranian development

process. We have pinpointed problems, shortages, contentious strategies and structural shifts in Iranian development. But little has been said so far about what could and should be done to improve the chances of success of a second attempt, once the country can again focus on its own needs and development potential.

In line with the main objectives set out in Chapter I, we should like to advocate an intensive co-ordination between over-all national economic development and long-term human resource development. The following considerations may serve as guidelines for the delineation of such an approach.

1. The avoidance of a strategy of maximization of growth of GNP ("all-or-nothing" strategy)

A GNP maximization strategy, as adopted by the Iranian authorities in the past, gives high priority to directly productive activities. Educational investments and programmes centre on the secondary and tertiary levels of education, and also on technical and vocational training to support a largely urban-based development path. By the same token, urban areas receive priority in health care, in order to maintain the health of "productive" adults. Such a strategy leads ultimately, however, to a growing disparity between rural and urban areas, especially from the viewpoint of income distribution. The assumption that despite such drawbacks rapid GNP growth might induce and stimulate the development of other sectors did not materialize in the case of Iran.

Instead, Iran should in future undertake to foster investments in health and education for the benefit of the entire population. Small increases in the income of the rural population might be as important for

national development as relatively spectacular increases in total income in one or more modern sectors, as 45 % of the total population continue to live in rural areas (see Table 3 above).

2. The pursuit of a policy of systematic educational and manpower development

The crucial role of the expansion of facilities to impart basic education at the primary level for a country's long-term development prospects has become generally acknowledged. Such facilities should be further expanded, as they help broaden opportunities for a better life and strengthen the participation of the public in the development process.

Special priority should be given in Iran to expanding basic educational facilities in rural areas, including the qualitative and quantitative upgrading of the teaching force.

Iran encountered specific problems with the large number of individuals having completed their general education to the secondary and tertiary levels but lacking technical skills. To avoid the proliferation of educated unemployment, the first steps were taken to establish vocational training institutions. Those institutions should provide training in skills with wide applicability as a foundation for later on-the-job training or a sequence of short-term courses, determined in co-ordination with potential employers.

More vocational training facilities should in future curb the tendency to expand the facilities for general education at secondary and higher levels without regard to the over-all development needs and objectives, as it has proved difficult at such levels to strike a good balance between general pre-employment training and the provision of specialized skills. But vocational training also has its limits, as

most managerial, technical and craft skills are developed even more effectively on the job or in non-formal education than in specialized schools.

To pursue such a comprehensive policy further in a systematic fashion, the Iranian Government should define, for the long term, types of employment it deems necessary in the context of the desired over-all economic development. Then the Government should seek to develop education and training for that purpose.

In general it has to be recognized that although human capital formation starts with formal training it has to be continued through non-formal educational programmes in order to generate a sufficient, cadre of skilled and semi-skilled manpower to staff existing programmes and to avoid too great a reliance on official technical assistance and expatriate experts (foreign labour). Accordingly, curricula should be geared at all levels and stages to reflect the over-all development objectives of the country.

One particular aspect which deserves to be singled out is the need for Iran to provide sufficient manpower for staffing various institutions (e.g., health, education, government) pivotal for the country's development. In that context it will be most important to identify the pressing actual and projected needs for various types of high-level manpower.

3. The adoption of a population policy

In view of its high rate of population growth, Iran should formulate specific targets and means to lower gradually the population growth rate. Such an approach is inevitable if the widening gap between

a tremendous increase in the labour force and the slow expansion of work opportunities is to be halted or even reversed.

4. The expansion of public-oriented infrastructure

Systematic programmes should be devised to enhance health, sanitation and nutrition services, family planning and water supplies. Such measures would help to raise the general health level of people and to enable them eventually to engage in gainful economic activities.

5. The development of sectoral strategies for the absorption of the growing labour force

More effective measures should be taken by Iranian authorities to attain a higher degree of absorption of the available manpower by the agricultural, industrial and services sectors.

(a) Agricultural sector

The recent policy of rural neglect should be replaced by the active promotion of the rural sector and its development. To that end the peasantry should be mobilized and involved in rural decision making, which would contribute to overcoming their previous apathy in the light of dominant landlords.

One of the basic prerequisites for the revitalization of the Iranian agricultural sector would be a complete and effective land reform, creating viable agricultural entities and allowing the full utilization of land and land settlement. Such a land reform should be complemented by measures to allocate sufficient governmental resources, thereby ensuring the application of suitable techniques (labour-intensive approaches, semi-mechanization) to generate an increase in productivity. Ultimately the objective should be production well above subsistence levels.

Combined with a decentralization of government offices and agencies into rural areas and the employment effects thereof, it is to be hoped that the migratory shift from rural to urban areas can be redressed when enough work opportunities with relatively bright future prospects are offered.

A final important factor in that context should be an increase in the provision of non-farm rural employment opportunities.

(b). Industrial sector

Industry should not in future be treated as a sort of independent part of over-all economic development. It should rather be consciously linked with employment promotion in agriculture as many types of simple equipment and machinery could be manufactured in small and medium-sized enterprises, using local materials and labour-intensive production techniques.

Apart from the desirability of systematically linking industry and agriculture, Iranian planners should generally strive to achieve a mix of large, medium and small firms. As smaller firms tend to use simple technology and are less capital-intensive than larger firms, they represent effective vehicles for the creation of employment in the industrial sector. On the other hand, larger firms, though usually utilizing more sophisticated and capital-intensive techniques, may be required to produce competitively, particularly products in the oil sector. Nevertheless, the adoption of low capital and/or labour-intensive technologies in the various components of the production process should be encouraged within each branch of the future Iranian industrial sector. To that end the industrial development process should be based on detailed industrial sector development plans

explicitly reflecting effects on employment, the degree of the utilization of local raw material, rather than imported goods, a balance between the major branches of Iranian industry, the type of infrastructure required, and so on. Such plans also need to analyse carefully the output-mix produced by Iranian industries, as the products should be in sufficient demand both inside and outside the country to sustain employment creation activities.

A final, and not the least important, task for the Iranian economy will be to utilize the existing productive capacity more efficiently and effectively than in the past. Suitable administrative and managerial measures might eliminate inefficiencies observed previously, such as the frequent occurrence of idle periods as a consequence of no shift work or poor maintenance.

(c) Services sector

The development of administrative strength in both the public and the private sector will be a crucial factor for future development efforts. Sufficiently skilled administrators, managers and planners are essential for proper organization and control and, hence, the smooth and successful implementation of development plans. The future administrative capabilities of Iran will determine whether the scarce resources available can be used more efficiently. The relevance of proper planning and management becomes evident in cases where, for example, a more intensive use of the available teachers could permit sizeable increases in enrolments at little additional cost or where a reorganization of the national health system towards preventive, village-based services could profoundly improve their accessibility and, consequently, their effectiveness, equally at little additional cost.

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