IRAQ'S PEOPLE AND RESOURCES

BY
DORIS GOODRICH ADAMS

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PREFACE

THE BASIS of this study is a doctoral thesis, "Population Trends in Relation to the Economic Development of Iraq," submitted in July, 1955, in the Department of Economics of the University of California, Berkeley. The research was made possible by a thirty-one-month fellowship from the Board on Overseas Training and Research of the Ford Foundation. The first year of the fellowship was spent in research and Arabic studies in Washington, D.C., and the remainder of the fellowship period, from September, 1953, to March, 1955, in travel and study in Iraq and other Middle Eastern countries. It must be noted that the Ford Foundation is not the author, owner, publisher, or proprietor of this work and is not to be understood as approving by virtue of its grant any of the statements made or views expressed herein.

The manuscript was substantially rewritten, with the addition of newly available materials, after my return to Iraq in October, 1955. Much has taken place in the Middle East since the completion of the manuscript in its present form in July, 1956. I have made a few additions and modifications, but have been unable to rewrite the entire work. I present it with misgivings, aware that recent political and social developments have undoubtedly disproved some of my statements and obviated some of my policy suggestions.

The empirical basis of the chapters which follow is a combination of statistics assembled by the Government of Iraq and technical assistance agencies, field trips, small-scale studies which I made in various parts of the country, and innumerable conversations and interviews. However, the individuals and agencies who supplied information are in no way responsible for opinions, expressed or implied, nor for any misinterpretations, errors, or omissions which may appear in this study. I alone am responsible for all choice of relevance, all judgments in regard to accuracy of data, and all interpretations of information provided by others.

In studying a society with institutions very different from one's own, one has the advantage of objectivity, but the disadvantage of the lack of prolonged familiarity with its institutions. This deficiency may be remedied in part through close contact with that society, or wide reading, or both. But, try as one may to bar ethnocentric judgments, they will creep into his thinking and writing. I have attempted, in making suggestions on policy, to assess the suitability of institutions and the viability of programs with respect to the economic goal of the majority of Iraq's people—a self-sustaining increase in per capita real income—rather than according to my own goals and values. However, there are undoubtedly many places in which "my bias is showing," and for these I ask the reader's indulgence.

Without the coöperation of the Government of Iraq through its various departments this study could not have been attempted. Special thanks are due Dr. Fu'ad G. Massa, of the Directorate General of Census; Mr. Fu'ad Jamil, of the Ministry of Education; Dr. Hasan Thamir and Mr. Muhammad Zaki Abdul Karim, of the Development Board; Mr. Badi' Butti, of the Ministry of Economics; and Dr. Salah Haider, of the Ministry of Finance. I am grateful to Dr. K. G. Fenelon, Expert in Statistics, Ministry of Economics, who supplied much of my statistical information and offered advice and encouragement.

The personnel of the United Nations and its specialized agencies aided in many ways. I wish to thank especially Dr. Salah Abd, United Nations Technical Assistance Expert on Community Development, and his staff in the Ministry of Social Affairs; Dr. Kataya Cama, United Nations Technical Assistance Expert on Social Welfare; and Dr. Otto Jager, of the World Health Organization. Mr. Norman Burns, of the United States Department of State, merits special thanks for having suggested Iraq as an interesting field for research. American technical assistance personnel, especially in the programs for community development, public health, and land settlement, were coöperative.

Among my advisers at the University of California, Professor Emily H. Huntington gave unstintingly of her time and energy in helping me to complete the thesis and its subsequent revision; Professor Howard S. Ellis and Professor William Petersen offered many helpful suggestions; and Professor Emeritus Melvin M. Knight first stimulated my interest in economic development.

It was a privilege to live and work in Iraq on the eve of momentous economic and social changes. I wish to dedicate this work to my countless hosts in every walk of life, who contributed to such understanding of their country as I have.

D. G. A.

University Park, Pennsylvania
February, 1958

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CHAPTER I

INTRODUCTION

THE PROBLEM IN ITS HISTORICAL SETTING

THE KINGDOM OF IRAQ is at the same time one of the newest and one of the oldest countries in the world. A political entity only since the end of the First World War and an independent state only since 1932, Iraq is also the site of the first civilization. The earliest known settlers migrated into the valley of the Tigris and Euphrates during the sixth millennium, B.C., from the mountainous north and east, areas in which the wild ancestors of wheat and barley were indigenous. These people lived in villages, an indication that they were not primitive food gatherers but had brought with them the cultivation of domesticated grains. The dawn of written history found them living in houses much like those seen in Middle Eastern villages today. They gradually learned that, through irrigation, a much more productive agriculture was possible on Mesopotamia's alluvial plain than in rain-fed mountainous regions. The surplus over subsistence that could be produced by improved methods of cultivation allowed the growth of a sizable nonagricultural population and the founding of great cities such as Eridu, Ur, Babylon, and Nineveh. The citizens, freed from the toil which had hitherto been man's lot, were able to turn their attention to other matters. The cylinder seal, writing, a written code of law, the wheel, ornamental architecture—all were products of this new freedom.

Mesopotamia's development was not continuous. Waves of migration involved warfare, and some conquerors did not learn the necessity of the irrigation system for agriculture in an arid region until after they had destroyed it or allowed it to fall into decay. The rule of the Sumerians, the Babylonians, the Sassanide Persians, and the Abbaside caliphs, who used their power and influence to encourage a productive agriculture, coincided with a high level of culture. Others who, through ignorance, lethargy, corruption, or malice, allowed the irrigation system to decline, initiated periods of cultural eclipse. Moreover, during much of its history Mesopotamia was a frontier province between two powerful empires, each of which coveted it. Persia held it at intervals from the sixth century B.C., when Cyrus annexed it to his empire, until the brief tenure of Baghdad by Shah Abbas in the seventeenth century A.D. The major contenders from the west were Alexander the Great and the Seleucid Greeks, followed by the Romans, who tried repeatedly to conquer Mesopotamia but never fully succeeded. The Arabs founded the Abbaside caliphate in the eighth century A.D., and Baghdad became the center of the Muslim world. The zenith had been passed when the Mongol invasions of the thirteenth century initiated a deterioration from which Iraq has not yet recovered. Finally, in the sixteenth century the Ottoman Empire wrested control of Mesopotamia from Persia and held it, with brief interruptions, for four centuries.[1]

Even during the flowering of Mesopotamia's culture—as under the Abbaside caliphs, when "Its great towns were the seat of learning and progressive thought;

[1] The best single work on the history of Iraq is Lloyd, *Twin Rivers*. See also Longrigg, *Four Centuries of Modern Iraq* and *'Iraq, 1900 to 1950*. For recent political history, see Khadduri, *Independent Iraq*.

its highways were safe for travellers; its peasants contented and the waters of its two great rivers flowed with controlled regularity into a million irrigation canals"[2]—even then, the great majority of inhabitants labored in the fields in return for livelihood at a subsistence level. The surplus produced on the fertile plain was available as a tribute to be paid to the privileged who did not labor, or to be extracted by military might. So it has been for mankind throughout history, until the last four hundred years in countries affected by Western civilization. Here, technological advance in both agriculture and industry, so rapid as to outstrip population growth, was followed by the eventual adjustment of human fertility to changed conditions of mortality—although only after several continents had been peopled by the overflow population of Europe. In consequence, a level of living above subsistence for the majority of the population, once a utopian dream, became a reality.

European standards of consumption have been adopted by the wealthy classes in preindustrial countries in which the economy could not support higher consumption for more than a few. Thus the gulf between the rich and the poor has widened in many of these countries. At the same time, increasing communication between nations has conveyed to their poorer classes the idea that poverty is not inevitable. As a result, the poor in one preindustrial country after another have come to blame the luxury consumption of the wealthy classes for their own miserable lot, not recognizing that alleviation of mass poverty requires the emancipation of themselves as well as their rulers from outmoded methods. Edwin Markham, looking at "The Man with the Hoe," asked a question at the end of the nineteenth century, the answer to which has been written in blood in many nations during the twentieth:

> How will it be with kingdoms and with kings—
> .....
> When this dumb terror shall rise to judge the world,
> After the silence of the centuries?[3]

The hard economic fact is that, aside from international loans and subsidies, the per capita national product can be increased only by increased productivity, which in turn requires the diversion of a significant portion of that product from consumption to investment. Consumption must even be depressed initially, and cannot be allowed to rise as rapidly as production if the pace of development is to accelerate. Governments that have tried at the outset of development to give their people both increased consumption and increased investment have produced inflationary forces, with disruptive effects upon the economy which impede development. Governments that attempt to finance development by depressing consumption must be exceedingly strong to withstand the resultant unrest, and are constantly threatened by competitive powers, indigenous or foreign, who win popular support by promising immediate alleviation of poverty.

The methods of capital formation used in their initial stages of development by countries now highly industrialized cannot be duplicated by today's preindustrial countries. First, resignation to poverty quickly wanes once development starts, because of growing communication between developed and underdeveloped countries. The number of material possessions that people can want has greatly in-

[2] Lloyd, *op. cit.*, p. 186.
[3] From "The Man with the Hoe." Used by permission.

creased since the days when the asceticism of the Reformation helped to depress consumption of both entrepreneurs and laborers. Second, there are no large continents left that can absorb the surplus populations of countries undergoing development; and yet an acceleration of population growth is an immediate effect of rising real income. Increasing population density may impede further development in several ways: labor-intensive methods of production tend to remain economical; new lands brought under cultivation are needed to feed increasing numbers rather than to feed the existing population better; and the political instability resulting from high population density acts as a barrier to the entry of private investment funds from abroad. Large-scale programs of international economic assistance reflect growing recognition that domestic and private foreign investment cannot be relied upon exclusively for capital formation in developing countries.

Another problem, as important as that of capital formation, receives much less attention in economic literature. If higher levels of productivity are to be reached quickly, profound institutional changes must occur. Both the wealthy and the poorer classes of preindustrial countries have vested interests in the *status quo.* In these countries, institutional changes involving rising standards of living, with consequent reduction of mortality, are more easily and quickly spread among the population than institutional changes leading to either increased productivity or lower birth rates. The result is, at best, growing discontent as rising incomes do not keep pace with rising aspirations and, at worst, an increased rate of population growth that absorbs any temporary gains in real per capita income.

Iraq possesses an almost unique combination of attributes which together overcome many of the obstacles to economic development encountered by other countries. Iraq has significant unused resources, the most important of which are an abundance of fertile land and the water discharged by the Twin Rivers. The Development Board, the planning agency, envisions a doubling of the area under cultivation within the coming generation, and at the same time, a more intensive use of presently cropped land. The most important requirements for effective development of the land and water resources are an intricate irrigation, drainage, and flood control system; widespread and effective rural education in better methods of farming; and institutional reforms to finance and give incentive for the use of these better methods.

Iraq's second attribute is a population that is small in relation to the unused resources. As economic development proceeds, thereby lowering death rates and accelerating natural increase, the growing numbers can be put to work both on agricultural land newly brought under cultivation and in newly created industries. Problems arise from the necessity of imparting skills to a rapidly growing population and from the economic burden of supporting a large percentage of children, many of whom do not live to maturity. But Iraq does not have a "population problem" as do India and Egypt, for example.

Finally, Iraq has the *sine qua non* of rapid economic development, a large and continuing source of foreign exchange in the form of immense revenues from oil. The Development Board plans to spend, between 1955 and 1959, an amount equal

to twice the entire national income of 1950.[4] Thus the government is to some extent spared the necessity of depressing consumption in order to channel funds into investment. However, the Five-Year Plan is already running into serious difficulties, most of which originate in the inability to adapt institutions to new economic conditions. The administrative machinery, a legacy of a bygone era, cannot spend the revenues as rapidly as they accrue; skilled and semiskilled laborers cannot be hired in sufficient numbers at any price; there is little or no machinery to teach better farming practices; and scientifically trained people are needed in certain jobs which the system of status prevents literate people from undertaking. The long-run plans of the Development Board will require an almost complete transformation of Iraq's economy and society.

There is no doubt that Iraq is entering a period of rapid change—economic, social, and demographic. The changes would be substantial even as simple results of the influx of the oil revenues into the economy. The problem is rather of the direction of change. If the royalties are used to develop the productivity of the economy, creating a greater savings capacity and profitable investment outlets—that is, if a cumulative process of expansion is started—Iraq's economy can continue to prosper even if oil prices should fall or political factors should otherwise interfere with oil production. But if the royalties are dissipated in inefficient and corrupt administration or are used largely for consumption or the encouragement of uneconomic industries, a rare opportunity will have been lost.

This study is concerned with Iraq's people—their social characteristics, population structure, and potentialities for population growth; and Iraq's resources—their present state of development, the level of living they provide, their potentialities, and the plans for fulfilling these potentialities. Because of the enormous supply of capital suddenly available and the commendable act of Iraq's government in turning over 70 per cent of the oil revenues to a planning agency, changes which took many times longer in other countries are being telescoped into a few decades and can easily be observed. Therefore, although this study is confined to one transitional economy, it is hoped that it will prove to have broader significance as a testing ground for theories of economic development.

Physical Characteristics of Iraq

Iraq covers an area of approximately 172,000 square miles, bounded on the north by Turkey, on the east by Iran, on the south by the Persian Gulf, Kuwait, and Sa'udi Arabia, and on the west by Jordan and Syria. Iraq is divided administratively into fourteen states, each called a liwa, and three desert zones. (See fig. 1.) The liwas constitute 53 per cent, and the deserts 47 per cent, of the total land surface. Iraq may be divided geographically into four regions[5] whose physical differences lead to distinctive ways of life.

The alluvial plain of central and southern Iraq is composed of silt laid down by

[4] Law no. 43 of 1955: an expenditure of 304,000,000 dinars is planned over the five-year period. The Development Board receives 70 per cent of the oil revenues. Iraq's national income of 1950 was estimated at 150,000,000 dinars by the United Nations Statistical Office. This equals approximately 30 dinars, or $85, per capita. Iraq's unit of currency, the dinar (abbreviated I. D.), is divided into 1,000 fils. In foreign exchange it is the equivalent of the British pound, or approximately $2.80 (American).

[5] Iraq's geography and climate are discussed in Fisher, *The Middle East*, chap. xv; Grant, *The Syrian Desert;* Lloyd, *op. cit.;* and Worthington, *Middle East Science.*

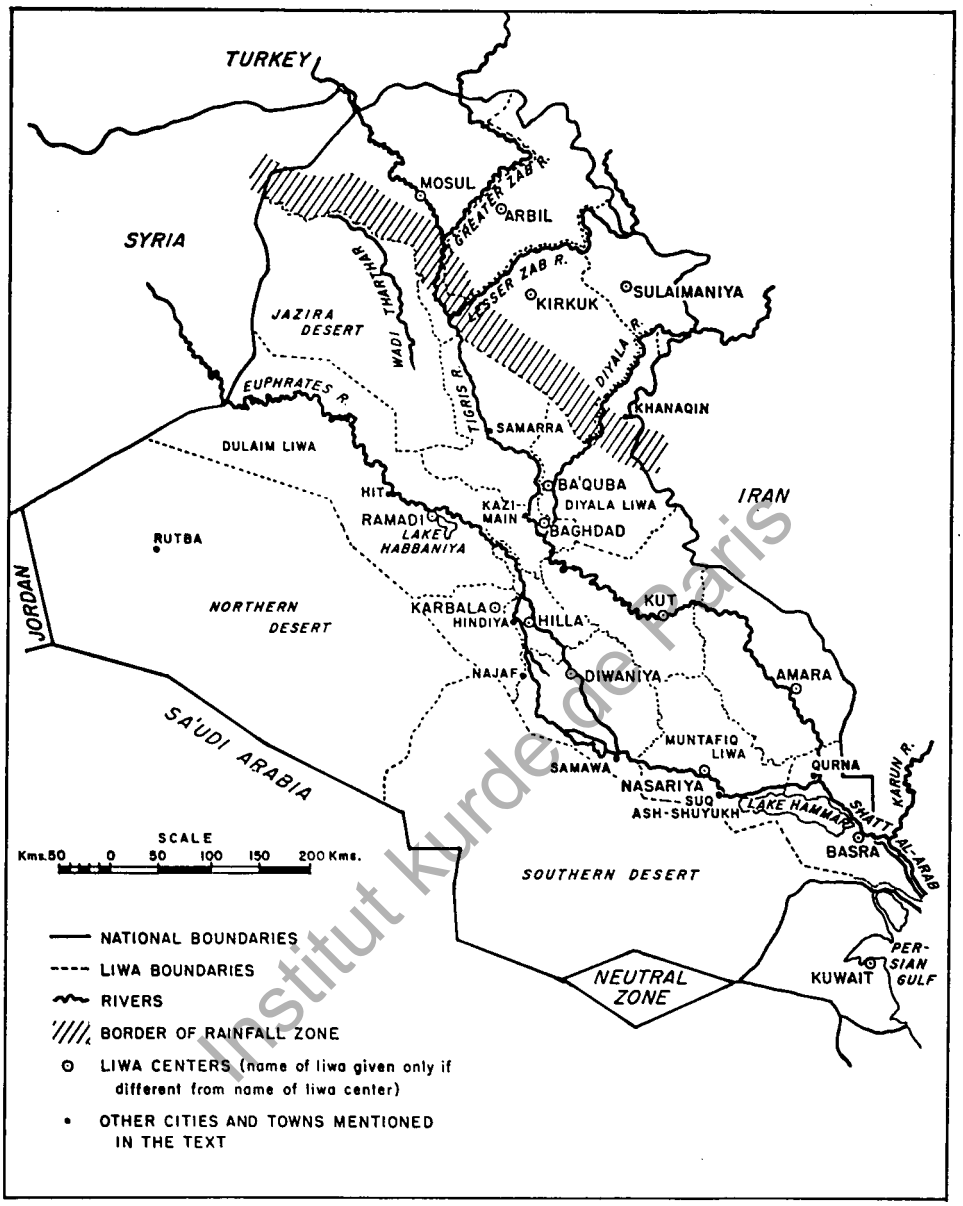

Fig. 1. Map of Iraq. Adapted from Ahmed Sousa, *Atlas of Iraq* (Baghdad: Surveys Press, 1953).

the Tigris, its tributaries, the Euphrates, and the Karun and Karkheh rivers which enter the Shatt al-Arab from the southern Zagros Mountains. Some archaeologists hold that the original coastline of the Persian Gulf passed through Hit and Samarra,[6] north of Baghdad, and that the silt has slowly pushed the coastline southward; about 3,000 B.C. the ancient city of Ur, near modern Nasariya, and the

[6] Arabic place names appear in the text without the vowel markings which indicate where the accent falls, but these markings are given in the Appendix.

site of modern Amara lay on the shores of the Gulf, while in Roman times the Gulf reached the site of modern Basra. It has been calculated that the rate of land formation averaged about one mile in fifty years, decreasing as the newly formed land moved farther from the mountains. This same theory explains Iraq's extensive lagoons and swamps as having been dammed back by the deltas of the Karun and Karkheh rivers, which expanded more rapidly into the Persian Gulf than did the deltas of the Tigris and Euphrates. The marshes have gradually moved southward as the alluvium dried out and became rich agricultural land.

If the Persian Gulf has truly moved hundreds of miles southward almost within historic time, the popular notion that Mesopotamia was the Garden of Eden—that man originated in the region where the Tigris and Euhprates blend into the Shatt al-Arab—could not be true, although gullible tourists still travel to see the "Tree of Life" in Qurna. However, new evidence indicates that Mesopotamia consists of a basin which has been slowly settling at the same time that sediment has been deposited by the rivers over millions of years. The balance between the consequent rise and fall of the land surface has been delicate, causing the coastline of the shallow Persian Gulf to shift erratically. According to this theory, the original shoreline of the Gulf may not have been far from its present site.[7] Thus it may be geographically possible that the Garden of Eden was located on Iraq's alluvial plain, but it is highly unlikely that primitive man could have begun his existence in an area where artificial irrigation is necessary to agriculture.

Whether the marshes are caused by the damming action of deltas or by subsidence of the earth's surface—the final answer to this question must await more evidence—they occupy nearly 6,000 square miles, or more than 3 per cent of Iraq's total area. An estimated 80 per cent of the discharge of the Tigris at Baghdad is drawn off into this region of lagoons, mud flats, reed beds, and meandering waterways.[8] The extreme flatness of the alluvial plain causes inundation of vast areas whenever either river rises above its banks. Because of the heavy burden of silt carried by the rivers and laid down in canals and riverbeds, perpetual vigilance is required to prevent floods.

A second geographic region consists of the upper valleys and the Jazira, or undulating wasteland, between them. At about the latitude of Samarra the alluvial plain changes to the uplands. North of this line the two rivers flow in well-defined and separate valleys, with irrigated cultivation possible along only a small strip on either side of the river. The Jazira wasteland, inhabited only by nomads, contains the Wadi Tharthar, a large natural depression that has been developed as part of Iraq's flood control machinery: the barrage at Samarra, completed early in 1956, can divert the waters of the Tigris into the Wadi.

A third geographic area comprises the foothills and mountains on Iraq's northern and eastern boundaries. This region is roughly coextensive with the rainfall zone, where rain-fed agriculture is combined with pastoralism as a way of life. A striking feature of the area is its acute state of deforestation, the result of the operation of several factors over thousands of years. First, the forests of the Zagros

[7] The older theory, as expressed by Fisher, Lloyd, and Worthington, is criticized by Lees and Falcon, "The Geographical History of the Mesopotamian Plains," *The Geographical Journal* (London), CXVIII (March, 1952), 24–39.

[8] Thesiger, "The Ma'dan or Marsh Dwellers of Southern Iraq," *Royal Central Asian Journal*, XLI (Jan., 1954), 4–25.

are marginal and, once destroyed, cannot easily be restored. Second, the mountainous zone of Iraq has long been inhabited by minorities, notably the Kurds, who have often been hostile to the government controlling the lowlands. Organized into tribal federations and seminomadic, they have neither the desire nor the ability to carry out projects designed to halt deforestation, much less projects of reforestation. They use the scarce wood and brush for fuel and in housing, and make charcoal to sell in the towns. Their reliance on the goat is probably the major factor in deforestation, because this hungry animal destroys any seedlings that happen to develop. The government has begun some reforestation projects, but they must remain small and expensive, requiring barbed wire, guards, or both, until other sources of livelihood are available to the inhabitants of the mountains and foothills.

TABLE 1

AVERAGE MAXIMUM AND MINIMUM TEMPERATURES (F.) IN SELECTED CITIES OF IRAQ

City	Zone	Period covered	January		August	
			Mean max.	Mean min.	Mean max.	Mean min.
Mosul	Rainfall	1927–1952	54°	35°	110°	70°
Baghdad	Irrigation	1938–1952	60°	39°	110°	76°
Basra	Irrigation	1937–1952	64°	45°	106°	79°
Rutba	Desert	1930–1952	55°	34°	102°	70°

SOURCE: Iraq, *Statistical Abstract, 1952*, pp. 19–21.

The desert areas of Iraq comprise approximately half of the country's total area. Besides the Jazira, there is the large portion of the Syrian Desert which falls within Iraq's boundaries and which Iraq shares with Syria, Jordan, and Sa'udi Arabia. Here nomadic life is a necessity because water and pasture are scarce. The triangular-shaped Syrian Desert plateau, sloping gently from northwest to southeast, is characterized by exceptional flatness, broken by occasional hills, ruins, lava patches, and salt marshes. Bounded by the Mediterranean coastlands on the west and the Euphrates on the east, it gradually becomes more arid and blends into the deserts of Arabia on the south.

The climate of Iraq shows less regional variation than does the topography. Throughout the country the summers are long, hot, and dry, and the winters are short, cold, and rainy. The climate combines Mediterranean features, in its summer drought and scant winter rain, with continental features, in its great seasonal variation in temperature. The daily variation in temperature in summer, when the thermometer may register over 120° at noon and below 75° just before dawn, can be compared with the short, severe winter, when the thermometer may remain near the freezing point night and day. The greater daily variation in temperature in summer than in winter can be explained by the very low summer humidity. Relative humidity between 10 and 15 per cent is normal in Baghdad during the hot weather. Typical average temperatures are shown in table 1.

Throughout the country almost no rain falls between the end of May and the beginning of October. However, a geographic difference in the amount of winter rain causes a significant agricultural differentiation. The mountainous and hilly northeastern region, including four of the fourteen liwas and part of a fifth, nor-

mally receives more than fifteen inches of rain annually; hence artificial irrigation is not necessary. In the arid remainder of the country, cultivation is impossible without irrigation. The approximate boundaries of the rainfall zone can be seen in figure 1. The agriculturally important parts of Iraq are therefore the alluvial plain of the central and southern liwas, the narrow river valleys north of Baghdad, and the northeastern liwas which receive sufficient rain for rain-fed agriculture. Almost the entire population of Iraq lives in these regions, which Sir Ernest Dowson termed Iraq's "productive core." He estimated that approximately 80 per cent

TABLE 2

AGRICULTURAL USAGE OF LAND IN IRAQ, 1952–53

Area	Square kilometers	Per cent of			
		Iraq	Fourteen liwas	Cultivable land (Dowson, 1930)	Agricultural holdings
Iraq	444,442	100			
Fourteen liwas	235,733	53	100		
Cultivable land (Dowson, 1930)	92,000	21	39	100	
Agricultural holdings	63,800	14	27	69	100
Planted	25,300	6	11	27	40
Fallow	27,900	6	12	30	44
Fruit trees and vines	1,300	.[a]	1	1	2
Pasture	2,300	1	1	2	4
Woodlands	500	.[a]	.[a]	1	1
Uncultivable	6,400	1	3	7	10

SOURCES: Iraq, *Statistical Abstract, 1954*, pp. 1, 65–67; Dowson, *An Inquiry into Land Tenure and Related Questions.*
[a] Less than 1 per cent.

of the country's total land surface was "unproductive or slightly productive desert, steppe, marsh and hill masses." He divided the productive lands into those falling in the rainfall zone, approximately 9 per cent of the total land surface, and those falling in the irrigation zone, approximately 11 per cent of the total land surface.[9]

The Census of Agriculture, conducted by the Ministry of Economics in 1952–53, revealed that only 14 per cent of Iraq's total land surface consisted of agricultural holdings, although these holdings included almost 70 per cent of the cultivable land, if Dowson's estimates are still valid. During the 1952–53 season, a greater percentage of the area in agricultural holdings lay fallow than was planted—an indication of the extensive nature of cultivation.[10] The different uses of agricultural holdings, related to the area of Iraq and to Dowson's estimates on the amount of cultivable land, are detailed in table 2.

Barley and wheat are by far the most important field crops in both rainfall and irrigation zones. According to the Census of Agriculture, during the 1952–53 season 48 per cent of the cultivated area was planted to barley, 41 per cent to wheat, and 5 per cent to rice. Rice culture is mostly confined to the irrigation zone,

[9] Dowson, *An Inquiry into Land Tenure and Related Questions*, p. 11.
[10] Iraq, *Statistical Abstract, 1954*, pp. 65–69. An agricultural holding was defined as a farm or estate worked or organized as one unit. This definition does not refer to ownership; most of the land contained in the holdings was owned by the government and farmed under several types of tenure.

as were the 18,000,000 fruit-bearing date palms enumerated by the census. Important subsidiary crops of the rainfall zone are fruits, nuts, and tobacco.

Wheat and rice are grown almost entirely for domestic consumption. Export of these two products in recent years has been small, and in seasons of scarcity the government prohibits the export of wheat. Barley, in contrast, is Iraq's most important export aside from oil. In 1952, 52 per cent of the previous winter's crop was exported; in 1953, 44 per cent; and in 1954, 40 per cent.[11] It is apparent from table 3 that barley has accounted for almost half of the value of Iraq's exports

TABLE 3

PRINCIPAL EXPORTS OF IRAQ, EXCLUDING OIL, 1952–1954
(Thousands of dinars)

Export[a]	1952		1953		1954	
	Value	Per cent of exports	Value	Per cent of exports	Value	Per cent of exports
All grains and pulses	9,517	51	9,743	51	10,036	56
Barley	8,957	48	8,567	45	8,824	49
Wheat[b]	.....	..	39	..	452	3
Rice	73	..	61	..	234	1
Dates	4,652	25	4,227	22	3,526	20
Live animals	880	5	1,583	8	1,563	9
Raw wool	1,123	6	1,124	6	941	5
All others	2,603	14	2,392	13	1,908	11
Value of exports	18,775		19,069		17,974	

SOURCE: Iraq, *Statistical Abstract, 1954*, pp. 202–226.
[a] Local products only; oil and re-exports excluded.
[b] Export of wheat was prohibited in 1952 and 1953.

other than oil. Dates are next in importance, and comprised more than one-fifth of the value of agricultural exports. After grains and dates, exports next in value are live animals and raw wool. These four classes of products have recently accounted for almost 90 per cent of the value of exports other than oil.

Although Iraq is an agricultural country, with more than half of the labor force actively engaged in agriculture and two-thirds of the population living outside cities, oil is by far the most important product and export. It alone comprised one-half to two-thirds of the value of annual exports from 1937 to 1951, and has currently risen to more than four-fifths.[12] The reader may be puzzled by the fact that oil is not included in table 3, and is not discussed at length in the chapters that follow. The reason is in part statistical. Information concerning oil production, export, and revenues is kept separate from data pertaining to the remainder of the economy. However, a more fundamental reason is that Iraq, having granted concessions to foreign companies to exploit the oil resources, has virtually divorced these resources from the domestic economy.

Certain points of contact between oil production and the domestic economy remain, and with these we shall be concerned. For example, the foreign-managed petroleum industry provides excellent technical training, and its relatively high

[11] *Ibid.*, pp. 71–74, 226.
[12] Iversen, *A Report on Monetary Policy in Iraq*, p. 73.

wages and good working conditions for Iraqi employees tend to set standards for other industries. Use of petroleum products in industry and agriculture and in the home is encouraged by their accessibility at reasonable prices. However, by far the most important influence of oil upon Iraq's economy is the revenue it provides. This revenue, properly utilized, will make possible a more productive use of all other resources. Therefore this study is concerned with oil in a very real, if indirect, sense. Social institutions will undergo rapid change in the coming decades because of the influx of oil revenues into the economy. Iraq's plans for economic development could not have been made realistically by an underdeveloped country faced with the usual problems of capital formation and shortage of foreign exchange.

CHAPTER II

A CULTURAL DESCRIPTION OF THE PEOPLE

THE OUTSTANDING characteristics of society in Iraq are common to preindustrial peoples throughout the world.[1] These characteristics are in process of rapid change, but at present pertain to the majority of Iraq's population, as well as to populations of other contemporary preindustrial countries and, to a great extent, to the people of Western Europe prior to the Industrial Revolution.

Iraq's society may be termed traditional or tradition-directed. In the typical situation the individual does not consider alternative modes of action, but follows the customary way without question. The fact of existence is sufficient justification for any institution. Prestige and authority are granted to the elder members because, in the absence of innovation, persons who have had the most time to observe are the wisest. Kinship ties are strong; individual interests and lives matter less than the interests and perpetuation of the family. Maintaining honor, contingent upon action in the traditional manner, or its converse, avoiding shame, is as important a motivating factor as the profit motive in Western society. Loss of honor, and the ostracism it entails, is the worst punishment that society can inflict upon the individual, and, because of the strength of kinship ties, shame is reflected upon all the members of his family. Society is hierarchical, and honor requires the maintenance of one's status. For this reason certain occupations, some highly profitable, are shunned in Iraq. Vegetable growing is relegated to certain lowly tribes, and poultry production to lower-class women. Education has long been a means of earning the right to live in the city and avoid manual labor, with the result that technical skills have not been sought on a large scale and, when acquired, are frequently not utilized.

Religion takes anthropomorphic forms and permeates life. Traditional behavior tends to assume a ritual nature, usually connected with religion, and emotions are expressed in stereotyped ways. Traditional people attempt to personalize everything and do not readily grasp abstract ideas. Therefore government and business are conducted on a personal basis rather than by law or contract, with *ad hoc* decisions based in large part upon the status of the persons concerned. The notion of impartial application of the same written rule to persons of different status is abhorrent to a hierarchical society with strong kinship ties. In Iraq, written contracts are made, but it is difficult to enforce them because of the prevalent ethical idea that a contract may justifiably be broken if changed conditions make it disadvantageous for one of the parties to adhere to it.

[1] The similarities between preindustrial societies have been noted by various writers. Riesman (*The Lonely Crowd*) calls such societies "tradition-directed," in reference to the fact that behavior is motivated by traditional concepts of status and shame. Such a society is typically in the stage of primary production, as defined by Colin Clark: the majority of resources are devoted to agricultural production. Redfield sees the "folk society" and the modern city as two idealized types at opposite poles: "The Folk Society," *American Journal of Sociology*, LII (Jan., 1947), 293–308. For a bibliography of Redfield's critics, see Mintz, "The Folk-Urban Continuum and the Rural Proletarian Community," *American Journal of Sociology*, LIX (Sept., 1953), 136–137. Boeke, in describing the characteristics of the dual society, gives an apt description of the economic characteristics of preindustrial societies in his *Economics and Economic Policy of Dual Societies*, pp. 37–51.

Fertility and mortality are characteristically high in the tradition-directed society. In Iraq a short life span and high levels of infant mortality (documented in later chapters) are accepted as inevitable. Attempts to control disease are often made through magic or religious rituals. For the majority of the population, marriage takes place at puberty or soon after, and no attempt is made to control fertility. In fact, in religious and magic rites much attention is given to assuring high fertility as the only way in which the family may be maintained and strengthened. Therefore the population of the idealized preindustrial society is in the state of "Malthusian equilibrium"—that is, numbers are held in check by mortality, any decline in which results in an increase in numbers. Because in all recorded demographic experience a sizable and lengthy decline in mortality has preceded any prolonged decline in fertility, preindustrial societies are said to be of high growth potential.

One of the economic characteristics of the tradition-directed society is an absence of rationalism in the Western sense of the word: Western ways seem highly irrational to the tradition-directed person. There is little desire to accumulate beyond fulfilling simple needs in traditional ways, and leisure is valued highly, with the resulting reverse elasticity of supply. It is an obvious but significant corollary that, because the maximization postulate does not hold, much of the economic theory developed in capitalist economies does not apply. Production in rural areas is predominantly for subsistence, although the portion of the product claimed by landlords enters the national or international market. In the towns, profits are sought from short-run speculative ventures; the idea of investing labor or money for a small but steady future income is rarely conceived. Traditional methods of production are maintained with little variation from one generation to the next. The level of productivity is low compared with economies in which science is applied to increasing production, with the result that only a small nonagricultural population can be supported. Therefore the majority of workers must be employed in agriculture. Extremes of wealth and poverty are typical, and all but a small number of the highest status are very poor.

With a few modifications to meet special circumstances, the society described above could be that of any preindustrial country today or of Western Europe during the Middle Ages. Although each tradition-directed people is anthropologically unique, all have similar social characteristics forced upon them by common circumstances. Death rates are high because of the absence of science; long-run survival requires institutions strongly supporting high fertility. The uncertainty of life caused by failure to control the environment, together with the exactions of a leisured class supported by status, leads to a fatalistic attitude. The "God wills it" philosophy typical of the Arab until recent times is the product of a long succession of despotic rulers, civil and martial strife, a severe climate, and periodic floods, famines, and pestilences. It is not an approval of the existing state of affairs so much as a rationalization of a situation over which the individual has no control. This resigned pessimism is described by Huizinga with respect to France and the Netherlands in the fourteenth and fifteenth centuries: "Bad government, exactions, the cupidity and violence of the great, wars and brigandage, scarcity, misery and pestilence—to this is contemporary history nearly reduced in the eyes of the people.... The idea of a purposed and continual reform and improvement of

society did not exist." Huizinga documents the similarities between the temper of the times in preindustrial Europe and that of Iraq today. Life then was "violent and high-strung." "All emotions required a rigid system of conventional forms, for without them passion and ferocity would have made havoc of life." Society was viewed as a hierarchy; chivalry, emphasizing elaborate etiquette and honor, was the preoccupation of the nobility. For the illiterate masses, religion permeated thought and included a large element of pagan superstition.[2]

Not all of Iraqi society fits the description in the foregoing paragraphs; rather, it is of the dualistic nature defined by Boeke.[3] Values and ideas from capitalistic nations, brought in first by colonial powers, have been adopted by a small but economically important segment of Iraq's population. These ideas involve a break with tradition in numerous ways. Wants, once simple and stereotyped, suddenly multiply, forcing the individual to look for new sources of income. Many seek larger incomes in the traditional manner, through intrigue and reliance on family loyalties, but an increasing number are beginning to think in terms of investment. The desire to keep the fruits of one's own enterprise weakens kinship ties. As effective demand increases, it becomes obvious that certain occupations, formerly taboo, would be highly profitable if operated on a scientific basis, and a few courageous men begin to break down the barriers. If they succeed, others follow, and new avenues of economic activity are explored. The application of science causes a sharp decline in infant mortality at the same time that material desires are increasing, and, as a result, this small segment of the population begins to consider the control of fertility. Their new way of life is copied, in varying degrees, by other groups in the urban population.

Iraq differs from other preindustrial countries, most of which have some elements of dualism, in that the oil revenues permit more rapid social and economic change. Because economic development has already begun, the economy may be said to be transitional, although the preindustrial elements described above are still dominant.

Ethnic and Religious Differences

Settled by migration from earliest times and fought over by rival empires desirous of possessing Mesopotamia's agricultural wealth, modern Iraq is inhabited by a people of diverse ethnic and religious origins. Moreover, the society of the Middle East, rather than acting as a melting pot, tends to maintain ethnic and religious differences by its organization as a number of in-groups.[4] An individual may belong to one or more of these groups on the basis of family, village or town, religious sect, or language. Where all these coincide for a given group, as within a village or a nomadic tribe, cohesion is strong and resistance to cultural change very great. However, even cities are organized as congeries of in-groups, each tending to live in its own quarter and maintain a characteristic way of life, expressed by place and manner of worship, occupation, language, costume, and diet. Endogamy is important to the maintenance of the in-group and involves marriage between

[2] Huizinga, *The Waning of the Middle Ages,* pp. 6, 21, 28, 40. See also chaps. i, ii, iii, xii.

[3] Boeke, *op. cit.*, p. 4: "Social dualism is the clashing of an imported social system with an indigenous social system of another style. Most frequently the imported social system is high capitalism."

[4] Gulick defines an in-group as "a well-defined unit of people which has a very high degree of esprit de corps." *Social Structure and Culture Change in a Lebanese Village,* p. 156.

the closest relatives short of incest. In Iraq a Muslim man customarily has first claim on the daughter of his father's brother. Carleton Coon refers to the social organization of the Middle East as the "mosaic system" and sees as its basis the ethnic division of labor. Production is organized with "a maximum of skill, taught from father to son, and a minimum of organizational complexity."[5]

Whether we agree that the economic or the religious motive is basic,[6] it is clear that the mosaic system is breaking down in Iraq and that the breakdown will continue. Apprenticeship is declining as an ever larger proportion of children are able to enter schools; at the same time that they are prevented from learning their fathers' trades, they are able to learn different ones. Increasing educational facilities and economic opportunities for women enable people of marriageable age to meet outside the family circle and thus reduce the prevalence of endogamy. Rural-to-urban migration is giving the cities large numbers of workers who have no industrial skills, and the government is choosing to favor large-scale industry utilizing unskilled laborers. The incompatibility of strong kinship ties with nationalism is another factor contributing to its decline; the government is attempting, with some success, to widen the in-group feeling to include the nation as an object of loyalty.

Iraq's most important minorities are the Shi'ites and the Kurds. The division of Islam into the Sunna and Shi'a sects took place over the issue of the caliphate. Shi'ites believe that the Prophet designated his son-in-law 'Ali to be Imam, or leader of the Muslims, and therefore Caliph. 'Ali secured the caliphate only after three illegitimate caliphs had preceded him, and was the only true Imam ever to be Caliph, according to Shi'a belief. There have been twelve imams, or seven according to the Isma'ilite branch of Shi'ism. Shi'ites constitute the great majority of Iran's population and are a significant minority in Iraq, Lebanon, and Yemen. Their special significance in Iraq lies in the presence of four Shi'a holy cities with their golden domed shrines, visited by thousands of pilgrims each year. Najaf is believed to be the burying place of 'Ali; Karbala marks the spot where 'Ali's son Husain was killed by the Sunnite army; Kazimain is the burying place of the seventh and ninth imams; and Samarra is the place where the twelfth and last Imam disappeared.[7]

To the Shi'ite, 'Ali and Husain rank with Muhammad as objects of worship, while the imams are regarded as saints, capable of healing, granting wishes, and offering divine guidance. That the Sunnites killed Husain and sixty-two (or seventy-two) of his followers on the battlefield at Karbala is something that Shi'ites cannot forgive or forget. The ten days of Muharram each year mark a period of mourning, during which sidewalk meetings are held and Shi'ites march through the streets beating themselves with chains. Women gather in private homes to wail and beat their breasts in unison. The grief and hatred thus rekindled reach their climax, at the end of the ten-day period, in passion plays enacting the

[5] Coon, *Caravan: The Story of the Middle East*, p. 153. See also pp. 3–5.

[6] Traditionally under Islam, non-Muslims were tolerated in Muslim lands provided they were "People of the Book"—Christians, Jews, Zoroastrians, and a few others. However, they were not given full political right, and were required to pay a special tax. Gaudefroy-Demombynes, *Muslim Institutions*, p. 123. Such special treatment has undoubtedly contributed to preventing their assimilation.

[7] Donaldson, *The Shi'ite Religion*. For the distribution of Shi'ites in Islamic countries, see France, *Les Musulmans dans le monde*.

battle and in head-cutting ceremonies held in the courtyards of the Shi'ite shrines. The greater fanaticism of the Shi'ites, combined with their lower economic and educational status, has hindered their assimilation.

The Kurds live in the mountainous and hilly regions of the rainfall zone. They maintain an intense tribal consciousness and have resisted Arabization, although

TABLE 4

ETHNIC AND RELIGIOUS GROUPS IN IRAQ, 1945–1950

Religion and ethnic group	Sect	Language	Characteristics	Approximate number	Per cent of population
Muslim				4,450,000	95
Arab		Arabic		3,568,000	76
	Sunna		Urban and agricultural	1,400,000	30
	Shi'a		Agricultural	2,100,000	45
Kurd	Sunna	Kurdish	Agricultural	792,000	17
Turkoman	Sunna	Turkish	Agricultural	50,000	1
Iranian	Shi'a	Persian	Largely urban	40,000	1
Christian				190,000	4
Arab	Various, Uniate and non-Uniate	Neo-Syriac, Arabic, Kurdish	Urban and agricultural	178,000	4
Armenian		Armenian, Arabic	Urban	12,000	..[a]
Jewish		Arabic	Urban	15,000[b]	..[a]
Other[c]				20,000	..[a]
Total				4,675,000	100

SOURCES: Adapted from U. S. Department of State, *Data Book: Near East and Independent Africa*, p. 40; and Hourani, *Minorities in the Arab World*, p. 13.

[a] Less than 1 per cent.

[b] 125,000 until 1948.

[c] Mostly Yezidis (so-called "Devil-Worshipers") of Mosul liwa and Mandaeans, who specialize in metalwork and boat-building.

they long ago adopted the Sunnite sect of Islam. The idea of an independent Kurdish state carved out of Iraq, Iran, and Turkey appeals to them, especially in the face of the Pan-Arab movement.

The relative numbers of Iraq's ethnic and religious groups are not known. A question on religion in the Census of 1947 was probably answered accurately for the most part. However, the interesting breakdown of Muslims, who constituted 94 per cent of the population, religiously into Sunna and Shi'a, and ethnically into Kurdish and Arab Muslims, was not made. The Shi'ite and Kurdish minorities would have feared persecution as a result of answering such questions and might have refused to coöperate with the census questioners. Also, the non-Kurdish Sunnites, who dominate the government, would not want it to appear that they are a minority of the population. An impression of unity is given by classifying all Muslims together. Combining the estimates of the Department of State and Albert Hourani gives the approximate breakdown of ethnic and religious groups in table 4. Although the details of the table are by no means accurate, the major conclusion that can be drawn from it is probably correct: no one of Iraq's major ethnic-religious groups constitutes a majority of the population. Grouping all the

Sunnites gives a false picture, for a Kurd considers himself above all a Kurd. Grouping all Arab Muslims gives an equally false picture, for the two sects have different loyalties. Middle Eastern people have many characteristics in common, but there is at least as much cultural difference between a Kurdish mountaineer and an Arab Sunnite as between the latter and an Arab Christian.

The relations between Sunnites and Shi'ites are of fundamental importance to Iraq's future as a nation, because of the political leadership of the Sunnites and the numerical dominance of the Shi'ites. Genuine assimilation of minorities requires the development of in-group sentiments with respect to either the Arab world or the nation of Iraq. The Pan-Arab movement could lead to a serious Kurdish problem. However, Iraq is differentiated from neighboring countries by its oil resources. Moreover, education and rising incomes bring secularization, which may cause religious minorities to lose some of their special characteristics.

Different Ways of Life

Although automobiles and radios have penetrated the remotest regions of Iraq, and although a small group of people in the largest cities have adopted a new set of values, the majority of Iraq's people remain tradition-directed. Yet any detailed description of the Iraqi way of life must distinguish several groups, each to a large extent culturally traditional, but differentiated because of variations in physical environment as well as in ethnic and religious origins.

Desert nomads.—Fully nomadic Bedouins are those living outside the areas of cultivation who must migrate in search of pasture for their flocks. The fully nomadic Bedouins of Iraq were estimated to number 250,000 at the time of the Census of 1947, distributed among the four liwas of Mosul, Karbala, Dulaim, and Muntafiq, bordering on the Syrian Desert and the Jazira between the Tigris and the Euphrates. Although this estimate may be somewhat low, being only 5 per cent of the enumerated population, it is certain that the Bedouins do not comprise more than 10 per cent of Iraq's people.

The influence of these nomads is greater than their numbers would indicate. The Bedouins of Arabia are the origin, culturally, at least, of the majority of Iraq's population, who profess the religion which originated there and call themselves Arabs. Iraq's population has been continually replenished by migration out of the desert. The rivalry over land and water between settled cultivators and nomadic herdsmen, symbolized in the parable of Cain and Abel, has continued up to the present day. When a strong central government has existed to build and maintain an elaborate irrigation system, the cultivators have flourished, inducing some nomads to settle and join them, extending the area under cultivation and making possible a high degree of civilization. Throughout Mesopotamia's history, when such a government has been conquered by a people who have not understood irrigation, the system has declined—perhaps from neglect even more than from outright destruction—and the relative dominance of the nomadic herdsmen has increased.[8]

The descendants of the immigrants from Arabia are found today in all stages of settlement from fully nomadic Bedouins to fully settled fellahin. Tribal vestiges persist throughout Iraq among settled people. Most villagers believe that they owe

[8] Dr. Haider's thesis, "Land Problems of Iraq," contains detailed discussion of the successive cycles of settlement and tribalization throughout Iraq's history.

a degree of allegiance to their sheikh, even if he is only an absentee landowner—far removed from the desert sheikh, who is judge, governor, and spiritual guide. Another tribal vestige is a prejudice against manual labor: in the hierarchy of agricultural occupations, raiding and herding are placed at the top, grain raising on the acceptable level, and vegetable growing at the bottom. To be a fellah means to grow grain and is compatible with being a tribal Arab. Only certain lowly tribes near the major cities engage in growing and vending vegetables, and they do not intermarry with the more noble tribes.

The laws of hospitality, necessary on the desert, where to be refused food and drink may mean death to the traveler, persist today among all classes of society in both rural and urban areas. It is customary to serve refreshments to every caller in the home or place of business, and it is considered shameful—that is, involving a loss of honor—not to serve several times more food than the guests can eat. Under tribal conditions nothing is wasted, for many are waiting to finish what the guests leave: in order of priority, the important men of the tribe, their sons, the lesser men, the older boys, the women and young children, and finally the dogs. However, the growth of material desires, especially in the towns, may soon put an end to the traditional lavish hospitality except among the wealthy.

The origin of many more cultural traits found throughout Iraq can be seen in the description of Bedouin life which follows.[9]

The economy of the desert nomads is based upon breeding and raising animals, notably camels, but sheep, goats, donkeys, and horses as well. Bedouins have lived also by raiding each other, settled cultivators, or caravans passing through their territories. Typically they do not take an active part in commerce across the desert, but raid, levy tolls, and occasionally supply transport for caravans. The necessity of fighting for pasture and water in years of scarcity intensifies their warlike nature. Despite the fact that a settled life leads to greater material prosperity, Iraq's Bedouins, the poorest and least educated portion of the population, consider themselves superior to farmers and artisans.

Their dependence upon animals and the scarcity of water and grazing away from the river valleys make nomadic life necessary. They must settle near wells or rivers during the summer, when the animals require daily watering. The welcome rains, which begin in October, bring grass on the desert and allow man and his animals to stray farther from the sources of water. From October to May the camp is moved about every ten days, when the grass is depleted and the camp becomes unsanitary. The tribe must settle again in May, when the dreaded summer begins.

The life of the Bedouins is hard and simple. They subsist upon camels' milk and dates during most of the year. Bread and rice are luxuries, and meat is enjoyed only when an animal dies or is killed in honor of guests. Housing consists of a tent made of goat hair or wool, characteristically black in color. Health conditions are poor, although it is not clear whether on balance they are worse than those in the villages, where malaria and bilharzia are associated with irrigated agriculture. Nomadic life is hard on infants, the aged, and the infirm, and consequently the span of life is short, but most adults are tough and wiry. The birth rate must be high to main-

[9] See Dickson, *The Arab of the Desert;* Field, *The Anthropology of Iraq;* Grant, *The Syrian Desert;* Jamali, *The New Iraq;* and Tannous, "The Arab Tribal Community in a Nationalist State," *Middle East Journal,* I (Jan., 1947), 5–17.

tain a population constantly depleted by privation and war. The institution of polygamy, sanctioned by the Prophet Muhammad as preferable to female infanticide, not only takes care of the excess female population resulting from warfare but maintains a high birth rate as well.

Social organization is patriarchal, with a complex hierarchy of status. Each tribe has its sheikh or sheikhs, usually older men, although the office tends to be hereditary. Tribes are organized into confederations, such as the Shammar of the Jazira, with a paramount sheikh as chief of the lesser leaders.

The rigid code of honor and morality of the Bedouin is found in varying degrees throughout Iraq. Westerners approve of some parts of the code, such as the moral necessity of offering food, water, and shelter to the traveler, and giving protection to anyone who requests it, even if the person is an enemy. At the same time they deplore others, such as the avoidance of manual labor and the compulsion to avenge the family honor by killing a woman relative who is rumored to be guilty of misconduct. For better or for worse, the moral code is weakened by settled life, whether in towns or villages. On the positive side, the anonymity of a large city makes it somewhat less necessary for a man to kill his offending sister. On the negative side, the discipline of the tribe has not yet been replaced by a sense of responsibility to any group other than the immediate family. The treachery prevalent in Middle Eastern towns is not merely the urban counterpart of the Bedouin's raiding, which follows established rules.

The Government of Iraq has continued the policy, begun by the Ottomans in the late nineteenth century, of attempting to settle the tribes on agricultural land, although the resulting pattern of land tenure has tended to perpetuate the power of the sheikhs. The reasons for a central government's desire to put an end to nomadism are sound and obvious: the internecine feuds of the Bedouins are a threat to internal security, and their habit of encroaching upon settled agriculture in dry years is a threat to agricultural development and irrigation schemes. They cause difficulties with respect to taxation and the control of smuggling and to censuses, military conscription, and health and education programs. Their very existence as tribes precludes their developing a spirit of national patriotism.

More planning is required in tribal settlement than has hitherto been devoted to it. Nomads should be regarded as part of the nation's economy, turning the scanty resources of the desert into meat, milk, and wool. Some of these resources, lying far from the areas where a permanent existence is possible, would be wasted if all the tribes were settled. It may be that Iraq's economy cannot at present spare the products of the Bedouins, although as national income rises their production will surely be rendered submarginal. Moreover, Iraq's agriculture has many unsolved problems, among which land tenure looms large, and settling the tribes under their sheikhs, as has been done in the past, gives a material incentive to perpetuation of tribal organization. The most potent force in detribalization may prove to be the availability of land as the irrigation projects are carried out, if complementary reforms are included to allow an individual to farm a piece of land profitably.

Agricultural people of the alluvial plain.—The typical Iraqi, if he can be said to exist, lives in a mud hut in a village on the alluvial plain of central or lower Iraq, farming by irrigation the land held by his sheikh, who gives him a yearly share of

the crop in return for his labor.[10] This fellah[11] (plural, fellahin) usually considers himself a member of some tribe, even though his ancestors have been settled agricultural people for centuries, and he maintains certain tribal traditions. This man may be called typical because he is a member of the most numerous cultural group in Iraq. According to the Census of 1947, at least two-thirds of Iraq's population lived in villages, and 70 per cent of the nonnomadic population was residing in the irrigation zone. Therefore about half of Iraq's nonnomadic population lived in villages in the irrigation zone in 1947.[12]

The people under discussion include fully settled and semisettled agriculturists, but exclude the fully nomadic Bedouins, who do not stay in one place long enough to raise crops. Sir Ernest Dowson, who surveyed Iraq's population in 1930, divided the rural, nonnomadic population into "settled" and "tribal" (seminomadic) people, comprising 32 per cent and 48 per cent of the total population, respectively.[13] However, the fully settled and the semisettled agricultural people will be combined in our description because it is difficult to distinguish the two groups.

The Iraqi fellah is a mobile person in several senses. First, because of the soil salination which follows irrigation without drainage under conditions of rapid evaporation, it has been common throughout the centuries for whole villages to move when the productivity of their lands is diminishing. Floods, shifting river courses, or the silting up of canals have also caused villages to move. Second, it is an accepted practice for a sheikh to dismiss any fellah and his family at will. An abundance of land relative to the size of the population and the partial dependence on pastoralism of most rural people in Iraq are further elements making for mobility. The fellah is sufficiently settled to raise a crop and to build himself a mud or reed hut, and commonly allies himself with a given tribe and its sheikh even if the allegiance is temporary.

The individual peasant proprietors found in parts of the rainfall zone are almost unknown on Iraq's alluvial plain. The expense of both lift and flow irrigation is a partial explanation for the paucity of small landholders, but a more fundamental reason is the manner in which tribes have settled the plain. Typically, when a tribe owing allegiance to a sheikh and his family has settled as cultivators, the sheikh's family, through traditional leadership and perhaps the supplying of capital, has come to be considered the proprietor. Usually the sheikh does not own the land in fee simple, but is himself a lessee of government land, the largest category of land ownership in Iraq. The privilege of collecting rent goes with the leasing of government land.

The word "sheikh," meaning, in nomadic Bedouin life, the leader of the tribe, the elder, and the source of wisdom and guidance, has come to mean also a landlord.

[10] See Coon, *op. cit.*, chap. xi; Dodd, *A Controlled Experiment on Rural Hygiene in Syria;* Tannous, "The Arab Village of the Middle East," *Annual Report of the Smithsonian Institution* (1943), pp. 523–543; and Warriner, *Land and Poverty in the Middle East.*

[11] Only the Arabic words that are fairly well known to English-speaking readers have been used. They appear in the text unitalicized and without the vowel markings that indicate where the accent falls. The Appendix lists these Arabic words with their vowel markings and meanings.

[12] This statement assumes that the urban population is the same percentage of the total population in both zones, an assumption that is approximately true. The Marsh Arabs would be included in the half of the population living in irrigation zone villages.

[13] Dowson, *An Inquiry into Land Tenure and Related Questions,* p. 12. His rural nonnomadic population, comprising 80 per cent of the total, is larger than our present category by the inclusion of mountain and marsh rural people and the urban populations of all but the three major cities.

Because of the comfort and convenience of urban life, many sheikhs live in the towns and therefore have lost all but their rent-collecting functions. When the landlord is an absentee, one of the wealthier tenants may be considered the sheikh, meaning that he is a tribal leader, and the landlord is simply called a landlord. The fellahin's meek acceptance of their miserable lot may be traced in large part to their tribal origins. Tradition demands that the sheikh's decisions be obeyed without question, just as traditionally he could be expected to look after the welfare of his people. As the villagers come to realize that their sheikh's motivations have changed, discontent develops.

The status of those who farm ranges from sharecropper to fellah, who is actually an agricultural laborer. Although each man is assigned a plot of land by the landlord and sometimes is given seed and implements, the two groups differ in income and social status. The sharecropper customarily receives half of the crop. The fellah receives a much smaller share,[14] which varies little from year to year because it is seldom above a subsistence level. The major difference between sharecropper and fellah appears to be bargaining power. Sharecroppers are those who, through family connections, literacy, or other means, can exact a greater share from the landlord. Fellahin are too ignorant to compute the size of their debt or the value of their crop, or are fearful of having their land taken away and given to another family. The landlord may give them just enough to keep them and their families alive and in debt until the next season. Because of the lack of incentive for the fellahin to work, foremen, often members of the sheikh's family, are employed on the large estates as supervisors. The majority of farmers on Iraq's alluvial plain are fellahin rather than sharecroppers, the reverse of the situation prevailing in most other Middle Eastern countries.

The village is the typical form of agricultural settlement in Iraq and throughout the Arab world. It is "a classic example of the in-group,"[15] in that tribe, residence, religion, language, and often even family are the same for each person in the village. The origins of the village are lost in prehistory, but it is certain that the necessity for protection against marauders has been important in maintaining it. Social customs appropriate to village life have developed, and act as impediments to any change toward scattered farmsteads.

The typical Iraqi village is small. The fertility of the surrounding agricultural land and the amount of water available set initial limits on its size. Another limiting factor is that the fields must not be farther than a few hours' walk from the village, or they will be uneconomical to farm and impossible to protect against animals and thieves. Finally, there is a political factor: the government of the village is based upon personal relations and administered by the ruling elders. If the village has grown beyond a certain size, contests for leadership develop: one faction may establish a new village, or a formal municipal government may develop. In the latter case the village will have become a town. Its increased size will bring other attributes not found in villages, most important of which are a permanent market and a group of artisans. Villages in Iraq typically contain

[14] According to Doreen Warriner's recent estimates, the landowner on flow-irrigated land takes between three-fifths and two-thirds of the crop, and on pump-irrigated land five-sevenths. Warriner, *Land Reform and Development in the Middle East*, p. 137. Interest, taxes, and similar expenditures would further reduce the fellah's share.

[15] Gulick, *op. cit.*, p. 162.

about forty households, with an average of five or six persons each. Money incomes are too low to support commercial enterprises other than a teahouse for the men and perhaps a small shop selling commodities such as tea, sugar, cigarettes, and matches. Even these two types of enterprise are not found in many villages.

Village life can be described with accuracy because of the uniformity of villages in areas outside the spheres of urban influence. In villages within commuting distance of the cities, new ideas and aspirations enter along with increased incomes from industrial employment and rising land values, and such villages exhibit patterns of living midway between those presently to be described and those of the urban poor.

Plumbing and purified drinking water are nonexistent outside cities and towns in Iraq, with the exception of the villages in which wells have recently been dug. Even simple latrines are unknown in most villages, for, according to Bedouin custom, the people consider it sanitary and modest to go to the fields before dawn, or, during the day, to use the nearest secluded spot. The wall of the outermost row of huts in the village usually serves as a latrine area, and unfortunately it is often the location of the irrigation ditch from which the village draws its water. The women carry water from the river, canal, or ditch, commonly storing it in their homes in large pointed earthenware jugs, which cool it by evaporation. These jugs could be used for filtering, but the villagers scornfully call the filtered water which drips from the pointed bottom "chicken water," and they dip water for drinking from the top of the jug. There are no special bathing facilities. Village women wash themselves and the family's clothes occasionally in a tin basin, while the men and boys may bathe in the river or canal. Soap may be purchased if the family's income permits.

The typical village dwelling consists of one or more rooms opening on a courtyard. Aside from the roof, which is of straw mats or brush supported by wooden beams and plastered over with mud, the entire hut and courtyard wall are built of mud. Some houses may be of sun-dried mud brick, but they are not in the majority. There are no windows other than ventilation holes made in the walls in summer and plastered with mud in winter. Each hut has an outside door leading from its courtyard to a narrow alleyway which winds between the various courtyard walls. The outside door is stoutly if crudely constructed and has some kind of lock for the security of the family's possessions; a bad-tempered dog may be kept on the roof or in the courtyard for the same purpose.

The courtyard is the real living room of the house, where the cooking is done. The bread is baked in mud ovens. The other cooked foods which are occasionally eaten are cooked on a fire of twigs or dung or, if the family can afford it, on a kerosene one-burner stove or charcoal burner. The chickens run loose in the courtyard, and the cows and other animals, if the family is wealthy enough to own them, are tied there. The dung is carefully gathered into piles and later mixed with straw and dried in cakes on the walls. It is a precious fuel to a people who live in an almost treeless land. Only a few have the cash income to purchase kerosene and a lantern; most of the villagers must retire when the sun goes down.

The enclosed rooms are used for sleeping and storage only. They may or may not have wooden doors, depending on the wealth of the family. Furniture is simple and consists of mats and comforters which are unrolled on the floor at night, a few

cooking and storage utensils, and in some houses a colorful wooden chest made in town out of tea crates. Tables and chairs are not used, but there may be a wooden bench for the men to sit on; otherwise a rug may be unrolled for sitting. Ordinarily, people sit or squat on the ground, where they eat and wash the dishes.

The thick mud walls of the house offer protection against the intense heat of summer. During the short but cold winter, the family sits in the brilliant sunshine by day and huddles together in one room, often with their animals, by night. When it rains, no one is comfortable, but the culture does not place a high value on physical comfort.

The diet of the fellahin consists mainly of bread, a round, flat loaf of whole wheat or barley flour. Tea with sugar is greatly enjoyed, although many families are too poor to consume it regularly. Bread alone makes a meal, and bread with sweetened tea a good meal. Dates, onions, and tomatoes, cheap when in season, are the most common additions to the basic bread and tea. Most families keep a few chickens, which must scratch for their food, and hence are thin and diseased and lay few eggs. Families who have cattle make sour milk and cheese. Rice, meat, and fruits are purchased less often, but are enjoyed at times of celebration or when the sheikh has guests. The tradition of feeding the entire village whenever a feast is prepared is probably an important alleviating factor in the diet of the fellahin.

Clothing follows tribal traditions. Around the village the men and boys wear a loose gown, hitching it up for work in the fields, and adding the traditional Arab headdress and a homespun cape for trips to town. The women and girls wear a loose long-sleeved dress. Women and older girls wear a black headdress at all times, adding a cape when they go to town. The woman's cape differs from the man's in that it covers the head and is invariably of a dark color. Because of the lack of washing facilities and the low incomes of the villagers, their clothes are often dirty and ragged. The majority go barefoot, although the use of leather sandals or wooden clogs is common.

Lack of skills is a factor contributing to the low level of living of the fellahin. Soapmaking and candlemaking are unknown, despite the availability of animal fats and the obvious need for soap and candles. A few village women who can sew make a good income from sewing for others. There is a little spinning and weaving of capes, rugs, and blankets, but little or no manufacture of agricultural implements, furniture, mattresses, cooking utensils, shoes, and other necessities, which are usually purchased in the nearest town.

The social characteristics which owe their origins to Bedouin life remain, although somewhat modified, among settled cultivators. They include the emphasis on hospitality and on the family and tribe rather than on the individual or nation. A strong system of status is evident in the refusal to do certain tasks. Carrying fuel and water, having anything to do with chickens, cooking, washing clothes or dishes, or caring for children are women's tasks which no man could perform without a loss of honor in the eyes of his fellow men. No one of either sex in a tribe of fellahin can raise vegetables, unless vegetable growing is a specialty of the tribe.

Despite the subservient status of village women, they enjoy greater freedom than do townswomen. They never veil their faces, and are free to talk with men. Segregation of the sexes is impossible in the village house, as is wearing a cape while doing agricultural labor. Both sexes work hard, dividing the labor between

them according to established customs which no one questions. At times of feasting, the women share in the festivities, although they do not eat until the men are finished.

The men spend their leisure time sitting in their huts, the teahouse, or the sheikh's guesthouse. Time means little to them, and they are content to sit, with or without conversation, for many hours. The women and children remain at home or visit their neighbors when they have no work to do.

A United Nations expert on handicrafts estimated that the typical fellah has one hundred idle days a year. Many wheat or barley cultivators have nothing to do in the summer, when there is not enough water to irrigate all the land that was planted to winter crops. Rice growers are idle all winter until the spring floods. However, if underemployment is defined as a situation in which a certain percentage of the population could be withdrawn without affecting the size of output, its prevalence is less certain under present conditions. In general, the fellahin are sick and poorly nourished and are therefore incapable of sustained physical effort; moreover, they would not gain financially by working harder. Some localities of high population density have a significant amount of rural underemployment, but its extent throughout the country has probably been overestimated.

Until recent years there were no schools outside cities and towns. Despite remarkable progress in the spread of rural education, schools are not yet available to the majority of rural children, and few of the schools in existence offer education beyond the primary grades. Some villages have a local religious leader who teaches a few of the boys to read the Quran. However, these students cannot be considered truly literate, as they commonly memorize the passages. The way in which most village children are educated is aptly described by Stuart Dodd: "Their occupation is chiefly hanging around and picking up the adults' culture by absorption."[16] Illiteracy is universal among women and almost universal among men. Superstitious beliefs, as well as diseases, abound.

Marsh dwellers.—There are no reliable estimates of the number of people in the inhospitable region of Iraq's southern marshes. They are of mixed origin racially, as one would expect in an area which offers protection to fugitives of all kinds. True Arabs despise the marsh dwellers because of their mixed blood, and their name, Ma'dan, connotes "yokel" outside the marshes.[17]

The Ma'dan live in villages of reed huts built on islands. The reeds of the marshes, the main form of natural vegetation, are important to the livelihood of the marsh people. From a giant reed (*Phragmites communis*) they make not only their own houses but housing and roofing materials used throughout southern Iraq. The United Nations expert on handicrafts reported in 1952 that approximately one-fifth of the population of Suq ash-Shuyukh qada of Muntafiq liwa were employed in matmaking. The water buffalo, whose milk is an important item in the diet, feeds on young reed shoots. Some water buffaloes are bred for sale to merchants in town. Fishing, also a major source of food, is done from the boats which are the chief means of transport in this region of few roads. The fish have little commercial value, as the Ma'dan do not know how to preserve them. Ma'dan living in the permanent marshes subsist almost entirely on fish and milk products.

[16] Dodd, *op. cit.*, p. 98.

[17] Thesiger, "The Ma'dan or Marsh Dwellers of Southern Iraq," *Royal Central Asian Journal*, XLI (Jan., 1954), 4–25. See also Field, *op. cit.*; and Fulanain, *The Marsh Arab*.

People living on the peripheries of the marshes in the seasonally flooded areas are rice cultivators, producing for the national market. Their way of life resembles that of both the Ma'dan and the fellahin of the alluvial plain. Their villages are built of reeds, and they keep water buffaloes, yet they are tied to the land by the same type of tenure system as that of wheat and barley cultivators.

In social customs the Ma'dan have much in common with other tribal people, but are more backward than the fellahin because of their isolation and greater poverty. Here, as elsewhere in Iraq, a high value is placed on hospitality. Visitors to marsh villages are entertained in distinctive guesthouses built of the giant reeds woven into intricate designs. Like most of the fellahin, they are of the Shi'a sect of Islam and, because they lack religious instruction, few pray or keep the fast. The special marriage customs of the Shi'ites are intensified in the marsh region. Throughout Iraq, the prospective groom must pay a dowry to his bride's father; but, in southern Iraq especially, the father spends much of it on golden jewelry, which his daughter wears at all times. It is no accident that Amara and Basra cities are jewelry-making centers. The gold is regarded as the wife's insurance if her husband should divorce her, for divorces are easily and commonly made: the husband need only say "I divorce you" three times before witnesses, and the divorce is final. Polygamy is permitted by Islam, but among the Ma'dan the institution of temporary marriage—the Arabic name, mut'a, literally means "enjoyment"—is more common. Under this system, a marriage is contracted for a definite period of time, at the end of which the girl is sent back to her people and any children remain with the husband's house. If her people are in need of money, she may be given in mut'a a number of times. It is suspected that many of these women eventually become prostitutes. In compensation for her low social status and the omnipresent possibility that her husband will divorce her or take another wife, the Ma'dan woman has relatively great freedom. The hierarchy of seclusion of women is described by Fulanain:

> The daughter of the despised Ma'dan has one great advantage over her social superiors; she goes unveiled, as free as any English girl to comb her hair and don her gayest dress when a chance meeting with her lover seems possible. As the social level rises, so does the seclusion of the Arab woman become stricter. The rich shaikh, for example, will build a reed fence or a wall of mud to give greater privacy to his women's quarters, while the shaikh of a desert tribe when moving camp will hang some brightly-coloured cloth on the leading camel, as a warning to strangers to keep their distance. The strictest rules are those which govern the well-to-do families of the towns. There the woman must go heavily veiled; she may not see her future husband, nor he her; only in the bridal chamber do they discover whether their messengers had been truthful, or whether, corrupted by gifts, they had extolled imaginary charms.[18]

Mountain people.—In the zone where rain-fed agriculture is possible, Iraq's mountains and foothills, the way of life is significantly different from that on the plains. Not only does the physical environment necessitate a different economic structure, but the mountain people have different ethnic origins. They are predominantly Kurds, who represented approximately 17 per cent of the population in the late 1940's (table 4). Various Christian sects, also, live as peasant proprietors in mountain villages, particularly in Mosul liwa; but the entire Christian population constituted only 4 per cent of the population, and this number in-

[18] Fulanain, *op. cit.*, p. 66. In recent years the generalization that seclusion is greatest among the urban wealthy has been less true in the largest cities, although it is still true in the towns.

cluded a substantial proportion of town dwellers. The Yezidis of the Jabal Sinjar area of Mosul liwa are an interesting but numerically insignificant mountain people. Therefore the present discussion will be concerned primarily with the Kurds, although their way of life has much in common with that of other mountain people.[19]

Kurdistan is divided between Iraq, Syria, Turkey, and Iran, and extends from the Euphrates in Turkey and northern Syria to Kermanshah in Iran. In much of this area Kurds comprise a minority of the population. However, Iraq's portion, southern Kurdistan, running from the Iranian border through the foothill area, is almost exclusively Kurdish.

The extraordinary difference between towns and the surrounding countryside that is characteristic of the Middle East is illustrated in Kurdistan. Sulaimaniya, in the heart of southern Kurdistan, is the only essentially Kurdish city in Iraq. In that liwa the Kurdish language is used in the schools along with Arabic. But the cities of Arbil and Kirkuk, also surrounded by Kurdish villages, are primarily Turkish in their culture. On the citadel of Arbil, Turkish is the major language spoken—a heritage from the time when the citadel was an Ottoman outpost.

The Kurds share religion but not language with Iraq's Arab Muslim majority. They maintain their tribal organization and have resisted assimilation, even of different tribes within their own people. According to Albert Hourani,

> [The Kurds] do not form a single community but a group of tribes. Among the wholly settled Kurds the tribal organization is becoming weaker, but in the mountains it is still very strong, and in general it is true to say that tribal loyalty is stronger than any other. The tribesmen, like most mountain peoples, are restless under civil government and positive law. They willingly acknowledge no law except their own customs, and no leadership except that of their chief families . . .[20]

The process of detribalization is continuing today. According to Barth, the transition is toward a "feudal" organization—that is, away from freeholding farmers to a hierarchy of laborer, tenant, intermediate tenant, and absentee landlord, as in central and southern Iraq. He attributes this tendency to the Kurdish emphasis upon leisure and real property, which induces a freeholder who has accumulated surplus income to use it to become a landlord rather than to invest in increasing the productivity of his land. Once a man becomes a landlord, he has an incentive to eliminate any freeholders near his land, for they reduce his disciplinary powers over his tenants.[21]

Although some Kurdish tribes remain solely pastoral nomads, the great majority have become settled cultivators of cereals or combine cereal cultivation with stockbreeding. Members of the latter group are transhumant migrants, migrating seasonally from one altitude to another in the same mountainous district. The principal crops are wheat and barley, grown by methods slightly less primitive than those of the fellahin on the plain. Bread is the mainstay of the diet, but the greater number of animals relative to the population means a larger proportion of animal foods than in the fellahin's diet.

Housing in Kurdish villages is more substantial than in Arab villages because

[19] For readings on the Kurds, see Barth, *Principles of Social Organization in Southern Kurdistan;* Fisher, *The Middle East;* and Hourani, *Minorities in the Arab World.*

[20] Hourani, *op. cit.*, pp. 95–96.

[21] Barth, *op. cit.*, pp. 23–24, 131–133.

of the severe winters and the availability of stone for building. Houses are made of mud, stone, and brush, typically placed so close together on the mountainside that the roof of one house is another's terrace. Abundance of water and sparsity of population make for better sanitary conditions than among the fellahin. However, the severity of the winters, the poverty of the area, and the presence of malaria in some regions of Kurdistan cause mortality to be higher than among the people of the plains. As in all villages in Iraq, medical and educational facilities, electricity, water purification, and similar amenities are almost wholly lacking.

Social life bears many similarities to that of the Arab majority. The exclusion of women from the social life of men and from positions of authority is found here

TABLE 5

URBAN POPULATION OF IRAQ, 1947

Number of inhabitants	Number of towns	Cumulative per cent of total population	Cumulative per cent of urban population
More than 150,000	1	10	29
50,000–150,000	4	17	51
20,000–50,000	7	22	66
10,000–20,000	12	26	77
3,000–10,000	49	32	..[a]

SOURCES: Census of 1947; Lebon, "Population Distribution and the Agricultural Regions of 'Iraq," *Geographical Review*, XLIII (2), 223–228, and (4), 570.

[a] Not available.

also. However, Kurdish women have an air of independence that Arab women lack. They talk and laugh with men and almost never cover their colorful costumes with a black cape. The men wear a matching shirt and pair of baggy trousers, a wide sash, and an embroidered skull cap wrapped around with a large fringed turban. Because of the centuries of warfare and the high value placed upon prowess, a man carries some kind of weapon—at least a dagger in the sash, and, if he can afford it, a gun.

Urban people.—According to the Census of 1947, 34 per cent of Iraq's population were living in places having a municipal government, that is, in towns and cities. Baghdad city alone contained 10 per cent of the total population and 29 per cent of the urban population; the next largest city, Mosul, was less than a third as large. A frequency distribution of the numbers of cities and towns by size appears in table 5.

Because its fertile plain, when irrigated, could support a large nonagricultural population, Mesopotamia logically became the site of the first cities in recorded history. Unlike modern cities, which purchase their food with services and industrial products, early cities were supported in large part by customary tributes, in return for which the cities provided services such as protection and marketing for their hinterlands. In Mesopotamia the city has been of particular importance as the seat of the central government which built and maintained the irrigation network during the periods when agriculture flourished.

The rationale of the Middle Eastern town is threefold: (1) commerce is unusually important because the area is at the junction of three continents; (2) administration is important because, during much of their history, Middle Eastern

countries have been colonies of foreign powers, whose ruling representatives required the security and amenities that only towns could supply; and (3) the religious significance of certain towns, particularly through the pilgrimage, has reinforced their commercial significance.[22] The four largest cities, Baghdad, Mosul, Basra, and Kirkuk, were all administrative centers of the Ottoman Empire. The next three, Najaf, Kazimain, and Karbala, are holy cities housing important Shi'ite shrines, visited by thousands of pilgrims each year. All the cities and towns in Iraq are important commercially. In the Census of 1947, 10 per cent of the employed population were engaged in commerce, an occupation outnumbered only by agriculture and service trades. Even in Baghdad city, center of much of the country's industry, more people were engaged in commerce than in manufacture.

The preindustrial city, including the old sections of dualistic cities, is characterized physically by congested, unplanned, and unsanitary conditions and a division into quarters reflecting ethnic, religious, and occupational differences. Production is organized along guild lines and is carried on in small unmechanized operations without specialized management. Education is not technical in its orientation and is limited to sons of the ruling classes. The middle class is small and weak, kinship ties are strong, religion pervades all spheres of activity, business and government are carried out by means of personal relationships—in short, the old city is part of the tradition-directed society. Such cities tend to be relatively small and few in number, for their agriculture is not productive enough to supply much surplus, nor can the city compete with its products on the world market to buy food from other countries. "The static character of agriculture and of the economy generally [is] fostered . . . by the insulation of the religio-political officials from the practical arts and the reduction of the peasant to virtually the status of a beast of burden"[23]—a statement that would apply to much of the Middle East today.

A description of a typical medium-sized town in southern Iraq will illustrate what is meant by the old Middle Eastern town. Samawa, home of some 20,000 people, is located on the southern Euphrates approximately midway between Baghdad and Basra. Its rationale is primarily commercial, for it acts as a center where the Bedouin tribes from the desert may trade their animal products for necessities such as dates and cloth. The extensive bazaar consists of a large number of tiny shops, conforming to Boeke's explanation of the coexistence of poverty and a large commercial population in the Oriental town: "It is . . . this very poverty which explains the situation. Only very small quantities are taken to market, only very small quantities are bought at one time . . ."[24] Poor people cannot afford to tie up their money in household stores, and typically finish one box of matches or bar of soap before going to the market for another. Time is plentiful and money scarce in Samawa. The major industries utilize animal products supplied by the Bedouins. The cleaning and baling of wool, which has long been the most important industry, employs several hundred workers at the peak of activity in the spring.

[22] Fisher, *op. cit.*, pp. 120–122.

[23] Davis, "The Origin and Growth of Urbanization in the World," *American Journal of Sociology*, LX (March, 1955), 431. The entire March, 1955, issue of the *American Journal of Sociology* is devoted to urbanization: see especially Ginsburg, "The Great City in Southeast Asia," pp. 455–462, and Sjoberg, "The Preindustrial City," pp. 438–445. See also Hoselitz, "The Role of Cities in the Economic Growth of Underdeveloped Countries," *Journal of Political Economy*, LXI (June, 1953), 195–208.

[24] Boeke, *op. cit.*, p. 75.

Manufacture of clarified butter (ghee) is second in importance. Hand-woven wool rugs and blankets are important products of home industry. There is no brickkiln; materials for housing other than mud brick must be brought in by the railway which runs through the town. The Census of 1947, which enumerated Samawa's population at 15,292, gave a labor force of 4,350 (see table 6).

Social classes range from wealthy landowners and merchants to Bedouins who come in to camp near the river in summer. The middle class consists of professional people, civil servants, skilled artisans, and merchants. The lower class consists of

TABLE 6

EMPLOYMENT IN VARIOUS INDUSTRIES IN SAMAWA, 1947

Industry	Number of workers	Per cent of workers
Agriculture	445	10
Manufacture	599	14
Public utilities and transport	338	8
Service (public and private)	692	16
Commerce	1,641	38
Miscellaneous and unspecified	348	8
Apprenticeship	287	7
Total	4,350	

SOURCE: Census of 1947.

domestic servants, poorer merchants and street vendors, and unskilled workers of all kinds. Fellahin inhabit the land surrounding the town. Their landlords live in the town, or, if they are both wealthy and desirous of a more cosmopolitan life, in the nearby city of Diwaniya or in Baghdad. The fellahin tend the date gardens along the Euphrates and raise wheat and barley by irrigation. Tribal traditions remain so strong that almost no vegetables are grown around Samawa; those sold in the market are imported from Diwaniya or Baghdad.

Housing for the town dwellers is almost entirely of Oriental style. The outer wall of the house rises directly from the street, and the few outside windows are barred and shuttered for reasons of security as well as privacy of women. The building material is baked or mud brick, depending on the wealth of the owner. The floor plan is typically a hollow square with an inner courtyard into which all the rooms open. The house may have one or two stories, but invariably has a flat, walled roof, where the family sleeps in summer. A wealthy household may have a walled garden for summer use. Most of the houses have some form of plumbing, for a water purification plant was installed in 1952, and pipes were laid in all the streets. As in Baghdad, there is no system of sewage disposal; most houses have septic tanks.

The typical house is inhabited by more than one family in the conjugal sense. But the inhabitants usually belong to one patriarchal family, for purdah demands that no man see a woman unless he is married to her or is a close relative. It is rare for a son to set up a home of his own when he marries. The cost of living is too high to allow any but the wealthy to live as conjugal families. Moreover, social customs would make conjugal family life undesirable and inconvenient in Samawa.

A gregarious people unaccustomed to companionship of the opposite sex, Arabs enjoy being with members of their own sex at all times. Visitors to the women's public bath make it a social institution, bringing food and their children and spending many hours there.

The way in which housework is done requires an abundance of female labor. Marketing involves going to a number of different stalls in the bazaar and must be repeated each day, as refrigeration is almost unknown. Food preparation is a time-consuming process. Rice contains a sizable percentage of waste and must be sorted grain by grain, an operation which takes several hours a day for a large family. In the preparation of a favorite Iraqi and Lebanese dish, kubba burghul, meat and cracked wheat must be pounded in a large mortar for an hour or more. It is customary for the man to be served his midday or evening meal immediately, whenever he decides to come home. The food must be ready, and there must be someone to serve it. Callers of either sex are served tea and coffee several times during each visit.

The mainstay of the diet of all but the wealthy is bread, the same flat loaves eaten by the fellahin. Rice, cheaper here than in Baghdad because it is grown nearby, is enjoyed by all but the poorest class. A few vegetables are eaten when in season, either raw or cooked with meat and rice. Meats and fruits are not regularly available to the lower classes because of their cost, but dates are abundant and cheap in winter. Milk products are consumed mostly in the form of yoghurt and cheese.

The social life of the sexes is completely segregated. The men spend their spare time in the coffeehouses and restaurants and in visiting each other. In private homes they sit in a special room at the front of the house—the urban equivalent of the tribal guesthouse. Refreshments are served by a male servant or by the host himself, who carries them from the women's quarters, or harim. The women enjoy an active social life if there is enough help to free them from work, sitting with their children in a room at the back of the house, eating sweets and gossiping. Because of the highly personal orientation of Middle Eastern people, discussion in both groups centers around people whom the speakers all know. Women probably gossip more because they have little knowledge of or interest in affairs outside their homes. Reputations are made and broken in the gossip sessions, which are the wealthy woman's pastime and the poor woman's recreation.

Every man desires that his wife shall be freed by servants of the need to appear on the streets or in the market, but not all can afford it. Purdah, meaning literally a curtain and therefore the seclusion of women, is a relative thing. In its extreme form, among conservative and wealthy Muslims in India, the woman must not be seen, even completely veiled, nor must her voice be heard, by any man not her husband or a close relative. In Iraq, purdah is stricter in the towns than in the large cities and is least strict for the countrywoman, who must go without cape and veil and talk with men in order to do her work. In Samawa a woman is considered decent if she is never seen in public without the black cape and if she does not talk unnecessarily, smile, laugh, or otherwise draw attention to herself in public. The family honor is at stake in her behavior, and any serious breach must be paid for with her life. In towns even more conservative than Samawa, for ex-

ample Suq ash-Shuyukh to the south, most women wear a black veil covering the face when they are outside their homes.

Until recent decades, life in Samawa had not changed significantly in hundreds of years. The railroad, automobiles, electricity, the radio, schools, and a government clinic brought the first changes. More recently, the paving of a few streets, the availability of purified water, the establishment of a secondary school for girls, and the opening of a Maternal and Child Health Center by the Ministry of Health with the aid of American technical assistance have had an impact upon living conditions in the town. Construction of a cement plant and a modern bridge are offering greater employment opportunities and, through the resident officials of foreign construction companies, are serving as sources of new ideas. The coming decades will undoubtedly see major social changes.

Iraq's largest cities display many elements of Western culture, brought in first by colonial powers and maintained by the increasing volume of trade and communication with the West. A small section of the urban population has adopted a changed set of values and pattern of consumption and acts as a funnel through which ideas from outside enter the country and eventually reach other portions of the urban population. The *sine qua non* of the new type of city is industrialization, which enables the cities to purchase their food with industrial goods.

Iraq's four largest cities, which have strongly dualistic characters, contain most of the country's large-scale industry. The industry may be initiated and operated by foreigners, as with Kirkuk's oil production, or by indigenous powers, as with most of Baghdad's large-scale plants. To the extent that the old rationale and way of life remain after the entrance of rationalized industry, the city is dualistic. Despite the rapid transformation now in process, Baghdad city retains much of its old character. Dualism is strikingly illustrated in the bimodal distribution of industrial employment by size of firm, as disclosed by the Census of Manufacture conducted in 1954. In Baghdad city and its suburbs, 4,330, or 95 per cent, of the 4,573 manufacturing enterprises employed less than ten workers, but these small shops employed only 30 per cent of the industrial labor force. The three largest firms alone employed 20 per cent of that labor force. The remaining 50 per cent of the workers were distributed fairly evenly among firms employing from ten to one thousand workers.[25] Undoubtedly a distribution of the value of trade by size of commercial establishment would show similar dualism in commerce; the enormous number of tiny shops together with the few large establishments probably carry on the bulk of trading.

The most striking characteristic of the dualistic city is its extraordinary difference from the surrounding countryside. Paved residential streets, buildings of permanent structure, electricity and plumbing, people in Western dress, recreational facilities, educational and medical institutions—all end abruptly at the city limits and are replaced by villages of mud huts and a way of life that has changed little through the centuries. This difference existed even before industry came to the Middle East. Because of the great importance of commerce in the area, towns were cosmopolitan and rich, but the rural regions, poor in natural resources, remained backward and impoverished. Landowners have long been drawn to the cities to live, further delaying the development of rural amenities.

[25] Iraq, *Report on the Industrial Census of Iraq, 1954*, p. 44.

Industrialization in underdeveloped countries tends to intensify rural-urban differences. Factories are located in cities not only because of the plentiful labor supply, which is cut off from the land and tribe, but also because rural areas are lacking in transportation, power, and modern housing. These factors operate in more highly developed countries also, but in lesser degree. Rural-urban differences are self-reinforcing, for, as the gap is widened by industrialization, people accustomed to urban life are increasingly reluctant to leave the cities. Another cumulative influence is the continual influx of landless and impoverished peasants in search of urban employment. Having broken their ties with the land, they do not fit into the ethnic division of labor. Their availability at low wages, because of low standards of material welfare, encourages the institution of new methods of production, and employment opportunities encourage more peasants to migrate.

Baghdad differs qualitatively from the other urban centers in Iraq. The size distribution of Iraq's cities (see table 5) is typical of underdeveloped countries: one great metropolis several times larger than the next largest city, in contrast with the continual gradation in the size distribution of cities in Europe and America. The reason in Iraq is the same as that given by Ginsburg with respect to southeast Asia: "There are in effect only a limited number of services to be performed by cities within a predominantly village and folk society, although it may be industrializing slowly, and the great cities continue to possess a virtual monopoly of these services."[20] As modernization proceeds more rapidly, the primacy of the large city diminishes. A description of Baghdad city is justified, therefore, not only because it contains about 10 per cent of the country's population but also because its development points the way that Iraq's other cities and towns appear to be heading. Much like Samawa a few decades ago, Baghdad has entered a period of rapid change.

In the seventeenth century Baghdad was contained within its walls, except for a narrow strip on the west side of the Tigris. As late as 1935, only a few daring families had built their homes outside the old city, for reasons readily apparent from its tempestuous history. Although the walls were gone, having been torn down in the late nineteenth century as part of Midhat Pasha's reforms, there remained a degree of safety in the anonymity of the crowded quarters. A street map of Baghdad indicates the vigor with which the people have burst from the narrow confines of the old city during the past twenty years, since the central government has been strong enough to maintain internal security. At North Gate (Bab al-Mu'azum) and South Gate (Bab ash-Sharqi) the labyrinth of narrow, twisting alleys abruptly gives way to broad, straight boulevards, divided by strips of garden and lined with trees. The houses within the former city walls are almost all of the Oriental style found in Samawa. The majority of suburban houses have no inner courtyard and are surrounded by a garden. Such houses are commonly occupied by single families—conjugal or paternal—of the upper or middle class.

One reason for the sharp break in the style of living was the increasing civil peace, which made dense settlement no longer necessary for safety. Newcomers to Baghdad might wrongly conclude that the bars on the windows and the armed guards patrolling the streets at night indicate danger from marauding Bedouins or 'Ali Baba's forty thieves. The danger is only from petty thievery nowadays.

[20] Ginsburg, *op. cit.*, p. 457.

Houses still have walls around them, but only to give privacy and protect the gardens from sheep and goats.

The growing population of Baghdad can no longer stay within the bounds of the old city. But values are changing: the new houses do not duplicate the old style, but have Western designs, with more emphasis on comfort and convenience. A significant minority have been occupied from the beginning by single conjugal families, and that number has grown. The new sections have increasingly reflected the adoption of Western values and standards of consumption.

As the more affluent and progressive families moved out of the downtown area, their former homes became tenements, occupied by poorer members of their extended families or by groups of unrelated persons. Most of the old houses now contain several families in the conjugal sense. The city's artisans, small merchants, servants, and much of the white-collar class live in these houses at present. The incomes of many of this group have not kept pace with the rising cost of living. The artisans are suffering from severe competition from mechanized methods of production using unskilled labor, and must eventually acquire new skills if they are to maintain their standards of consumption.

The authorities in charge of Baghdad's city planning have as their goal the eventual clearing of the old sections. Already a number of wide avenues have been cut through, and the old dwellings along these streets have been replaced by new or remodeled commercial buildings. Public housing in the suburbs is planned to take care of the present inhabitants of the old city, although only a few hundred units had been completed and occupied by mid-1956.

The way in which the suburbs were settled has brought about another housing trend. Commonly, one man buys or leases a large piece of property and builds at first only one or two houses on it. The newer portions of the suburban areas contain numerous empty lots, which are taken over by migrants from rural areas, who come to the capital because of the promise of industrial employment. They build their huts (sarifa) of reed mats and mud. Those from marshy areas bring their water buffaloes with them; others keep cows, sheep, and chickens. Some are so poor when they finally decide to leave their villages that they bring nothing but the clothing on their backs, a little bedding, and a few cooking utensils. Among the strangest sights in Baghdad are the squalid settlements near the finest mansions and newest middle-class homes.

The government, composed primarily of occupants of the new homes and mansions, periodically attempts to clear the huts from the residential areas. A few days' notice to move is given, and then the remaining huts are torn down. Prior to the flood of March, 1954, the suburbs had been fairly well cleared of them, and the migrants were settled beyond the eastern dike in the area known as 'Arasat al-'Asima. When that area was inundated, they returned, filling the empty lots within the suburbs, and the government was unable to force them out when the floodwaters receded. In the winter of 1954–55 the suburbs were again cleared of most of the huts, but when the vigil of the police relaxes huts are rebuilt. Whether these people are new migrants to the city or simply people who have returned from across the dike cannot be said with certainty, for the villages of mud huts surrounding the city have continued to grow with the increase in rural-to-urban migration.

Despite the fact that wealthy Iraqis abhor the unsanitary and unsightly conditions next to their homes, a social system has developed based upon the proximity of the poorest to the wealthiest elements of society. The hut dwellers supply cheap servants and guards and easily obtainable milk, eggs, chickens, and bread. The major source of milk products in the city is the cattle of the hut dwellers; often diseased and invariably ill fed and dirty, these animals give a product that leaves much to be desired. Most of the eggs and chickens sold in the local market originate in the huts. Some wealthy families, only a generation or two removed from village life, prefer the flat type of bread baked in the mud ovens of their sarifa neighbors to the loaves put out by the bakeries. The hut dwellers in turn have grown to depend upon their wealthy neighbors for much of their income; for water, which is not available to many of the urban poor; and for garbage, which yields food scraps for animals and paper for fuel. Therefore the attempts of the government to gather the huts permanently in one place apart from the residential areas have failed thus far and will undoubtedly continue to fail until alternative sources of income and public services are available to the urban poor.

In summary, three different ways of life are found in Baghdad city. First, the inhabitants of the old sections live and work in the traditional manner, fighting hard to maintain their established patterns of consumption in the face of a rising cost of living and competition from new methods of production. Second, the foreigners and Iraqis who have changed their mode of living occupy suburban houses of modern design. Third, the hut dwellers, recent migrants, have brought their rural way of life with them.

Along with physical changes have come profound changes in social life in Baghdad. In the city's newer sections, women wearing the black cape are in the minority; several restaurants are patronized by both sexes; and women are increasingly employed in stores and offices, breaking with the taboo against allowing them to meet the general public. Radios are found in most middle-class homes, and the cinema is now the most popular form of entertainment. Younger Iraqis are beginning to show an interest in athletics. Orderly ways are being brought to a people who have heretofore cared little for order, by devices such as railings forcing them to queue for buses, and policemen strategically placed to keep traffic on the right side of the street. Thus, although business is still conducted mostly in the old section of town and the majority of the population live and work under conditions similar to those in Samawa, this situation will no longer be true in a few decades.

CHAPTER III

POPULATION STRUCTURE

A DISCUSSION of Iraq's population prior to the first and only census in 1947 must be confined to total numbers and their geographic distribution. Specific details of population composition are unavailable, and even the estimates of total numbers are subject to wide error.

Understandably, the greatest doubt in regard to total numbers exists with respect to the ancient period. It is commonly believed in Iraq today that at various times, as for example during the Babylonian, Neo-Babylonian, and Abbaside periods, Mesopotamia supported a population of 30,000,000 or more[1] and that therefore Iraq can support that many again. Credence is given to this belief by the large scale and number of remnants of irrigation works throughout the country, as well as by the extent of the ruined cities. It is easy to make the false assumption that all these works were in operation, and all the cities inhabited, at the same time. Throughout Iraq's history, soil salination has caused large tracts of land to be abandoned in favor of virgin land, and therefore the capitals of succeeding empires were located in different places. Seton Lloyd set 15,000,000 as the maximum population in ancient times, and believed that only about half of this number could have been engaged in agriculture, the other half being supported by commerce. Furthermore, the smaller population of recent times has not been caused by any lessening of the water supplied by the Twin Rivers. Ecological factors alone—specifically, in Iraq, that the canal system was allowed to fall into disrepair, and drainage was not practiced with irrigation—are responsible for the change toward desert conditions that has occurred in the Middle East in the last four millennia.

Estimates of Iraq's population during the Ottoman period are few and questionable. The Ottoman rulers attempted numerical estimates of population only for the purposes of taxation or conscription, with understandably deleterious effects on their accuracy. The modern state existed only as three administrative divisions named after their capitals, Baghdad, Mosul, and Basra. Vital Cuinet estimated their respective populations in 1890 to be 850,000, 300,280, and 700,000, or a total of about 1,850,000. However, it is doubtful that he included minorities such as the Kurds or the Bedouins, or even the semisettled nomadic peoples, who were then a larger proportion of the population than they are at present. Longrigg estimates the population of the three states in 1900 to have been about 1,250,000, less than 500,000, and 500,000, respectively—a total of about 2,250,000.

Two partial population registrations were carried out by the newly formed Government of Iraq in 1927 and 1935. The enumerators sat in the street and asked

[1] Locher, a visitor to Mesopotamia in the late nineteenth century, stated that "Mesopotamia . . . once yielded food for more than fifty million of people." *With Star and Crescent*, p. 92. Population estimates by the following authorities have been used: Lloyd's estimate is given by Worthington, *Middle East Science*, p. 191; Vital Cuinet's estimate was cited in an unpublished report by the Directorate General of Census; Longrigg's estimate is given in *'Iraq, 1900 to 1950*, p. 7; Dowson's estimate is given in *An Inquiry into Land Tenure and Related Questions*, p. 12; Jawad's estimates are contained in *The Social Structure of Iraq*, pp. 9–11; United Nations estimates are taken from *Demographic Yearbook, 1952*, table 3.

passers-by to register. Because of the seclusion of women, it was to be expected that the figures would include more males than females. But because of the fear that the government had conscription in mind, the count even of males undoubtedly reflected underregistration. The results were 2,970,000 for 1927 and 3,210,000 for 1935. In both counts 51 per cent were males.

The well-known estimates of Sir Ernest Dowson for Iraq's population in 1930 gave a total of 2,800,000. He also made a breakdown by liwas, for the three major towns, for nomadic tribes, and for "settled" and "tribal" rural populations. His method was to ask the liwa authorities, because "the Census Department was not in a position to give me any better material." He estimated the population of the three principal towns as 344,000 (Baghdad 219,000, Mosul 79,000, Basra 46,000) and the fully nomadic as 234,000. Subtracting these two groups from the total population estimated at 2,824,000, he arrived at a "rural population" of 2,246,000. The latter he divided into two groups, "settled" and "tribal" (seminomadic), the former group numbering 895,000 and the latter 1,351,000. Settled rural people outnumbered seminomads in Mosul, Sulaimaniya, Baghdad, and Karbala liwas only. The other liwas were peopled predominantly by seminomads: Kurds in the mountainous north and east, marsh tribes in the south, and tribes of Arabian origin on the west.

Dowson's data are probably the most valid estimates prior to 1947. If each household cannot be entered and enumerated, the next best method is to interview local officials, as he did, for they have a fairly accurate idea of the numbers under their jurisdictions. Comparison of his figures with the results of the Census of 1947 reveals that the populations of the three largest cities rose from 12.2 per cent of the total estimated population in 1930 to 14.6 per cent of the total enumerated population in 1947, while fully nomadic tribesmen fell from 8.3 to 5.2 per cent of the population.

Hashim Jawad incorporated Dowson's estimates into his report and compiled some additional population estimates from "various official sources." His estimates of Iraq's total numbers are 2,850,000 for 1919, 2,820,000 for 1930, 2,840,000 for 1932, 2,930,000 for 1934, 3,350,000 for 1935, and 4,150,000 for 1942. Jawad's figures vary considerably from the official reports submitted to the United Nations for the *Demographic Yearbook*, giving Iraq's population as 3,745,000 in 1941. The appropriate conclusion is that no one knew within a wide margin of error the size of Iraq's population at any time prior to 1947.

The Census of 1947

On October 19, 1947, the census authorities carried out Iraq's first modern census. In fact, it was the only census in the country's history, if the word be properly defined as an individual enumeration of the entire population. A staff of 24,000 men and boys, composed of government officials and intermediate school students, began enumeration at five o'clock in the morning, visiting homes and institutions throughout Iraq. People were instructed to remain in their homes until they were notified that their quarter or village had been completed. The schedule was simple and short. For each person in the family, the following information was recorded: name and sex; name of the father, mother, and paternal grandfather; relationship

to the head of the family; occupation; literacy; religion; age; place of birth; infirmities, if any; marital status; and kind of residence.

A preliminary total was published immediately, but the detailed results were released only slowly over the next seven years because of difficulties in training personnel and obtaining tabulating machines and supplies. The published results are excellent from the standpoint of internal consistency. In general, data for the largest administrative subdivisions have appeared first, in the Ministry of Eco-

TABLE 7

PUBLISHED DATA FROM IRAQ'S CENSUS OF 1947

Data	Geographic division	Source
Population by sex	Liwa, qada, major cities	*A*, pp. 43–46
Population by sex and residence, rural or urban areas	Qada, nahiya	*C*, tables 3, 4, 6
Population by age and sex	Liwa	*A*, pp. 48–49
	Nahiya, qarya or mahalla	*C*, table 1
Population by sex and literacy	Liwa	*A*, p. 47
	Nahiya, qarya or mahalla	*C*, table 1
Population by sex and marital status	Liwa	*B*, pp. 47–48
	Qada	*A*, pp. 50–56
	Nahiya, qarya or mahalla	*C*, table 1
Population by sex and religion	Liwa	*A*, pp. 57–58
	Qada, nahiya	*C*, table 6
Population by sex and occupation	Qada, nahiya	*C*, table 7
Population by sex and type of residence	Nahiya, qarya or mahalla	*C*, table 2
Population by sex, liwa of birth, and present residence	Qada, nahiya	*C*, tables 3, 4
Population by sex and infirmities	Liwa	*A*, pp. 59–60
	Nahiya, qarya or mahalla	*C*, table 2
Aliens by sex and nationality	Liwa	*A*, pp. 61–62
	Qada, nahiya	*C*, table 5

SOURCES: *A*, Iraq, *Statistical Abstract, 1952: B, Statistical Abstract, 1953*, which includes most of the data contained in source *A*; *C*, Iraq, *Census of Iraq, 1947*.

nomics' yearly *Statistical Abstract;* the first census data appeared in the issue for 1947, published in 1949. The complete results of the census were published in 1954 by the Directorate General of Census itself.[2] Data are given in great detail, most of them by the smallest geographic subdivisions, with no totals for the larger divisions or the country as a whole.

The geographic subdivisions of Iraq are, from largest to smallest, liwa, qada, nahiya, and qarya or mahalla. Iraq is divided into fourteen states, each called a liwa, and three badiya, or desert, areas; two of the badiyas are on the southwest boundary of Iraq, and the third lies between the two rivers and the liwas of Dulaim and Mosul. The three badiyas were assumed in the census to be uninhabited. Actually, their part-time inhabitants, the Bedouins, were assigned to the liwas where they are customarily found when they are not on the desert. Each liwa in turn is divided into a number of smaller units, called qadas, the number per liwa ranging from two in Karbala liwa to eight in Mosul liwa. There are sixty-

[2] Iraq, *Statistical Abstract, 1947; 1949; 1950; 1952; 1953;* and *1954; Census of Iraq, 1947.* The data contained in the remainder of this chapter are drawn from these publications.

one qadas in the fourteen liwas. The liwa center is the main city of the liwa and is located in a qada of the same name. With three exceptions—the cities of Ramadi, Ba'quba, and Nasariya, in Dulaim, Diyala, and Muntafiq liwas, respectively—the liwa center has the same name as the liwa itself. Each qada is further divided into a number of small units, called nahiyas, which commonly have the name of the major city or town contained therein. There are 169 nahiyas, further divided into villages (qarya) in a rural area, or quarters (mahalla) in an urban area. Baghdad is therefore a liwa, a qada, and a nahiya, containing seventy-six mahallas.

The types of census results which have been published are summarized in table 7. Liwa totals are nowhere available for rural-urban distribution, occupation, type of residence, or liwa of birth and present residence, although they can be calculated by a laborious adding up of the nahiya or qada totals. The usefulness of the census is greatly reduced by the unavailability of totals for all geographic areas, particularly the largest, in the same publication.

Many problems arise in census taking in all countries, leading to errors and omissions, but in an underdeveloped country conducting its first complete enumeration, all these problems appear in magnified form. One basic difficulty is that any representative of the central government is still regarded with suspicion in many parts of the country, where people remember all too well the taxation and conscription of the Ottoman period. When the names and ages of the young men are listed by an official, they fear that the data will be used in connection with the system of universal military training. Questions on income were deliberately omitted, as they would surely have aroused apprehension. Although the government broadcast appeals to the people for coöperation with the enumerators, stressing the objectivity of the census, it is certain that a significant portion of the population escaped the count. Only the building of confidence in the central government through just and consistent policies will eliminate this problem.

A second difficulty is ignorance, which, combined with certain social traditions, greatly distorted the answers. The age-sex distribution in particular was affected. Not only was there the familiar phenomenon of bunching of ages at multiples of five, but also the large number of people who have little conception of the meaning of numbers may have reported ages decades from the truth. Forty and one hundred are favorite numbers denoting to an illiterate person perhaps nothing more precise than "very old." As further examples, the shame of having an unmarried daughter of fifteen or older may lead to the omission of her name or an understatement of her age; girl babies may be considered so unimportant as to be omitted; or boy babies may be reported as girls to avoid the Evil Eye. Questioning by a male enumerator concerning women in the household undoubtedly aroused apprehension and probably led to underenumeration in conservative households, for strict purdah demands that not even the names of women be mentioned to male outsiders.

Even if the informants wish to coöperate, their answers may be biased because they do not understand the meaning of objective truth. They may assume that the questioner has a personal interest in the answer and therefore, out of courtesy, give the answer they think he wants to hear. Moreover, the average secondary school student or junior government official who does the enumerating for the

census is not well informed in regard to the significance of aggregates, and therefore does not realize the harm done by guessing at answers or not following instructions exactly. When he is interviewing illiterate people, he feels he must know the answers better than they, and may consider it shameful to ask for information from a person of lower status than himself. The enumerators' opinions may therefore have had an undue influence upon the recorded answers. Many of the biases arising from these sources are not systematic and cannot be corrected, although sometimes the direction of the bias can be surmised. More adequate training of enumerators and improvements in the extent and standards of education will gradually reduce such biases in later counts.

TABLE 8

NOMADIC BEDOUINS OF IRAQ, 1947

Liwa	Tribal confederation	Total	Male	Female	Per cent of liwa population
Mosul	Shammar	70,000	40,000	30,000	11.8
Karbala	Eneza	100,000	50,000	50,000	45.6
	al-Thawai	25,000	12,500	12,500	
Dulaim	al-Thawai	25,000	12,500	12,500	13.0
Muntafiq	al-Thafir	30,000	15,000	15,000	8.1
Total	.....	250,000	130,000	120,000	5.2[a]

SOURCE: Directorate General of Census.
[a] Per cent of total population.

Other difficulties included the lack of adequate maps; the inaccessibility of certain parts of the country, particularly the marshy and mountainous areas; and, in the towns, the lack of clear-cut distinctions between streets, and the absence of house numbers, necessitating much care to avoid omissions or double countings. The fact that all the enumerators were male meant that they were not allowed to enter some houses in urban areas and therefore could not see the occupants. A valuable check on the accuracy of the count, through the lists of residents that each administrative head of a village or quarter of a city is supposed to keep, was lost because many of these mukhtars, as they are called, do not keep such lists. Further inaccuracies resulted from inadequate definitions which rendered some of the results almost meaningless. "Family" was so vaguely defined that few generalizations can be made from the data as to average family size. "Occupation" was so defined that the industry in which the person was working was written instead. "Literacy" was defined as the ability to read or write, with no test to determine the truth of a person's statement.

The fully nomadic Bedouins presented a special problem. Because they could not be individually interviewed, the information was obtained by census authorities from the Ministry of Interior, under whose jurisdiction they fall. Their total number was given as 250,000, or 5.2 per cent of the total population in 1947. They were assigned to four liwas: Mosul, Karbala, Dulaim, and Muntafiq. Table 8 gives the relative numbers estimated for each liwa and the tribal confederations included. The total number of nomads is more important than the liwas to which they are assigned, for the latter varies according to the time of year and the avail-

ability of grass and water, despite the government's attempts to restrict the wanderings of the nomads. The estimate of 250,000 may be somewhat low, but it is certain that they do not constitute more than 10 per cent of the total population.[3]

Because they were not interviewed, the nomads are excluded from all published tables except those of total liwa population and of religion. All can be presumed to be Muslim. They are included in the present work also in the tables of literacy, as they can be presumed to be almost 100 per cent illiterate, and of type of dwelling, as all must live in tents to have been defined as fully nomadic. There is no basis for making assumptions in regard to their age structure, marital status, or place of birth, and therefore they have been excluded from those tables as well as from the table of occupation; for, although they are herdsmen so far as they are employed, the number economically active cannot be determined.

Despite these difficulties, the Census of 1947 presents the best available picture of Iraq's population structure. In the pages which follow, the accuracy and meaning of the results will be analyzed. The analysis has been limited in most tables to liwas and the four largest cities. The liwa totals make regional comparisons possible, while the four largest cities, which contain almost half of the urban population and are strongly dualistic, allow comparisons between themselves and the predominantly rural country as a whole.

The order of liwas used by Sir Ernest Dowson—from north to south—has been adopted for the tables. The advantage of this arrangement is that socially and agriculturally similar liwas appear consecutively. The five mountainous liwas, including the entire rainfall zone, come first: Mosul, followed by the three heavily Kurdish liwas Arbil, Sulaimaniya, and Kirkuk, and finally Diyala, most of which is outside the rainfall zone. Baghdad liwa comes next, then two liwas which are largely desert, Dulaim and Karbala. Four liwas containing most of the fertile irrigated agricultural land follow: Hilla, Kut, Diwaniya, and Muntafiq; the latter two are Iraq's closest ties with Arabia. Amara and Basra, containing much of the marsh area, end the list.

Baghdad city, as it appears in the tables, is larger than Baghdad nahiya in that it includes the immediate northern and southern suburbs—the urban portions of A'zamiya and al-Karrada ash-Sharqiya (commonly and hereinafter called Karrada) nahiyas, respectively—which are a part of the city of Baghdad in any meaningful sense. Baghdad nahiya, called in the census books "The City of Baghdad," consists of the old city within what were the city walls, running from North Gate to South Gate and from the Tigris to the eastern dike, plus the settlement on the west side of the Tigris. The district known as the 'Asima ('Arasat al-'Asima), which in 1947 was an enormous village of 21,000 inhabitants lying just east of the eastern dike, has been omitted because it cannot be statistically separated from the clearly rural villages in Karrada nahiya. Its inhabitants compose a large part of the casual and unskilled labor force of Baghdad city. Mosul and Basra cities are coextensive and coterminous with their respective nahiyas. Kirkuk city is smaller than Kirkuk nahiya, for the latter includes a number of villages which have been subtracted from the data in order to include urban Kirkuk only.

Total numbers and population density.—The basic aggregates which resulted

[3] Longrigg, *op. cit.*, p. 7, confirms that the nomads are the least numerous group in Iraq's population.

from the Census of 1947 are as follows: the total population numbered 4,816,185, of which 2,257,345, or 46.9 per cent, were male and 2,558,840, or 53.1 per cent, were female. If the estimated 250,000 nomadic Bedouins are subtracted, the enumerated population numbered 4,566,185, of which 2,127,345, or 46.6 per cent, were male and 2,438,840, or 53.4 per cent, were female. If the 73,828 aliens are excluded, the enumerated Iraqi population numbered 4,492,357, or 2,083,765 males and 2,408,592 females.

The accuracy of the count of numbers, by sex and geographic location, is basic to the accuracy of all other data, because any individual omitted in the count was omitted from all the tables, or, if his sex was reported wrongly, this error was carried throughout. Therefore it is important first to determine the probable accuracy of the total numbers. The Directorate General of Census believes that the enumeration was correct only within 5–10 per cent in the towns and 15–20 per cent in the rural areas. A sample census, conducted in May, 1946, in Zubair, a conservative town near Basra, gave a total number of inhabitants which differed from the later census count by less than 3 per cent. However, the same systematic errors would be present in both enumerations. There seems to be no reason to suspect any significant overenumeration to counteract the underenumeration. Therefore the most that can be said with certainty of Iraq's numbers in 1947 is that they ranged between the enumerated 4,800,000 and a figure 15 per cent larger, or 5,500,000. A total of more than 5,000,000 is most probable.

Given this probable and substantial error in the over-all count, the validity of the remainder of the information is greatly reduced. It is likely that the greatest omission was of males of military age, whose absence would affect the other tables, particularly for literacy, occupation, and marital status. In evaluating the accuracy of specific data from the census, the reader must bear in mind that superimposed upon errors found among them is the omission of perhaps as many as one-seventh of the country's inhabitants.

The total population (see table 9) was defined to include both citizens of Iraq and foreigners, including persons serving in the armed forces and living in institutions—that is, all persons residing in Iraq, whether permanently or temporarily. The area to which each person was assigned was his residence on the day of the census; this rule held for soldiers in camps as well as for students who were living in towns while attending school. Nomads meant fully nomadic Bedouins living outside the areas of cultivation.

The over-all surplus of females evident in table 9 is an indication of the general omission of males. The greatest surplus of females appears in the two liwas of strong Bedouin influence, Muntafiq and Diwaniya, where the central government is widely distrusted, and therefore a general underenumeration of males can be presumed. The three strongly Kurdish liwas, Arbil, Sulaimaniya, and Kirkuk, also show a significant dearth of males, which is probably partly genuine, for there has been a sizable migration of Kurds to the large cities. The male is more migratory than the female in Iraq as elsewhere. The other liwa showing a marked dearth of males is Amara, from which there has been much emigration in recent years; the surplus of males in Basra city is one explanation of the surplus of females in Amara liwa. It is impossible to judge the relative weights of the two causes for the greatest surplus of females in backward, poor areas, where the central government

is feared, and for a surplus of males in the major cities: whether the data give a true representation of heavy rural-to-urban migration of males, or whether they reflect an underreporting of males because of ignorance and fear. Undoubtedly both factors operated. However, it would seem that the latter might be given more weight, in the absence of a reasonable explanation for the sizable surplus of females reported in the country as a whole.

TABLE 9

TOTAL POPULATION OF IRAQ, 1947
(Nomads included)

Liwa	Population	Density per square kilometer	Per cent	
			Male	Female
Mosul	595,190	20	47.3	52.7
Arbil	239,776	13	45.3	54.7
Sulaimaniya	226,400	24	45.0	55.0
Kirkuk	286,005	14	45.2	54.8
Diyala	272,413	17	49.1	50.9
Baghdad	817,205	64	50.0	50.0
Dulaim	192,983	5	50.0	50.0
Karbala	274,264	45	48.2	51.8
Hilla	261,206	48	47.9	52.1
Kut	224,938	14	46.2	53.7
Diwaniya	378,118	25	42.3	57.7
Muntafiq	371,867	25	39.8	60.2
Amara	307,021	17	45.0	55.0
Basra	368,799	30	49.8	50.2
All liwas	4,816,185	20	46.9	53.1

SOURCE: Census of 1947.

A modest correction would add perhaps 10 per cent to the total number of males, bringing their number to about 2,483,000, or 49.3 per cent of the total population, which would then have numbered about 5,042,000. A more liberal correction would increase the males by 15 per cent and the females by 5 per cent, giving a total of 5,283,000, of which 2,596,000, or 49.1 per cent, would be male and 2,687,000, or 50.9 per cent, female. It seems probable that either of these estimates is closer to the truth than are the published figures.

Density of population per square kilometer ranged from five persons in Dulaim liwa to sixty-four persons in Baghdad liwa and was twenty for the fourteen liwas combined. A large urban area relative to the total population of the liwa explains the relatively high densities in Baghdad and Karbala liwas. Baghdad city contained 57 per cent of the liwa's population. The *raison d'être* of Karbala liwa is its two holy cities, Najaf and Karbala, which together contained over one-third of the liwa's population and 67 per cent of the nonnomadic population. The relatively high density of Hilla liwa can be explained by the well-developed irrigation system on the lower Euphrates, as can Muntafiq's and Diwaniya's to a lesser extent. Basra liwa's density was high not only because of its several cities but also because of the dense settlement in the date gardens along the Shatt al-Arab.

Dulaim's very low density can be explained by the fact that agriculture is possible only in the narrow valley of the upper Euphrates, which, unlike the upper Tigris, is not in the rainfall zone. This liwa contains much desert terrain and no major cities.

Rural-urban distribution.—The rural-urban distribution of population is probably accurate according to the definitions used. An urban area was defined as a place having a municipal government; a rural area was any other inhabited place, usually a village. By this definition, the urban percentage of Iraq's population included a sizable number who depend upon agriculture. Because of the insecurity

TABLE 10

RURAL-URBAN DISTRIBUTION OF POPULATION OF IRAQ, 1947
(Nomads included)

Liwa	Urban population	Rural population	Per cent	
			Urban	Rural
Mosul	205,910	389,280	34.6	65.4
Arbil	49,626	190,150	20.7	79.3
Sulaimaniya	54,093	172,307	23.9	76.1
Kirkuk	94,641	191,364	33.1	66.9
Diyala	51,320	221,093	18.8	81.2
Baghdad	550,397	266,808	67.4	32.6
Dulaim	37,661	155,322	19.5	80.5
Karbala	116,255	158,009	42.4	57.6
Hilla	74,170	187,036	28.4	71.6
Kut	49,559	175,379	22.0	78.0
Diwaniya	78,994	299,124	20.9	79.1
Muntafiq	54,615	317,252	14.7	85.3
Amara	61,286	245,735	20.0	80.0
Basra	145,770	223,029	39.5	60.5
All liwas	1,624,297	3,191,888	33.7	66.3

SOURCE: Census of 1947.

in Iraq's recent past, the village method of settlement has remained widespread, and when a village grows beyond a certain point it becomes a municipality even if most of its inhabitants remain fellahin. Many of Iraq's towns have only a few thousand inhabitants and almost no industry. Even by this definition, it appears in table 10 that two-thirds of the population was classified as rural, indicating that at least that number were dependent upon agriculture. Only Baghdad liwa was more than 50 per cent urban, a fact understandable if it is noted from table 11 that Baghdad city contained 10 per cent of the country's population and almost 30 per cent of the urban population. That Baghdad city is a colossus in comparison with the remainder of the cities and towns is further illustrated by the fact that it had a larger population than the six next largest cities combined.

The twenty-four cities and towns with populations of more than 10,000 contained 26 per cent of the country's total population. Another forty-nine towns with populations of 3,000–10,000 contained 6 per cent of the total population, indicating that almost all the 34 per cent classified as urban lived in towns of 3,000 or more.

It is noteworthy that, after the four largest cities, which were administrative centers during the Ottoman Empire and which today contain most of Iraq's industry, the three cities next in size have a primarily religious significance. The next city in size, Amara, is the center of much small-scale industry; the most

TABLE 11

POPULATION OF MAJOR CITIES AND TOWNS OF IRAQ, 1947

Cities grouped according to size[a]	Population	Per cent of total population (4,816,185)	Cumulative per cent of total population	Per cent of urban population (1,624,297)	Cumulative per cent of urban population
More than 150,000			9.7		28.7
Baghdad[b]	466,783	9.7		28.7	
50,000–150,000			17.2		50.9
Mosul	133,625	2.8		8.2	
Basra	101,535	2.1		6.3	
Kirkuk	68,308	1.4		4.2	
Najaf (Karbala)	56,261	1.2		3.5	
20,000–50,000			22.4		66.3
Kazimain (Baghdad)	48,676	1.0		3.0	
Karbala	44,150	0.9		2.7	
Amara	36,907	0.8		2.3	
Hilla	36,577	0.8		2.3	
Sulaimaniya	33,510	0.7		2.1	
Arbil	27,036	0.6		1.7	
Nasariya (Muntafiq)	24,038	0.5		1.5	
10,000–20,000[c]			25.8		76.6
Tal Afar (Mosul)	19,951				
Diwaniya	19,878				
Zubair (Basra)	17,884				
Kut	16,237				
Samawa (Diwaniya)	15,292				
Kufa (Karbala)	13,700				
Abul Khasib (Basra)	11,598				
Hindiya (Hilla)	11,077				
Falluja (Dulaim)	10,981				
Ba'quba (Diyala)	10,511				
Hai (Kut)	10,199				
Khanaqin (Diyala)	10,090				
Total	1,244,804				

SOURCE: Census of 1947.

[a] Name of liwa given if different from name of town.

[b] Baghdad city includes Old City and west-bank settlement (352,137), Urban A'samiya, northern suburb (58,697), and Urban Karrada, southern suburb (55,949).

[c] Percentages not given for this group: each is less than 0.5 per cent of total population.

important is the production of reed mats, which are widely used in housing and roofing. Next in size came Hilla, center of the richest agricultural region in the country.

Age-sex structure.—Sources of bias in the age-sex distribution have been indicated above. Corrections can be made on the basis of sociological knowledge of the sources and directions of the errors. Although the corrections involve arbitrary decisions in regard to their magnitudes, the resulting picture is probably closer to the truth than are the published figures. The corrections are of two kinds: addi-

tions to the total number, to account for general underenumeration; and reallocation of the reported numbers within the distribution.

Table 12 and figure 2 give the uncorrected age-sex distribution of the enumerated population. The low number of men of military age is striking and has

TABLE 12

AGE-SEX DISTRIBUTION OF POPULATION OF IRAQ, 1947
(Nomads excluded)

ORIGINAL DISTRIBUTION

Age	Number			Per cent		
	Total	Male	Female	Total	Male	Female
0–4	839,140	409,039	430,101	18.4	9.0	9.4
5–9	736,664	337,433	399,231	16.1	7.4	8.7
10–19	733,415	317,967	415,448	16.1	7.0	9.1
20–29	486,692	201,224	285,468	10.7	4.4	6.3
30–39	552,345	250,650	301,695	12.1	5.5	6.6
40–49	484,486	252,224	232,262	10.6	5.5	5.1
50–59	292,752	148,176	144,576	6.4	3.2	3.2
60 and above	438,541	209,561	228,980	9.6	4.6	5.0
Unknown	2,150	1,071	1,079	...	...	...
Total	4,566,185	2,127,345	2,438,840	100.0	46.6	53.4

CORRECTED DISTRIBUTION

Age	Corrected per cent of original population[a]		Corrected number		Corrected per cent[b]	
	Male	Female	Male	Female	Male	Female
0–4	9.2	9.2	420,089	420,089	8.6	8.6
5–9	7.4	8.2	337,898	374,427	6.9	7.7
10–19	10.0	10.6	456,618	484,016	9.3	9.9
20–29	6.9	7.3	315,067	333,332	6.4	6.8
30–39	6.0	6.1	273,971	278,537	5.6	5.7
40–49	5.3	5.4	242,008	246,574	5.0	5.0
50–59	3.9	3.9	178,081	178,081	3.6	3.6
60 and above	3.6	4.0	164,383	182,647	3.4	3.7
Total	52.3	54.7	2,388,115	2,497,703	48.9	51.1

SOURCE OF UNCORRECTED DATA: Census of 1947.
SOURCE OF CORRECTED DATA: See text.
[a] These percentages are of the noncorrected total of 4,566,185 and add up to 107 per cent.
[b] These percentages are of the corrected total of 4,885,818 and add up to 100 per cent.

no adequate explanation other than their omission. The hypothetical corrected age-sex distribution was made with a sociological basis for the directions of the changes and some heroic assumptions concerning their relative magnitudes, based upon the writer's experience in making small-scale surveys in Iraq. The resulting distribution adds 7 per cent, or approximately 320,000, to the enumerated population, bringing it to approximately 4,886,000 and the population including nomads to 5,136,000. At the same time, a slight surplus of females is maintained,

on the assumption that civil and martial strife of the past, in addition to poor health conditions, have affected males more than females.

The assumptions that form the basis for the corrected distribution were as follows: (1) to correct for the reporting of male babies as female because of fear of the Evil Eye, we transferred 0.2 per cent from females aged 0–4 to males aged 0–4; (2) to correct for underreporting of young women because of apprehension when a male enumerator asks about them and for understatement of the age of

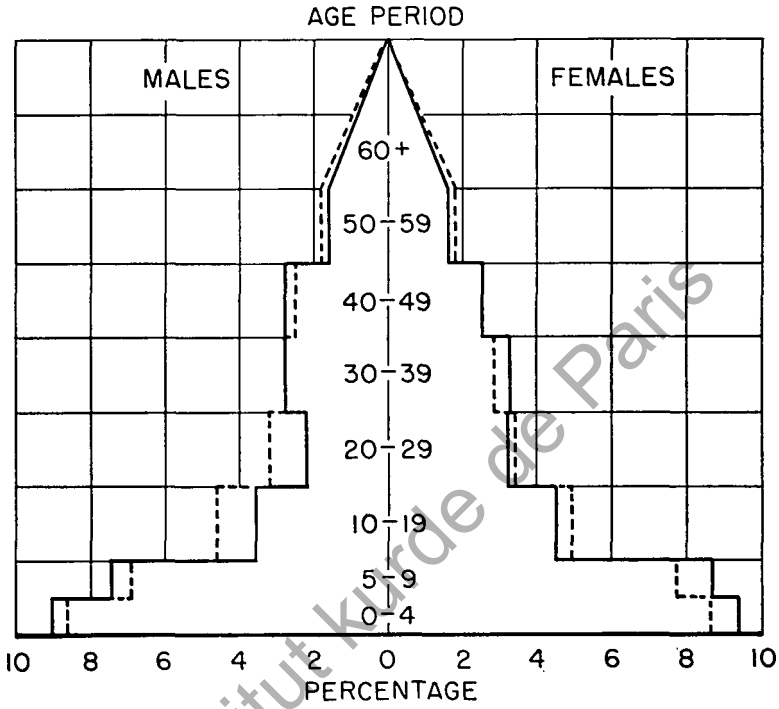

Fig. 2. Population by age and sex, Iraq, 1947. Unbroken line signifies uncorrected data; broken line signifies corrected data.

females still unmarried after puberty, we added 1.0 per cent to females aged 10–19, and 0.5 per cent to females aged 20–29, and transferred 0.5 per cent of females aged 5–9 to females aged 10–19; (3) to correct for underenumeration of males for fear of conscription and overstatement of men's ages when they are near the upper age limit for conscription, we added 3.0 per cent to males aged 10–19, and 2.5 per cent to males aged 20–29, and transferred 0.5 per cent from males aged 40–49 to males aged 30–39; (4) finally, we corrected for the tendency to overestimate ages in the middle and later years because of prestige attached to old age, forgetfulness, and ignorance by moving 0.5 per cent of females aged 30–39 to females aged 20–29, and taking 1.0 per cent from females aged 60 and above, putting 0.7 per cent into females aged 50–59, and 0.3 per cent into females aged 40–49; for males, we moved 1.0 per cent from those reporting ages 60 and above, putting 0.7 per cent into males aged 50–59, and 0.3 per cent into males aged 40–49. All the percentages were for the entire enumerated population of 4,566,185.

In contrast to the distribution reported for the country as a whole, the popula-

tions of the four largest cities showed male surpluses. Baghdad city reported a male population of 51.7 per cent of the total, Mosul 50.4 per cent, Kirkuk 53.9 per cent, and Basra 52.9 per cent. Percentage distributions for the four cities are shown in table 13 and age pyramids in figure 3. The differences between the distributions for Baghdad and Mosul and that of the population as a whole are not so great as might be expected. Considerable underreporting of men of military age in the cities can be surmised, and, if the truth were known, the percentage of the male population aged 10–39 might have been markedly greater in these cities

TABLE 13

AGE-SEX DISTRIBUTION OF POPULATION OF MAJOR CITIES OF IRAQ, 1947

(Percentages)

Age	Baghdad		Mosul		Kirkuk		Basra	
	Male	Female	Male	Female	Male	Female	Male	Female
0–4	7.6	7.2	8.1	7.7	7.6	7.1	6.6	6.6
5–9	7.3	6.7	8.3	7.6	7.4	7.2	6.0	5.7
10–19	10.8	10.1	11.1	10.5	10.1	9.3	9.0	8.1
20–29	7.1	7.1	6.2	6.1	9.6	6.5	8.2	7.3
30–39	6.5	5.9	4.5	5.3	6.6	5.4	8.8	7.1
40–49	5.8	4.5	5.0	4.6	6.3	4.5	7.2	5.3
50–59	3.1	2.9	3.1	3.1	3.1	2.8	3.8	3.0
60 and above	3.4	3.9	4.0	4.6	3.2	3.3	3.3	3.9
Total	51.7	48.3	50.4	49.6	53.9	46.1	52.9	47.1

SOURCE: Census of 1947.

than in the country as a whole. This was indeed true of Kirkuk and Basra, despite probable underenumeration. The oil industry in Kirkuk, although still small in 1947, superimposed a new way of life on an old city, and its effects can be seen in the numbers of men drawn in from the surrounding countryside. Basra has received many immigrants, particularly surplus agricultural population from Amara and Muntafiq liwas, swelling the male population in the productive years. Mosul alone has not exerted the pull of a growing industrial economy, a fact which shows in the similarity between the age distribution of Mosul's population and that of the country as a whole. All four cities, and to a lesser extent the other liwa centers, draw in young men and women to their schools. All the colleges are located in or near Baghdad city. In 1954 only five liwas (Baghdad, Basra, Mosul, Karbala, and Diyala) had more than two secondary schools for girls, and only three liwas (Baghdad, Basra, and Mosul) had more than six secondary schools for boys. Because secondary school students numbered only 34,810 in 1954,[4] their presence in the major cities would not noticeably affect the age distribution, but will affect it in the future unless secondary and higher education is greatly decentralized as it expands.

Distributions of population by age and sex are available for each liwa, qada, nahiya, and village or quarter, but need not be given in such detail for our purposes. All distributions, both rural and urban, show the striking characteristic that

[4] Iraq, *Statistical Abstract, 1954,* pp. 59–60.

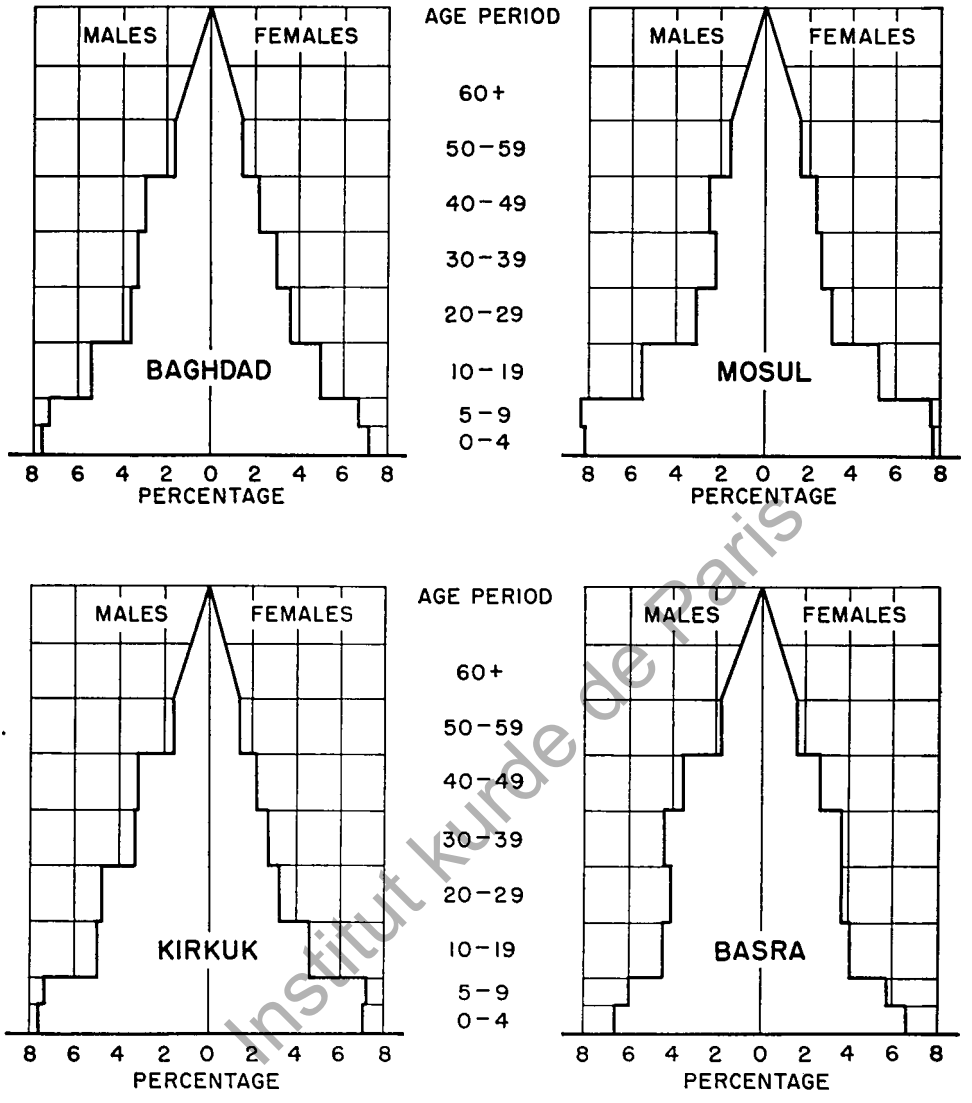

Fig. 3. Population by age and sex, four major cities, 1947.

a large proportion of the population consists of children. The trends in fertility and mortality which have resulted in the present distribution will be discussed in chapter iv. The 18 per cent below five years of age in Iraq's population (or the 17 per cent in the corrected distribution) compares with 14 per cent for Egypt (1947), 11 per cent for the United States (1950), and 8 per cent for England and Wales (1951). (See chap. iv, table 23.)[5]

Literacy.—The data on literacy are overstatements for two reasons. First, "literate" was defined as having the ability to read or write, but no test was applied to check the claim that a person was literate. Adults who attended school

[5] Village surveys made by the author in 1954 gave similar percentages under five and ten years of age. In two agricultural-industrial villages near Baghdad the mean percentages were 18 and 35, and in three purely agricultural villages they were 17 and 35 per cent, respectively.

long before but had had little opportunity to practice their reading and writing, and others who had been taught by local religious leaders to read the Quran but who had only memorized passages, may have reported themselves as literate. Second, the minimum age for literacy was set at five years, meaning that a child who had just entered school might have been reported as literate by his proud

TABLE 14

LITERACY BY SEX OF POPULATION OF IRAQ, 1947
(Nomads included)

Locality	Literate population			Per cent of total population		
	Total	Male	Female	Total	Male	Female
LIWAS						
Mosul	48,826	36,024	12,802	8	12	4
Arbil	9,410	8,401	1,009	4	8	1
Sulaimaniya	10,304	9,085	1,219	5	9	1
Kirkuk	20,534	17,142	3,392	7	13	2
Diyala	20,520	18,223	2,297	8	14	2
Baghdad	149,546	108,957	40,589	18	27	10
Dulaim	15,926	14,110	1,816	8	15	2
Karbala	21,384	17,086	4,298	8	13	3
Hilla	17,117	14,910	2,207	7	12	2
Kut	10,213	8,793	1,420	5	8	1
Diwaniya	15,723	14,292	1,431	4	9	1
Muntafiq	12,460	11,112	1,348	3	8	1
Amara	15,606	13,013	2,593	5	9	2
Basra	40,007	32,316	7,691	11	18	4
All liwas	407,576	323,464	84,112	8.5	14.3	3.3
MAJOR CITIES						
Baghdad	124,918	87,493	37,425	27	36	17
Mosul	32,541	21,573	10,968	24	32	17
Kirkuk	13,496	10,653	2,843	20	29	9
Basra	20,447	14,845	5,602	20	28	12

SOURCE: Census of 1947.

mother; certainly large numbers of first- and second-year primary school pupils were included among the literates. On the other hand, males of military age omitted from the count undoubtedly included a greater percentage of literates than in the country as a whole.

From table 14 it appears that 8.5 per cent of Iraq's population of all ages, including nomads, were literate in 1947, or 14 per cent of all males and 3 per cent of all females. The nomads could be included, although no data are given on their literacy, because they have no opportunity to attend schools and can be presumed to be almost 100 per cent illiterate. If they are excluded, the literacy rate would be 8.9 per cent. That literacy is correlated with urbanism is to be expected from the rural-urban distribution of educational facilities. Baghdad city alone had 31 per cent of Iraq's literates and 44 per cent of the literate females.

TABLE 15

MARITAL STATUS OF POPULATION OF IRAQ AGED TEN AND ABOVE, 1947
(Nomads excluded)

Locality	Sex	Number			Per cent		
		Unmarried	Married	Widowed, divorced, separated, unknown	Unmarried	Married	Widowed, divorced, separated, unknown
IRAQ							
	Male	542,502	801,233	37,138	39.3	58.0	2.7
	Female	494,511	860,846	254,151	30.7	53.5	15.8
	Both sexes	1,037,013	1,662,079	291,289	34.7	55.6	9.7
MAJOR CITIES							
Baghdad...	Male	89,105	78,800	3,666	51.9	45.9	2.1
	Female	53,586	81,786	25,336	33.3	50.9	15.8
	Both sexes	142,691	160,586	29,002	42.9	48.3	8.7
Mosul.....	Male	23,008	21,750	734	50.6	47.8	1.6
	Female	15,458	22,725	7,572	33.8	49.7	16.5
	Both sexes	38,466	44,475	8,306	42.2	48.7	9.1
Kirkuk	Male	13,014	13,002	553	49.0	48.9	2.1
	Female	6,459	11,987	3,304	29.7	55.1	15.2
	Both sexes	19,473	24,989	3,857	40.3	51.7	8.0
Basra.....	Male	18,826	21,044	1,037	46.0	51.4	2.5
	Female	9,782	18,802	6,673	27.7	53.3	18.9
	Both sexes	28,608	39,846	7,710	37.6	52.3	10.1

SOURCE: Census of 1947.

Marital status.—The statistics on marital status (table 15) are probably very accurate. It is unfortunate that they are not available by age, for the near-universality of marriage, which is a well-known phenomenon, is lost by the inclusion of all persons aged ten and over.[6] The dowry which is paid to the girl's father tends to postpone the age of marriage for men among the rural and traditional elements, while the increased opportunity for education is tending to postpone marriage

[6] A survey made among 173 Iranian villages on the Varamin Plain south of Tehran in 1950 revealed a marital situation probably similar to Iraq's. Although only 60 per cent of males, and 63 per cent of females, aged ten and above were married, among those forty-five and above less than 1 per cent of each sex remained unmarried. Women married earlier than men: 52 per cent of the women between the ages of fifteen and nineteen were married, as opposed to only 2 per cent of the men; between the ages of twenty and twenty-four, 93 per cent of the women and only 38 per cent of the men were married. Above the age of forty-five, 49 per cent of the women were widowed and only 3 per cent of the men, the explanation being that a widower usually remarries a young woman. Mashayekhi *et al.*, "Some Demographic Aspects of a Rural Area in Iran," *Milbank Memorial Fund Quarterly*, XXXI (April, 1953), 156.

among the less traditional of both sexes. Still, an over-all percentage of 55.6 of persons aged ten and above were married with spouse present in 1947, and an additional 9.7 per cent had been married at one time, leaving 34.7 per cent who had never been married.

Because of the surplus of females in the population, the percentage of men married was larger than the percentage of women, although in absolute numbers married women outnumbered married men by an amount approximately compen-

TABLE 16

IRAQI MARRIED MEN WITH TWO OR MORE WIVES, 1947
(Nomads excluded)

Liwa	Per cent	Liwa	Per cent
Mosul	6.1	Diwaniya	12.2
Arbil	8.7	Muntafiq	12.6
Sulaimaniya	7.0	Amara	6.7
Kirkuk	7.2	Basra	7.1
Diyala	7.1	City	Per cent
Baghdad	6.4		
Dulaim	6.3	Baghdad	4.5
Karbala	8.0	Mosul	3.7
Hilla	8.5	Kirkuk	4.6
Kut	7.7	Basra	6.4

SOURCE: Census of 1947.

sated by polygamy. Unmarried men exceeded unmarried women in numbers as well as in percentages, indicating that the men marry later, on the average, than do the women. If the underenumerated males of draft age had been included, this difference would undoubtedly have been even greater.

The great difference between the sexes in the category "widowed, divorced, separated, and unknown" can be accounted for by the large number of widows. Of the 254,151 women in this category, 243,197, or 96 per cent, were widowed, 9,933 divorced, 543 separated, and 478 of unknown status. There were only 34,271 widowers. The difference must not be presumed to indicate much greater female longevity—its explanation in the United States—but rather that widowers remarry in greater number than do widows. The widespread desire for numerous progeny and the absence of a desire for companionship in a wife lead a man of any age to choose a young wife.

Regional differences in marital status can be shown, but are so small that it cannot be said with certainty whether they were genuine or were caused by differences in reporting. The liwas showing the smallest percentages of unmarried males (Amara, Muntafiq, Diwaniya, and Kut) were also the liwas in which the reported surplus of females was great and in which considerable underenumeration of young males can be surmised. The similarity between the liwas in the percentage of men divorced, widowed, or separated was striking; that the percentages are small indicates the universality with which widowers remarry.

Even the rural-urban differences in marital status were not great, although they were significant. The presence of young men in the labor market and in educational

institutions served to increase the percentages of unmarried males in the large cities. But the pattern for urban females was not noticeably different from that in the country as a whole—evidence that the economic independence and even the secondary and higher education of women were still on a small scale in 1947.

TABLE 17

DISTRIBUTION OF RELIGIOUS GROUPS IN IRAQ, 1947
(Nomads included)

Locality	Number				Per cent			
	Muslims	Christians	Jews	Others	Muslims	Christians	Jews	Others
LIWAS								
Mosul	475,012	77,298	10,345	32,535[a]	79.8	13.0	1.7	5.5
Arbil	228,610	8,049	3,109	8	95.3	3.4	1.3	0.0
Sulaimaniya	223,562	565	2,271	2	98.7	0.2	1.0	0.0
Kirkuk	274,123	7,767	4,042	73	95.8	2.7	1.4	0.0
Diyala	268,525	751	2,851	286	98.6	0.3	1.0	0.1
Baghdad	702,316	36,164	77,542	1,183	85.9	4.4	9.5	0.1
Dulaim	180,990	10,365	1,442	186	93.8	5.4	0.7	0.1
Karbala	274,210	13	39	2	100.0	0.0	0.0	0.0
Hilla	259,129	190	1,865	22	99.2	0.1	0.7	0.0
Kut	224,239	180	349	170	99.7	0.1	0.2	0.1
Diwaniya	377,007	161	825	125	99.7	0.0	0.2	0.0
Muntafiq	370,281	143	652	791	99.6	0.0	0.2	0.2
Amara	301,477	286	2,131	3,127[b]	98.2	0.1	0.7	1.0
Basra	349,298	7,724	10,537	1,240	94.7	2.1	2.9	0.3
All liwas	4,508,779	149,656	118,000	39,750[c]	93.6	3.1	2.5	0.8
MAJOR CITIES								
Baghdad	353,202	35,146	77,384	1,051	75.7	7.5	16.6	0.2
Mosul	106,151	21,722	5,517	235	79.4	16.3	4.1	0.2
Kirkuk	58,654	6,715	2,873	66	85.9	9.8	4.2	0.1
Basra	85,889	5,104	9,921	621	84.6	5.0	9.8	0.6

SOURCE: Census of 1947.
[a] Of whom 32,410 were Yezidis.
[b] Of whom 3,115 were Followers of St. John (Mandaeans), specialists in boatbuilding and silverwork.
[c] Of whom 32,437 were Yezidis and 6,597 Followers of St. John.

Polygamy is disappearing in Iraq, but it is still found among the classes of society who consider it a source of prestige. In 1947, 62,718, or 7.8 per cent, of married men were married polygamously. Of these, 56,283, or 89.8 per cent, had two wives; 5,304, or 8.5 per cent, had three wives; and 1,131, or 1.8 per cent, had four or more wives. Table 16 shows the percentage of married men with two or more wives by liwa and for the major cities. If data were available on the nomads, the percentages for their liwas would undoubtedly be higher. Their influence can be seen among the sedentary populations of the two liwas closest to Arabia, Diwaniya and Muntafiq. The substantial Christian minority in Mosul liwa and city contributes to lowering the percentage of polygamous marriages.

Religion.—Table 17 makes it clear that Iraq is an overwhelmingly Muslim

TABLE 18

EMPLOYMENT IN VARIOUS INDUSTRIES IN IRAQ, 1947
(Nomads excluded)

Sex	Iraq	City			
		Baghdad	Mosul	Kirkuk	Basra
	1. AGRICULTURE				
Total	737,756	4,863	2,545	906	2,467
Male	677,579	4,722	2,466	890	2,340
Female	60,177	141	79	16	127
Per cent of employed population	55.3	3.3	6.8	4.6	6.6
	2. MANUFACTURE				
Total	87,668	21,613	6,381	3,135	3,960
Male	76,803	18,928	5,377	2,888	3,726
Female	10,865	2,685	1,004	247	234
Per cent of employed population	6.6	14.7	17.1	15.8	10.6
	3. PUBLIC UTILITIES, TRANSPORT, COMMUNICATIONS				
Total	52,974	13,922	2,398	1,655	5,652
Male	52,838	13,918	2,398	1,655	5,652
Female	136	4	0	0	0
Per cent of employed population	4.0	9.5	6.4	8.4	15.2
	4. SERVICE (PUBLIC AND PRIVATE)				
Total	157,408	44,746	7,320	4,170	8,479
Male	141,646	39,915	6,166	3,703	7,676
Female	15,762	4,831	1,154	467	803
Per cent of employed population	11.8	30.4	19.6	21.0	22.8
	5. COMMERCE				
Total	137,844	22,332	6,400	3,333	5,023
Male	133,595	21,947	6,359	3,298	4,851
Female	4,249	385	41	35	172
Per cent of employed population	10.3	15.2	17.2	16.8	13.5
	6. MISCELLANEOUS				
Total	15,542	4,192	2,233	1,271	692
Male	13,803	3,481	2,111	1,244	554
Female	1,739	711	122	27	138
Per cent of employed population	1.2	2.9	6.0	6.4	1.9

TABLE 18—*Continued*

Sex	Iraq	City			
		Baghdad	Mosul	Kirkuk	Basra
	7. UNSPECIFIED				
Total	125,523	30,583	8,491	4,352	10,550
Male	117,726	30,328	8,217	4,324	10,124
Female	7,797	255	274	28	426
Per cent of employed population	9.4	20.8	22.8	22.0	28.3
	8. APPRENTICESHIP (UNDER TEN YEARS)				
Total	19,022	4,812	1,545	998	413
Male	18,229	4,674	1,454	989	382
Female	793	138	91	9	31
Per cent of employed population	1.4	3.3	4.1	5.0	1.1
	TOTAL EMPLOYED POPULATION				
Total	1,333,737	147,063	37,313	19,820	37,236
Male	1,232,219	137,913	34,548	18,991	35,305
Female	101,518	9,150	2,765	829	1,931
Per cent of nonnomadic population					
Total	29.2	31.5	27.9	29.0	36.7
Male	57.9	57.1	51.3	51.5	65.7
Female	4.2	4.1	4.2	2.6	4.0

SOURCE: Census of 1947.

country, even in areas where minorities are relatively numerous. The Christians, the largest non-Muslim group, constituted 3 per cent of the population. Of the 149,656 Christians, 124,263, or 83 per cent, were found in Mosul liwa, where there are many Christian villages of small proprietors, and in the cities of Baghdad, Kirkuk, and Basra. Outside the northern liwas of Mosul, Arbil, and Dulaim the Christians are mainly town dwellers. Of the 118,000 Jews, 65 per cent lived in Baghdad city and 82 per cent in the four largest cities. In the year following the census all but an estimated 15,000 moved permanently to Israel. The only other religious minority of significant size, the Yezidis, numbering 32,437, lived in Mosul liwa, more than half of them in a single qada, Sinjar. Aside from the cities, the hilly northern part of Iraq is the only place where religious minorities are found in significant numbers. As in many other countries, the mountains have protected and preserved Iraq's religious minorities.

Occupation.—The data on occupation are inaccurate and ambiguous. Since occupation was confused with industry, the data really show the number of workers employed in various industries. For example, a carpenter employed by the railways would have been reported as employed in transportation. This confusion had the result of leaving a category of unspecified workers, which in some urban areas

was the largest single occupational group. Those falling under this heading were, for the most part, unskilled laborers who change employment so frequently that they could name no customary trade. However, it may have included some workers with definite skills who happened to be unemployed at the time of the census. It is not clear whether the customary, present, or most recent employment was reported. An important distinction is lost in that, although some categories include only public servants, others include both public and private, and therefore the extent of government employment cannot be determined. Finally, the difficult problem of defining "economically active" caused the size of the labor force to be somewhat arbitrary, particularly in agriculture, the largest category. Almost all wives and older children of fellahin work in the fields part of the year, and yet were not included in large numbers. Furthermore, because occupations are regarded as a way of life, almost every adult male reported an occupation, despite substantial unemployment and underemployment.

Occupation data are summarized in table 18 for Iraq and the four largest cities, combining the thirty-six industries of the published data in eight groups.[7] Despite the inadequacies of the data, some generalizations can be drawn from them. The most obvious conclusion is that Iraq is an agricultural country, with 55 per cent of the economically active population engaged in agriculture in 1947. By the definition adopted by the Population Division of the Bureau of Applied Social Research at Columbia University, Iraq was "underdeveloped, or preindustrial" because more than half of the occupied males were engaged in agriculture.[8] The next most important industry, service of all kinds, was only one-fifth as large as agriculture, followed closely by commerce (12 and 10 per cent of the labor force, respectively). Manufacture employed only 7 per cent of the economically active, and public utilities, transport, and communications 4 per cent. The category of unspecified workers, comprising 9 per cent of the economically active, is a rough measure—probably an understatement—of the casual labor force. The number of apprentices under ten years of age is not a true measure of the extent of child labor, and probably includes only children who were actually learning a trade; many more are engaged in various casual jobs.

The employment of women was on a small scale: only 4 per cent of the nonnomadic female population were included in the labor force. Because of the inadequacy of the definition of "economically active," however, the large number who work with their husbands in the fields were almost entirely excluded. Aside

[7] Our eight industrial groups in table 18 combine thirty-six categories of published data as follows: 1. Agriculture: Agriculture and livestock production; fishing and hunting. 2. Manufacture: Preparation of construction materials; mining and quarrying (except oil); industries connected with vegetable foods; industries connected with animal foods; extraction of petroleum and manufacture of petroleum products; beverage industries; tobacco manufacture; soap, matches, and other chemical industries; manufacture of wood, bamboo, and cane products; manufacture of leather; manufacture of footwear, saddlery, and leather products; textiles industries; tailoring and dressmaking; metallurgy and manufacture of metal articles; reparation of machines and machine tools; jewelry, manufacture of other precious articles, and watch repair; printing, photography, and painting. 3. Public utilities, transport, communications: Construction and maintenance of roads and public works; sanitary services, water supply, electric power; communications (post, telegraph, telephone, radio); railway transport; transport other than railway. 4. Service: Banks, insurance, brokerage, legal services; educational services; medical and other health services; religious services; government and municipal services; police, jails, firemen; art, literature, journalism; private and public services (including domestic service). 5. Commerce. 6. Miscellaneous. 7. Unspecified. 8. Apprenticeship (under ten years).

[8] Davis and Golden, "Urbanization and the Development of Pre-Industrial Areas," *Economic Development and Cultural Change,* III (Oct., 1954), 7.

from agricultural employment, women were found in relatively large numbers in service and manufacture. Of the 15,762 women employed in service trades, 11,534, or 73 per cent, were in private and public services, which consist primarily of domestic service. Another 2,172, or 14 per cent of those in service, were engaged in educational services, and 1,194, or 8 per cent, in medical and health services. Of the 10,865 women employed in manufacture, almost half were in tailoring and dressmaking and one-fifth in industries connected with animal foods. Another 16 per cent of those in manufacture were in textiles industries. In summary, of the 101,518 occupied women, who were only 4 per cent of the female population, 59 per cent were engaged in agriculture and 26 per cent in the two other largest categories, service and manufacturing. It will be noted that, aside from rural employment, women were used primarily in work where they do not come in contact with men and where, in fact, they serve to keep other females from coming into contact with men. The segregation of the sexes has made education the major opportunity for Iraq's educated women. They remain virtually excluded from many types of employment.

Liwa statistics can be computed but are omitted because such detailed analysis is unnecessary here. In only three liwas—Baghdad, Karbala, and Basra, all heavily urban—was less than half of the occupied population engaged in agriculture. The social problem of Basra, both liwa and city, is reflected in the large proportion of the labor force having no definite employment. Moreover, the high percentage of Basra's males who were in the labor force indicates heavy migration from rural areas. The service category in Baghdad city was swelled by government employees and domestic servants. Unfortunately, the exact number of civil servants cannot be computed from the data. All railway and communications workers, most workers in education and health, some employees in banks, and of course all in the category of government and municipal services were on the public payroll. Even in Baghdad city, commerce was more important than manufacture as an employment—evidence of the underdeveloped nature of the economy.

Type of residence.—The tables on type of residence give only a rough approximation of the true housing situation because of faulty definitions and incomplete filling out of schedules. The census categories were: (1) single-family houses of permanent structure, (2) single-family houses of mud or mud brick, (3) multi-family houses, (4) mud or reed huts and nomads' tents, (5) institutions of various kinds, and (6) means of transportation, as for example boats. If the distinction between a house (categories 1–3) and a family dwelling which is not a house (category 4) had been clearly made, an accurate if simplified picture of Iraq's housing situation would have resulted. The census authorities defined a house, whether of mud or permanent structure, as a building with paved floors, windows with glass and frames, and doors that lock; electricity and plumbing were not included as requisites. Confronted with many borderline cases, the enumerators had to use their own judgment. They appear to have erred in the direction of reporting many huts as houses, whether from national pride or from the modesty of their own homes. Particularly in the four mountainous liwas, where climate demands a substantial dwelling and building stone is available, almost all the dwellings were called houses, although the majority of Kurdish village homes are mud huts with stone added to the mud for strength. Therefore the reported per-

centage of the population living in huts rather than in houses can be taken as a minimum estimate.

Table 19 classifies Iraq's population by four major types of housing for the fourteen liwas and the four major cities. Single-family houses of permanent structure and of mud or mud brick have been combined, because the enumerators were

TABLE 19

TYPE OF RESIDENCE AND SIZE OF FAMILY, IRAQ, 1947

Locality	Per cent living in[a]				Average size of family living in[b]			
	Single-family houses	Multi-family houses	Huts, tents	Other	Single-family houses	Multifamily houses		Huts, tents
						Families per house	Size of family	
LIWAS								
Mosul	52.6	16.5	28.7	2.1	5.6	3.2	5.0	5.0
Arbil	82.3	8.7	7.5	1.5	5.3	3.7	4.5	5.4
Sulaimaniya	75.3	18.4	4.8	1.5	6.5	4.5	5.9	5.7
Kirkuk	74.8	20.5	1.9	2.7	5.4	4.0	4.6	5.1
Diyala	53.6	14.9	29.1	2.4	5.5	3.9	5.3	5.7
Baghdad	27.6	35.3	32.9	4.1	5.8	2.6	4.8	5.4
Dulaim	33.4	8.1	56.3	2.3	6.4	4.0	5.2	6.9
Karbala	26.3	20.2	52.1	1.4	5.5	3.1	5.6	5.3
Hilla	35.4	10.3	52.9	1.3	4.3	3.2	3.5	5.3
Kut	24.5	7.5	66.8	1.1	4.5	3.7	4.7	5.1
Diwaniya	16.9	5.7	76.6	0.8	6.4	4.3	4.9	7.4
Muntafiq	10.5	4.8	84.0	0.6	5.4	4.7	5.0	7.0
Amara	7.3	6.7	85.0	1.1	5.8	4.6	4.9	5.6
Basra	23.6	8.2	63.6	4.5	5.4	3.4	4.7	4.8
CITIES								
Baghdad	30.1	52.1	12.6	5.2	6.0	2.3	4.9	5.2
Mosul	46.9	44.8	1.6	6.7	6.4	2.9	5.0	5.4
Kirkuk	32.5	57.4	0.5	9.6	5.7	3.9	4.4	4.6
Basra	24.0	26.3	40.2	9.4	5.3	3.4	4.7	4.3

SOURCE: Census of 1947.
[a] Nomads included.
[b] Nomads excluded.

not able to distinguish between them. The second category, multifamily dwellings, corresponds to tenements. The third category includes types of dwellings that are not houses: huts of mud and reed and nomads' tents. The fourth category includes all other forms of housing—primarily government institutions, although in Basra and Amara liwas a significant minority were living in boats.

It is apparent from table 19 that, despite underenumeration, huts were the most common form of housing. They are built at small cost, containing no sanitary facilities, can easily be moved and rebuilt, and are the only form of private housing available to an agricultural people of low cash incomes. The proportion of the population living in huts varied from a small percentage in mountain liwas to the vast majority in heavily rural irrigation zone liwas. The social problems of Basra

and Baghdad cities were reflected in their housing, as well as in their employment, situations, for the urban hut dwellers are recent migrants from rural areas and constitute a great part of the casual labor force.

Analysis of the 'Arasat al-'Asima section of the rural portion of Karrada nahiya, lying just east of the eastern dike of Baghdad, reveals that 20,713 of the 20,910 people living there in 1947 occupied huts rather than houses. If this section were added to our definition of Baghdad city, the 12.6 per cent of its population living in that kind of housing would be increased to 16.2 per cent. The rural origins of the 'Asima people are indicated by the fact that the 20,910 included only 694 literate males and 5 literate females. A survey of this area in the winter of 1953–54 conducted by a group of social welfare students confirms that this settlement has grown since 1947, and that it is composed overwhelmingly of migrants from rural areas. The students estimated that 50,000 people were living in the area at the time of their survey, at least three-quarters of them having come from a single liwa, Amara. All the houses in the area were of reed mats and mud, and in the entire settlement there were no latrines and only four water taps. The men and boys were working at various unskilled jobs and suffered much frictional unemployment because of their weak bargaining position. Nevertheless, the level of living of these migrants is far higher than it was when they were fellahin. The flood of March, 1954, which inundated the entire 'Asima area, sent its inhabitants and their animals over the dike to camp in empty suburban lots. Since that time, the majority have been forced to move out of the city again, while the continuing migration has caused the 'Asima settlement to grow. Doreen Warriner estimated its inhabitants at 40,000 in 1955.[9]

Detailed analysis of the housing data for Baghdad city substantiates some of the generalizations made in the previous chapter. The city, as here defined, includes three sections: the old quarters contained within a boundary that was once walled, plus the relatively small portion on the west side of the Tigris; the northern suburb of urban A'zamiya; and the southern suburb of urban Karrada. The dominant types of permanent housing in the two suburbs are single-family houses, the majority of which are modern in design, and the huts in empty lots. The Oriental-style homes in the old quarters have tended to become tenements (see table 20). Since 1947 the suburbs have grown enormously and today contain a higher proportion of single-family houses.

The correlation between the degree of urbanization and the doubling up of several families in the same house can be seen in table 19. Self-contained apartments are almost unknown in Iraq, and families in multifamily dwellings must share sanitary and cooking facilities, a common entrance, and, in summer, a common sleeping place—the roof. Privacy for women and security of property make a single-family dwelling highly desirable, and it is only the pressure of urbanization that brings multifamily housing. When a house must be shared, relatives are preferred. Unfortunately, it is not known to what extent the families in multifamily dwellings are related by blood. According to the 1947 data, the number of families per multifamily dwelling ranged from two to five.

The average size of family was computed from the published data, but is obscured by an inadequate definition of "family." Even the census authorities

[9] Warriner, *Land Reform and Development in the Middle East*, p. 181.

were unable to give a clear definition that would apply in borderline cases, although they defined the term generally as a group of people related by blood and living together. There is widespread agreement in Iraq that husband, wife, children, servants, and unmarried or widowed relatives who live with them constitute a single family. But in regard to the common phenomenon of a married couple living with their parents, there is disagreement, for Iraq is in a state of transition between the dominance of the patriarchal and the conjugal family.

TABLE 20

TYPE OF RESIDENCE, BAGHDAD CITY, 1947

Area	Population	Single-family houses	Multi-family houses	Huts	Other
	NUMBER OF RESIDENTS				
Old City	352,137	85,064	209,974	35,966	21,133
Urban A'zamiya	58,697	33,190	12,803	11,594	1,110
Urban Karrada	55,949	22,140	20,529	11,094	2,186
Baghdad	466,783	140,394	243,306	58,654	24,429
	PER CENT OF RESIDENTS				
Old City	100	24.2	59.6	10.2	6.0
Urban A'zamiya	100	56.5	21.8	19.8	1.9
Urban Karrada	100	39.6	36.7	19.8	3.9
Baghdad	100	30.1	52.1	12.6	5.2

SOURCE: Census of 1947.

The more sophisticated enumerator would call this a multifamily dwelling, while others might call it a single family. There may be systematic rural-urban differences in the enumerators' definitions of family which account at least in part for the observed rural-urban differences in family size. Table 19 shows the average size of family in each type of housing. As would be expected, the typical family living in multifamily houses was smaller than in the other types, because of the presence of unattached males, newly married couples, old people, and others who for various reasons were not able to maintain a separate household. Taking the common-sense definition of family as a group of people related by blood and living together, but realizing that this definition usually means more than husband, wife, and children, we see that the average size of family ranged from 3.5 persons (in Hilla liwa, multifamily houses) to 7.4 (in Diwaniya liwa, huts). The typical Iraqi family consisted of five or six persons.

Liwa of birth and residence.—Table 21 gives a striking picture of internal migration and probably a fairly accurate one, because most people in Iraq, as elsewhere, are proud to name their birthplace and have no reason for falsification. Comparison of columns 7 and 4 in table 21[10] shows that there were two liwas of

[10] These two columns cannot be simply subtracted, for the two percentages have different bases: The percentages in column 4 have column 1 as a base, and those in column 7 have column 5 as a base. Column 5 differs from column 1 in the magnitude of column 6 minus column 3. However, they do give an indication of the direction of net change and its relative magnitudes.

sizable net immigration, Baghdad and Basra: 22 per cent of Baghdad liwa's population and 16.6 per cent of Basra's were born outside their liwa of residence, while Baghdad liwa had sent out only 7.0 per cent, and Basra only 3.6 per cent, of people born in these liwas. Mosul liwa showed a small net loss and Kirkuk a very small net gain.

TABLE 21

LIWA OF BIRTH AND RESIDENCE, IRAQ, 1947

(Aliens and nomads excluded)

Liwa	(1) Citizens of Iraq living in liwa	(2) Number born in liwa of residence	(3) Number born outside liwa of residence	(4) Per cent of liwa's residents born outside[a]	(5) Number born in liwa, irrespective of residence	(6) Number born in liwa and living outside it	(7) Per cent of people born in liwa living outside it[b]
Mosul	523,713	505,183	18,530	3.5	535,978	30,795	5.7
Arbil	239,575	229,007	10,568	4.4	237,588	8,581	3.6
Sulaimaniya	226,322	220,531	5,791	2.6	229,967	9,436	4.1
Kirkuk	284,998	261,952	23,046	8.1	282,820	20,868	7.4
Diyala	271,908	249,635	22,273	8.2	274,673	25,038	9.1
Baghdad	788,001	614,680	173,321[c]	22.0	660,927	46,247	7.0
Dulaim	164,280	149,082	15,198	9.3	165,394	16,312	9.9
Karbala	127,594	116,441	11,153	8.7	134,431	17,990	13.4
Hilla	260,777	245,824	14,953	5.7	275,656	29,832	10.8
Kut	223,577	195,457	28,120	12.6	223,237	27,780	12.4
Diwaniya	377,849	359,934	17,915	4.7	381,867	21,933	5.7
Muntafiq	341,741	333,067	8,674	2.5	358,017	24,950	7.0
Amara	306,235	295,480	10,755	3.5	396,722	101,242	25.5
Basra	355,787	296,779	59,008[d]	16.6	307,997	11,218	3.6
Unknown	.....	.....	.....	....	4,484	4,484	....
Outside Iraq	.....	.....	.....	....	22,599	22,599	....
Total	4,492,357	4,073,052	419,305	....	4,492,357	419,305	....

SOURCE: Census of 1947.
[a] Per cent col. 3 of col. 1.
[b] Per cent col. 6 of col. 5.
[c] Includes 53,976 from Amara liwa.
[d] Includes 28,446 from Amara liwa.

The course of a large portion of Baghdad's and Basra's large gains in population through internal migration is apparent in the table. Of the 396,722 people living in Iraq who were born in Amara liwa, 101,242, or 25.5 per cent, were living outside that liwa in 1947. Of these 101,242, 82,422, or 81 per cent, were living in Baghdad and Basra liwas, and 50,193, or 50 per cent, in Baghdad and Basra cities.

Similar analysis of the four major cities shows that Baghdad, Kirkuk, and Basra cities had received large numbers from other parts of the country. About one-quarter of their populations were born outside their respective liwas, and an unknown but probably considerable number were born in rural parts of the same liwa. Mosul city, however, had not been growing rapidly. An important trading and administrative center during Ottoman days, Mosul has declined in importance since Iraq's independence.

SUMMARY

The specific information given in the census is most accurate on questions the answers to which the informants knew well and which they had little reason to falsify: marital status, religion, place of birth, and nationality. Systematic biases

occurred most notably in total numbers and the age-sex distribution, where informants were ignorant or fearful. Faulty definitions and inadequate instructions to enumerators were responsible for obscuring the data on literacy, occupation, and type of residence. Inaccuracies should not be attributed to the specific methods used in the census taking. Whatever the methods, an accurate census cannot be taken in a country where illiteracy is widespread and the government is regarded with apprehension. As literacy is gradually increased, as the standards of education are raised so that enumerators are better able to follow instructions, and as subsequent census counts prove to the people that their purpose is not oppression, each subsequent census should give a more precise picture of Iraq's population. The second population census, conducted in 1957, was designed to remedy many of the specific defects of the first.

The Census of 1947 tells many things about Iraq's population, although with varying degrees of certainty and accuracy. The population probably numbered a little more than 5,000,000, distributed over the fourteen liwas with an average density of twenty persons per square kilometer. Two-thirds of the people lived outside the municipalities, in villages and Bedouin camps; and only Baghdad liwa was more than 50 per cent urban. Baghdad city contained 10 per cent of the country's population and almost 30 per cent of its urban population, and was more populous than the next six largest cities combined.

The age-sex structure of Iraq, even when corrected for underenumeration, maintains its essential characteristic of indicating a population with high birth and death rates. Of the country's population, 18 per cent was under five years of age and 34 per cent under ten years of age. The largest cities showed some surplus in the productive ages over the age structure of the country as a whole.

About 8 per cent of the population was reported as literate, 14 per cent of males and 3 per cent of females. More than 20 per cent of the population of the four major cities was literate.

Of all persons aged ten and above, 56 per cent were married and an additional 10 per cent had been married, an indication of the near-universality of marriage in Iraq. A sizable proportion of the women and a negligible proportion of the men were widowers and not remarried, indicating that most widowers and relatively few widows remarry. Rural-urban differences in marital status existed for males but not for females. Of the married men, 8 per cent were married polygamously; the rates were lowest in the large cities and highest in liwas of strong tribal influence.

About 94 per cent of the population was Muslim, 3 per cent Christian, and 2 per cent Jewish. Only two liwas, Baghdad and Mosul, had religious minorities composing more than 10 per cent of their populations. The four largest cities were more heterogeneous than the country as a whole.

Over half of Iraq's economically active population was found to be engaged in agriculture. Service trades and commerce were next in importance, while manufacture occupied only 7 per cent of the labor force. The casual labor force listing no definite trade was of significant size in Baghdad and Basra cities, where it reflects a serious social problem. Only 4 per cent of the females reported an occupation, although many more are employed in agriculture. Those who reported occupations were predominantly engaged in agriculture; other important occupations

for women were domestic service, production of animal foods, dressmaking, and teaching.

Almost half of Iraq's population was found to live in dwellings not classified as houses—huts for agricultural people and the urban poor and tents for nomads. Aside from a small percentage living in institutions, the remainder was divided between single- and multifamily dwellings, the former predominating in the country as a whole and the latter in the large cities. The typical family—that is, a group of people related by blood and living together—included five or six persons.

Finally, data on liwa of birth and residence indicate that the cities of Baghdad, Basra, and Kirkuk and the liwas of Baghdad and Basra have been recipients of large numbers of people from other liwas in recent decades. Amara looms above all others as the major source of migrants: in 1947 one-fourth of the people born in Amara liwa were living outside it.

CHAPTER IV

VITAL RATES

ACCURATE vital statistics are more difficult to collect than are data on the size and composition of a population, for they must be collected continuously in order to be valid, while a census need be conducted only periodically. All countries experience some difficulty in gathering vital statistics, but countries in which fertility and mortality are high have a special problem in that the very factors causing the high levels of vital rates preclude the collection of reliable vital statistics. To tradition-minded, illiterate people, birth and death are such natural processes that there seems no reason for the government to be interested in them. The great majority of births as well as deaths occur in the absence of any medical authority. Moreover, a segment of the population distrusts representatives of the government and will not voluntarily report anything to them. From the tables of vital rates in a publication such as the United Nations' *Demographic Yearbook* one gains the impression that there is little difference between highly developed and relatively underdeveloped countries with respect to fertility and mortality. Many countries with the highest vital rates do not attempt to collect and publish vital statistics, and others submit rates that are spuriously low. Therefore a more accurate picture of fertility and mortality in underdeveloped countries may be obtained from sources other than vital statistics.

There are two levels of vital registration in Iraq. The first and more comprehensive is the birth and death certificates issued by health officials; the second is the Census Book, which is issued by the authorities when someone brings in a birth certificate to be registered under the family name. The number of birth and death certificates issued reflects only a fraction of the total number of births and deaths, and not all persons possessing birth certificates obtain census books.

The Ministry of Health gathers vital statistics from registrations of births, deaths, and illnesses treated at medical institutions. In the majority of cases, in which no medical authority is involved, individuals must be relied upon to report vital phenomena in order that they be included in the published statistics. A father who wishes to register a birth must go to the nearest town (nahiya center) to a government clerk, who demands written proof that the parents are married and a birth certificate from a health official or the mukhtar (administrative leader of a village or quarter of a town). The first demand is for something that most rural people do not possess, and the second demand may require that the father return to his village or quarter, pay a fee to the mukhtar in order to receive the birth certificate, and return to the clerk—a lengthy and perhaps expensive process. It is understandable that the proportion of births registered by individuals is very small, and almost none are reported from rural areas.

The method of registering a death depends upon the category to which it belongs. If a doctor attends a natural death, he signs the death certificate, which is then registered by the government clerk. For an unnatural death, the certificate is signed by a coroner, who investigates to determine whether prosecution is called for. If a death was not attended by a doctor, as it usually is not, the relatives of the deceased may go to the mukhtar, who for a fee signs a certificate that

the death was from natural causes. This certificate must be signed by two respected witnesses and taken first to the police and then to a government health inspector, who may ask to see the body. Considering the apprehension with which the typical Iraqi villager regards any representative of the government, and particularly the police, it is inconceivable that he would carry out this complicated process unless he had a special need for the death certificate. Burial in a cemetery requires a death certificate, but this form of coercion operates mainly in urban areas.

The Census Book, which is issued by the census authorities upon presentation of a birth certificate, corresponds in function roughly to a birth certificate in the United States. It records the place and date of birth, parents, and exact name, and a copy of it is filed under the family name with the census department. It must be presented when an individual wishes to obtain a passport, enter a government school, or secure certain types of employment. Rural people would have no knowledge of, or use for, such a document. Most urban people do not apply for it until they find they need it. The government is attempting to increase registration by making the possession of this document a requisite for more activities, but as yet it is unimportant as a source of vital statistics.

Statistics on births, deaths, and diseases which are registered or which come to the attention of medical authorities are published in the Ministry of Health's *Annual Bulletin of Health and Vital Statistics*, with abstracts therefrom appearing in the Ministry of Economics' *Statistical Abstract*. Vital rates can be computed from the published data, but they are spuriously low. Crude birth and death rates, obtained by dividing a greatly underregistered number of births or deaths by a more accurately estimated population of the area to which the registrations pertain, are below the actual ones. For infant mortality, the number of registered infant deaths is divided by the number of registered births. Because most registrations take place through some medical institution, there is a selective factor in the mothers who visit these institutions and, once they and their babies have received medical care, in the babies' mortality.

Recognizing that reported births, deaths, and infant deaths are only a fraction of the number occurring throughout Iraq and that the major sources of registration are medical institutions, the Ministry of Health publishes data for geographic divisions called health centers—that is, towns and cities containing government clinics staffed by medical doctors—rather than for the country as a whole. The number of births and deaths reported in these areas is divided by their estimated populations, an admission that voluntary registrations from rural areas are negligible in number. Even in the towns, crude birth and death rates so computed are low for the first reason given above: not all persons in a town containing a medical institution visit it. Infant mortality rates are low for the second reason: there is a selective factor in those who do visit clinics. In 1951 the population of the towns classified as health centers was estimated at 1,632,944, approximately 30 per cent of Iraq's population or the population of towns larger than 3,000 inhabitants. The number of registered births in these towns during that year was 38,127, giving a crude birth rate of 23.3 per thousand population. The crude birth rate is at least 50 per thousand. The number of registered deaths was 18,490, giving a crude rate of 11.3 per thousand. It will appear that the actual rate is more than twice that amount. If the 3,395 deaths of infants under one year that were

registered in the health centers in 1951 are divided by the 38,127 registered births of that year, an infant mortality rate of 89 per thousand live births results.[1] This rate is probably fairly accurate for infants whose mothers visited medical institutions and therefore whose birth and mortality would be recorded. It may be somewhat too low even for them, as some babies born under medical supervision later die without medical attention. But the rate of 89 per thousand is far lower than the rate for the majority of babies who are born without medical care. As it appeared in the Census of 1947, 66 per cent of Iraq's people lived outside municipalities, and it will be at least several decades before doctors or even nurses will

TABLE 22

VITAL STATISTICS FOR MAJOR CITIES OF IRAQ, 1948

Data	City			Three cities combined
	Baghdad	Mosul	Basra	
Population, 1947	466,783[a]	133,625	101,535	701,943
Births, 1948	14,747	4,627	1,823	21,197
Deaths, 1948	7,384	1,382	967	9,733
Infant deaths, 1948	1,945	308	194	2,447
Crude birth rate per 1,000	32	35	18	30
Crude death rate per 1,000	16	10	10	14
Infant mortality rate	132	67	106	115

SOURCES: Population data from Census of 1947. Data on number of births, deaths, and infant deaths from Iraq, *Statistical Abstract, 1952*, pp. 63–64.

[a] Baghdad city is defined as including urban portions of northern and southern suburbs.

be commonly available to villages. Even in the towns, a significant segment of the population does not seek medical care. Furthermore, those who, through ignorance, fatalism, fear, or poverty, do not visit medical institutions are by and large the same people who do not voluntarily register vital phenomena with health authorities and who suffer the highest morbidity and mortality.

The Ministry of Economics' *Statistical Abstract* publishes yearly totals of births, deaths, and infant deaths for the three largest cities only. These rates should be closer to the actual ones than those for all the health-center towns, because the people in the large cities are more accustomed to giving information to authorities. It is not clear from the published data whether they pertain to the urban portion of the city only or to the qada containing it; however, because the majority of rural people, even those living near large cities, do not commonly seek medical care, it is probably more accurate to relate the number of recorded births and deaths to the populations of the urban portions only.

Table 22 gives the rates that result from the vital registrations of the three largest cities in 1948 and their enumerated populations in October, 1947. Heavily weighted by Baghdad city's numerous population, the rates for the three cities combined appear higher than those for the health-center cities and towns. This

[1] Iraq, *Annual Bulletin of Health and Vital Statistics for 1951*, pp. 2–6. I have used the generally accepted definitions of these demographic measures. The crude birth and death rates are the incidence of births or deaths during a given year, multiplied by one thousand, divided by the midyear population in which the births or deaths occurred. Infant mortality is the number of deaths of infants under one year during a given year, multiplied by one thousand, divided by the number of live births during that year.

difference is evidence not of higher fertility and mortality in the large cities, highest in Baghdad, but rather of underestimation of vital rates in the published vital statistics. The rates rise as the data become more accurate. Baghdad city, which has the best medical facilities and conditions of health and sanitation in the country, seems to have the highest rates because this city has, through its medical facilities, the best means of registration. Yet registration in Baghdad is far from complete—evidence that the actual rates are even higher. Because the published vital statistics are inaccurate, other methods of estimation must be used.

No single method of estimation or source of information can give Iraq's vital rates with any degree of certainty. However, if a variety of independent sources point to similar answers, there is a presumption that they reflect the truth. It has been established that Iraq's published vital statistics represent an underregistration of unknown magnitude, and hence they are almost useless as a basis for estimating the actual rates. A better picture can be obtained by combining several types of information: (1) comparison between known facts about Iraq and similar data for other countries, so that Iraq may be placed demographically with respect to them; and extrapolation of the similarities between Iraq and demographically similar countries about which more data are available; (2) estimates by medical experts who are familiar with conditions among certain segments of the population or in certain parts of the country; and (3) fragments of evidence from other sources.

The first step is to place Iraq demographically with respect to other countries.[2] In the absence of usable vital statistics, we must use data on population structure as a basis for comparison.

The age structure of Iraq's population can be used as an indication of high fertility. In 1947 almost one-fifth of the population was below five years of age, one-third below ten, and one-half below twenty; our hypothetical corrections for underenumeration did not substantially alter these percentages. The best measure of fertility which can be computed from the age-sex distribution is a fertility ratio consisting of the number of children under five years divided by the number of women of childbearing age. Table 23 compares Iraq with other countries in various stages of economic development with respect to the proportion of population under five and under ten years of age, and with respect to the fertility ratio.[3] The only population included in the table that is closely similar to Iraq's in these respects is one that is also culturally similar, the Palestinian Muslims during the Mandate. Undoubtedly there are other populations in the world with rates as high for which data are not published, because of the correlation between demographic

[2] I am grateful to Ernest Jurkat for suggesting this method. It has not seemed appropriate to follow his method in as much detail as he has done with countries having more reliable data. Because of the doubtful nature of Iraq's statistics, building upon them through extrapolation becomes subject to ever wider error the farther one moves from the data upon which the extrapolation is based. Therefore my analysis has been confined to the level of crude rates rather than more refined measures, such as gross and net reproduction rates. The latter could be computed for Iraq by means of Dr. Jurkat's method, but the resulting estimates would be subject to so many sources of error that their value would be questionable. For a short explanation of this method and examples of its use, see Jurkat, "Prospects for Population Growth in the Near East," in *Demographic Studies of Selected Areas of Rapid Growth*, pp. 84–85.

[3] Because Iraq's Census of 1947 tabulated ages above ten by ten-year intervals only, the fertility ratio had to be defined as children under five per thousand females aged ten to thirty-nine. Ten is better than twenty as the lower age limit, for in Iraq marriages frequently take place at the age of eleven or twelve for females. Ideally the interval fifteen to forty-four should be used.

TABLE 23

NET REPRODUCTION RATES, FERTILITY RATIOS, AND POPULATION UNDER FIVE AND UNDER TEN YEARS, SELECTED COUNTRIES, 1944–1953

Country and year	Net reproduction rate	Fertility ratio[a]	Per cent of population under	
			Five years	Ten years
MIDDLE EAST				
Iraq, 1947	...	837	18	34
Palestine Muslims, 1944	2.2[b]	856	19	33
Palestine Jews, 1944	...	424	11	20
Israel, 1950–51	1.7	562	14	23
Egypt, 1947	...	536	14	26
Jordan, 1950	...	669	14	31
Turkey, 1945	...	538	13	27
Cyprus, 1950	1.8	546	14	24
ASIA, AFRICA, OCEANIA				
Japan, 1950	1.5	525	14	25
Philippines, 1948	...	582	16	31
Formosa, 1950	...	635	16	29
Union of South Africa, 1946	...	528	13	26
New Zealand, without Maoris, 1950	1.6	545	12	21
New Zealand Maoris, 1950	...	780	20	33
American Samoa, 1950	...	746	19	34
Fiji Islands, 1951	...	667	17	29
Ryuku Islands, 1950	...	605	16	27
AMERICAS				
United States, 1950	1.4	470	11	20
Honduras, 1950	...	629	16	29
Jamaica, 1950–51	1.5	523	..	..
Trinidad and Tobago, 1953	2.0[c]	664	..	..
EUROPE				
Austria, 1951	0.9	358	8	15
Denmark, 1950–51	1.1	444	10	19
France, 1950	1.3	456	9	15
Italy, 1950	...	381	9	17
Netherlands, 1950–51	1.4	519	12	21
Norway, 1949–50	1.1	446	10	17
Sweden, 1949–50	1.1	433	9	17
Yugoslavia, 1948–50	1.4	383	10	21
Switzerland, 1950–51	1.1	419	9	17
England and Wales, 1950–51	1.0	405	8	16

SOURCES: For Iraq, Census of 1947. For other countries, United Nations, *Demographic Yearbook, 1948; 1951; 1952; 1954.*

[a] Fertility ratio = $\frac{\text{children under 5}}{\text{females 10–39}} \times 1{,}000$.

[b] 1940.

[c] 1946.

trends and economic development: most countries with rates as high as these do not have reliable statistics. Therefore, before we conclude that Iraq has among the highest rates of fertility and mortality on record, we must realize that similar studies in other preindustrial countries bring to light rates comparable to those of Iraq. Table 23 gives net reproduction rates where available for countries for which fertility ratios were computed, and figure 4 correlates net reproduction rates and fertility ratios. If these two values were known for a larger number of countries,

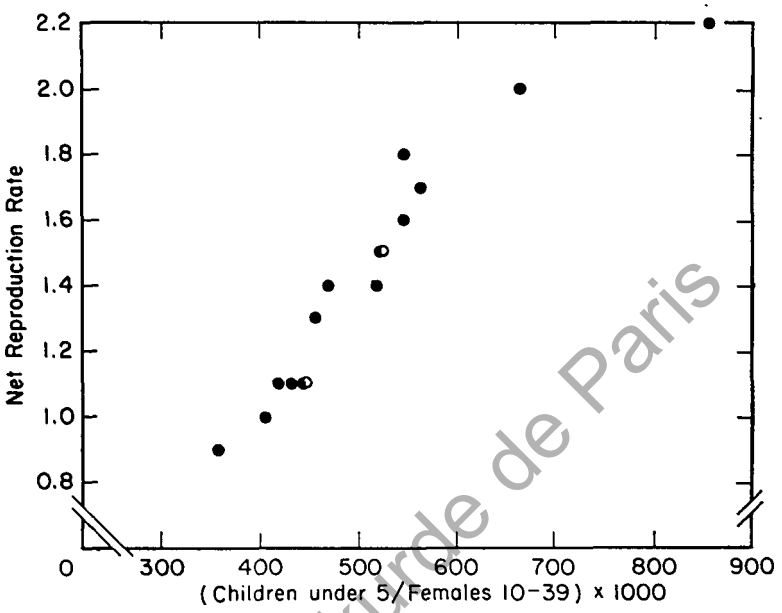

Fig. 4. Correlation of net reproduction rates and fertility ratios.

the flattening of the trend which is indicated in figure 4 would probably be confirmed; for mortality, especially of infants, would be higher for those populations with higher fertility ratios. It appears probable that the net reproduction rate for Iraq's population is similar to that of the Palestinian Muslims—that is, 2.0 or higher.

The quality of the population data for Palestine during the Mandate period is high, particularly the Census of 1931. Therefore any parallels that can be drawn between the two populations are useful. The age-sex structure of Iraq's population and that of the Palestinian Muslims both show a great swelling at the lower age levels and a rapid falling off of numbers as age increases. The Muslims of Palestine were undergoing a major demographic change in the few decades prior to the partition. Because of the rapid economic development of the country, some of which reached the Muslim section of the population, mortality was falling, while their fertility, determined by age-old customs, remained steadily high. These trends can be seen in table 24. The gap between gross and net reproduction rates was decreasing—a reflection of falling mortality, especially among infants. The crude death rate was falling throughout the period, while the crude birth rate showed no secular decline: this resulted in a high and rising rate of natural increase.

Iraq today is probably in a state of demographic development similar to that of the Muslims of Palestine in the late 1920's and early 1930's. As Hilma Granqvist's detailed studies show, superstition still prevailed over science outside the cities in Palestine at that time, and reproduction was close to the biological maximum.[4] The conditions of mortality are different in the two populations. Infant mortality is higher today in Iraq than it was then in Palestine, because Iraq's severe climate is hard on young children in the absence of adequate shelter, diet, and

TABLE 24

VITAL STATISTICS FOR MUSLIM POPULATION OF PALESTINE, 1925–1946

Year	Crude rate per thousand			Infant mortality	Reproduction rate	
	Birth	Death	Natural increase		Gross	Net
1925–29	53.0	29.3	23.7	176	....	....
1930–34	50.4	25.6	24.8	163	....	....
1931	....	....	....	...	3.36	1.80
1932	....	....	....	...	3.04	1.69
1933	....	....	....	...	3.18	1.85
1934	46.6	26.7	19.9	175	3.06	1.69
1935	52.6	23.5	29.1	148	3.57	2.11
1936	53.1	20.0	33.1	136	3.76	2.49
1937	49.8	24.9	24.9	179	3.69	2.11
1938	47.3	18.7	28.6	128	3.64	2.41
1939	46.4	17.4	29.0	122	3.59	2.46
1940	47.4	24.7	22.7	147	3.81	2.17
1941	49.2	21.4	27.8	132	....	....
1942	45.2	19.9	25.3	140	....	....
1943	52.4	19.0	33.4	113	....	....
1944	53.7	17.3	36.4	103	....	....
1945	54.2	16.4	37.8	94	....	....
1946	54.2	15.9	38.3	...	....	....

SOURCES: United Nations, *Demographic Yearbook, 1948; 1952.*

clothing. Over-all mortality is higher also because of differences in the prevalence of literacy as well as special sanitation problems associated with life on an alluvial plain. However, in the absence of better data, our best estimates for Iraq's present vital rates would be within the range presented by table 24 for the late 1920's and early 1930's. The crude birth rate would be between 50 and 55 per thousand, the crude death rate between 25 and 30, and the crude rate of natural increase approximately 25, with infant mortality at least 175 per thousand live births. Data pertaining specifically to Iraq's vital rates will be examined next, and it will be noted whether they confirm or contradict these estimates.

ESTIMATES OF FERTILITY

On the basis of the Palestinian data, we would expect the crude birth rate of Iraq's population to be between 50 and 55 per thousand, an estimate confirmed by various authorities.[5] Evidence comes from the records of the maternal and child health

[4] See Granqvist, *Birth and Childhood among the 'Arabs* and *Child Problems among the Arabs.*
[5] Jurkat, *op. cit.*, pp. 84, 88; Fisher, *The Middle East*, p. 248.

centers to support the statement that reproduction in Iraq is close to the biological maximum. At the Sheikh Omar Maternal and Child Health Center in a lower-class district of Baghdad, 2,000 mothers answered a questionnaire; from their answers a crude birth rate of 48 per thousand was computed by World Health Organization experts. The people of the Sheikh Omar district, although generally poor, are not the poorest element of Baghdad's population. They live in multifamily houses rather than in huts. A sizable proportion of the males are either attending school or learning a trade, factors which would tend to postpone marriage. At the Maternal and Child Health Center in Samawa, a town on the lower Euphrates, a nurse-midwife stated, "These women bear to capacity," averaging almost one pregnancy a year. Marriage is early for the women, and most of them have several living children by the time they are twenty, despite heavy infant mortality. The typical married woman has four or five living children. In village surveys made by the author, during which the women and children were actually observed and counted, the computed fertility ratios ranged from 700 to 800 children under five per thousand women aged ten to thirty-nine. These rates confirm the hypothesis that Iraq's fertility must be higher than that of countries with crude birth rates in the 40's per thousand.[6] (See table 23.) It is reasonable to conclude that the most probable figure for Iraq's crude birth rate is 55 per thousand population. It may be as high as 60 but is certainly not below 50.

Estimates of Mortality

Because measures of mortality depend upon vital statistics, whereas fertility can be estimated from census data, it is more difficult to estimate general mortality than fertility. The estimates of Iraq's crude death rate from various sources range from 25 to almost 40 per thousand. Especially for the death rate, it is important to note the years to which the estimates pertain, for there is evidence that the mortality of Iraq's population has been declining in recent decades. Thus Fisher's estimate of a crude death rate of 38 per thousand may have been correct for the years 1935–1940 to which it pertains.[7] Contemporary observers believe that the rate is approximately 30, meaning that natural increase is about 25 per thousand. The average expectation of life at birth probably does not exceed thirty years.

There are more data on the infant mortality rate than on general mortality. However, they pertain to certain segments of the population and show great variation, because infant mortality is so sensitive an index of social and economic conditions. Therefore generalizations about the rate for the country as a whole are subject to wide error.

We saw in table 22 that a select group of babies whose mothers sought medical care in the three major cities registered an average of 115 deaths under one year per thousand live births: 115 can therefore be taken as a minimum, probably below the actual rate even for the three major cities. In the Sheikh Omar Maternal and Child Health Center in Baghdad, the survey of 2,000 families revealed an infant mortality rate of 135 per thousand. These babies had been receiving medical care, or their families would not have been included in the survey. Moreover, the levels of living and education in the Sheikh Omar district are far above those of the

[6] Egypt showed a fertility ratio of 536 and a crude birth rate of 42 per thousand; Honduras a fertility ratio of 629 and a crude birth rate of 41 per thousand. United Nations, *Demographic Yearbook, 1958*, table 10.

[7] Fisher, *op. cit.*, p. 248; Jurkat, *op. cit.*, p. 89.

country as a whole. The availability of purified water in the cities is in itself a major factor lowering mortality.

Data from the Samawa center reflect more closely the conditions prevailing in the country as a whole. Samawa is a town as yet little touched by modernity. The customs and superstitions are much as they have been for centuries, except as modified by the recent availability of education. With the exception of a water purification plant which was built in 1952, conditions of sanitation have not changed. Although the majority of patients at the center are townswomen, wives of merchants being the most numerous group, the center receives wives of fellahin and even a few Bedouin women who walk in from the desert with their babies. A study was made of the case histories of 400 families of infants born during 1953 whose mothers had visited the Samawa center for prenatal and postnatal care. Infant deaths among the babies brought more or less regularly to the center were found to be 70 per thousand live births. Infant deaths among these same families before the center opened were found to have been 390 per thousand. The latter rate may have been spuriously raised by the inclusion of some deaths of older children, but those errors were probably offset by some underreporting of deaths. Moreover, there is a selective factor in the mothers who visited the center that would have operated even before its opening in early 1953. Although all social classes are represented, their economic level is on the average higher than that of the general population of the area, and the fact that these mothers began to use the center soon after its opening indicates that they and their families were receptive to new ideas. Therefore it can be concluded that the rate of infant mortality in this area on the lower Euphrates is at least 400 per thousand live births.

Evidence from regions where malaria is prevalent indicates infant mortality close to 500 per thousand. A study made at a government land settlement project in the Kurdish mountains revealed that among 354 families there were not enough children of school age to justify establishing a school. A survey of 2,000 families, made by a doctor from the World Health Organization, in Kurdish villages near Sulaimaniya indicated infant mortality of 480 per thousand. The two major killers were found to be malaria and malnutrition.

It is difficult to generalize these fragments into an over-all infant mortality rate. In towns where there is no malaria and the water is pure, the rate might be about 150. In rural districts, where ignorance is greater and pure water and medical facilities are lacking, the rate is probably upwards of 400 per thousand, and in malarial districts closer to 500. Most of the approximately two-thirds of Iraq's people who live outside municipalities, and many inhabitants of small towns do not have access to purified water. Therefore the rural averages should be weighted more heavily than the urban. An over-all rate of 350 infant deaths per thousand live births is probably not far wrong.

Rate of Natural Increase and Size of the Present Population

The decline in infant mortality from almost 400 to less than 100 within the same families in Samawa illustrates how easily a decline in mortality can be brought about when poverty and ignorance, the important sources of illness, are diminished as a result of economic development. Because factors making for high birth rates are so important in Iraq's culture, fertility will probably remain close to its

present high level for several generations. Therefore a rising rate of natural increase can be deduced. The statistical evidence, scanty and poor as it is, lends support to this deduction. Hashim Jawad, whose estimates of total numbers cover the years 1919 to 1942, concluded that the rate of natural increase of the population was not much more than 1 per cent per annum.[8] Yet, if his estimate of 4,150,000 for 1942 is comparable with the census total of 4,816,185 in 1947, the population was increasing at the rate of almost 3 per cent per annum. The recent

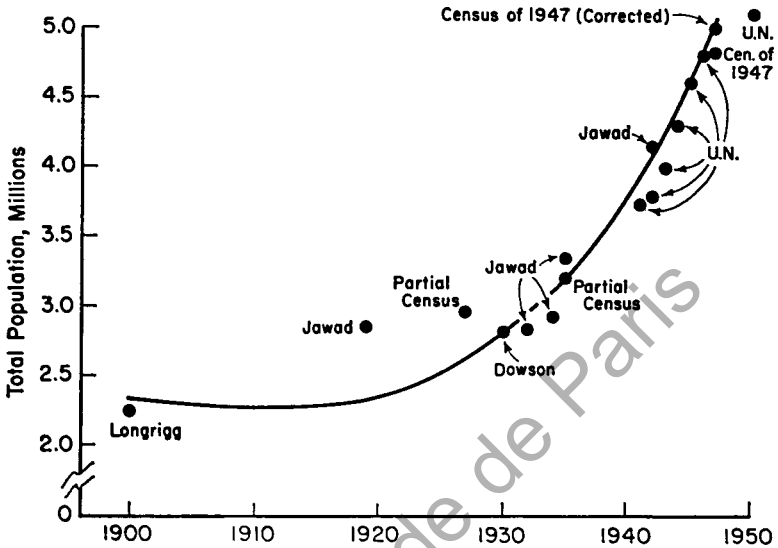

Fig. 5. Estimates of Iraq's total population, 1900–1950.

acceleration in the rate of growth of Iraq's population can be seen if the various estimates of total numbers since 1900 (see chap. iii) are plotted and a trend line is fitted to them, as in figure 5.[9] If the estimates are substantially true, it is evident that the rate of natural increase has accelerated in recent decades and that Iraq's population has entered a period of rapid growth. This fact is hinted in the graphical representation of the age structure, which is narrow down to the age of twenty but widens when twenty is reached (see fig. 2). A rate of natural increase of 20–25 per thousand, or 2.0–2.5 per cent per annum, is indicated for recent years. To the extent that earlier estimates tended to underenumeration more than later ones, the rate would be closer to the lower figure.

The approximate size of Iraq's population at present can be projected by adding a probable natural increase to the 1947 population. Such an estimate is subject to error from both the base figure and the allowance for increase, but, for estimates based on a recent census, the first source of error is the more important. Therefore, the aggregate for 1947 should be corrected for the underenumeration that is known to have taken place. A modest correction would put Iraq's total population

[8] Jawad, *The Social Structure of Iraq*, pp. 17–18.

[9] The trend line is an exponential equation of the second degree to the logarithms of y, fitted by the method of least squares. Its equation, plotted on an arithmetic scale, is: $y_t = (3.211)(1.031)^x(1.001)^{x^2}$, with 1935 chosen as year zero. The y_t/y_{t-1} values (ratio of trend value in any year to that of the preceding year) increase, establishing an acceleration in the rate of natural increase. The writer is grateful to her colleague Dr. Robert Kautz for technical assistance in this matter.

at about 5,000,000 in 1947. A natural increase of 20 per thousand for nine years would give a population of 6,000,000 in October, 1956, while a rate of 25 per thousand would give a population of 6,200,000.[10]

It is too soon to project when and if the rate of growth will cease its acceleration. The factors which are maintaining the present level of fertility will be slow to change but are not immutable. Population projection on the basis of the scanty information we have for Iraq's numbers and vital rates would be pure guesswork. A qualitative discussion of the adjustment that vital rates can be expected to make to economic development is the subject of the remainder of this chapter.

Immigration, which may be induced as the irrigation projects make more agricultural land available and as the shortage of skilled labor becomes more acute, has been omitted from the discussion because it is a political issue beyond the scope of this study. It could, of course, have a profound effect upon population growth.[11]

Factors Explaining Mortality and the Vitality of the Population

The average span of life is short in Iraq, and the typical man is hungry and diseased. The recurrent catastrophes that have punctuated Mesopotamia's long history—such as the plague of 1831 and the flood that followed it, which together are said to have reduced Baghdad city's population from 150,000 to 50,000[12]—cannot be used as explanations of the high morbidity and mortality rates prevailing today. During the flood of 1954, which was one of the worst in Iraq's history, large-scale relief activities prevented the loss of any lives, and neither epidemics nor starvation ensued. Today a shortage of grain brings an embargo upon its export rather than a famine. The irrigation and flood control program will, it is anticipated, eliminate the threat of floods within the coming decade.

The prevalent causes of illness and death, more insidious than catastrophes, almost without exception result from poverty and ignorance. In examining the common diseases in Iraq, we cannot use the published data on incidence of disease, for they include only diseases treated at medical institutions and therefore show low incidences for some of the most prevalent diseases—those affecting the poorest and most rural elements of the population.[13] The incidence of endemic diseases among the rural poor is not recorded: first, this group does not normally have access to medical institutions; second, certain endemic diseases and nutritional deficiencies are so widespread that they are considered normal. Many of Iraq's poor do not know how good health looks or feels. Therefore we must turn to the opinions of medical experts for information concerning the most prevalent diseases. Table 25 lists the common illnesses in Iraq, roughly according to their inci-

[10] Computed according to the compound interest formula $(1+i)^n$, in which i is the percentage increase per annum and n is the number of years.

[11] External migration has not yet played an important role in Iraq's population growth. From 1940 to 1954, the number of people entering the country has exceeded the number leaving every year, but by an amount never greater than the 66,640 for 1950; more commonly, the net increase through immigration has been about 20,000 a year, and this includes many foreigners whose stay in Iraq is only temporary. Iraq, *Statistical Abstract, 1944–45 to 1954.*

[12] Lloyd, *Twin Rivers,* pp. 199–200.

[13] For example, bilharzia, a fluke disease caused by pollution of irrigation water by urine, showed an incidence of only five per thousand population for 1953. Iraq, *Statistical Abstract, 1953,* pp. 250–254. Yet Ministry of Health surveys in which urinalyses were made among rural people not normally having access to medical care disclosed local incidences as high as 75 per cent of the population. Watson, "Studies on Bilharziasis in Iraq," *Journal of the Faculty of Medicine, Baghdad, Iraq,* XIV (Jan.–March, 1950), 27–28.

TABLE 25

ILLNESSES COMMON IN IRAQ

Illness	Causes	Incidence
Water- and food-borne diseases: Intestinal parasites, ancylostomiasis, amoebic and bacillary dysentery, diarrheas, typhoid, bilharzia	Contamination of water and food by human excreta: absence of purified drinking water; use of night soil as fertilizer; use of irrigation ditches as latrines; flies; general unclean habits, such as eating from common dish with unwashed hands.	All more prevalent in rural than in urban areas. *Samawa:* 54 per cent of pregnant women examined in one month had one or more types of worms. *Bilharzia:* Incidences upward of 50 per cent in irrigated rural areas. *Summer diarrhea* a major killer of infants.
Malnutrition, especially anemia	Bad eating habits, result of both poverty and custom; lack of protein; intestinal parasites, which increase body's need for iron; excessive childbearing and overlong nursing.	Almost universal among women and young children. Major underlying cause of infant mortality, as it lowers resistance to disease.
Eye diseases: Trachoma, conjunctivitis	Flies; dirt; lack of knowledge as to communicability: children's faces go unwashed after they have rubbed eyes with sticky fingers.	Blindness a result of untreated trachoma. *Census of 1947:* 35,000 totally blind, 40,000 one-eyed. *Dujaila land development project:* 80 per cent of settlers found to have trachoma. *Samawa:* Conjunctivitis almost universal among babies in summer. *Kurdistan:* Eye diseases very common.
Chest infections: Colds, bronchitis, pneumonia	Dampness of houses; lack of heating and of warm winter clothing.	Prevalent in winter; affects children especially.
Malaria	Environment.	Marshy areas and Kurdish valleys.
Tuberculosis	Poor housing: lack of fresh air and sunlight, overcrowding, inability to isolate patients; malnutrition; lack of knowledge as to communicability.	More among women than among men, because of purdah. Highest incidence in conservative crowded quarters of towns.
Skin diseases: Impetigo, Baghdad boil	Lack of cleanliness. Cause of Baghdad boil unknown.	Skin diseases common among babies because of belief that frequent bathing is harmful.
Venereal disease	Prostitution.	Primarily in towns.
Bejel (frambesia)	Unclean habits.	Primarily in rural areas.
Tetanus	Use of manure as medication, especially on navel cord of newborn child; or tying navel cord with raw wool.	Important source of infant mortality.

SOURCES: Discussions with Iraqi, American, and United Nations medical personnel in Baghdad, Amara, Basra, Diwaniya, Arbil, and Kut liwas.

dence in the opinions of these experts. Except for malaria, the important ailments are social in origin, although some are aggravated by the severe climate.

Striking illustration of the social nature of illness in Iraq is offered in data gathered by experts of the World Health Organization in Baghdad's Sheikh Omar Maternal and Child Health Center. If infant mortality is separated into deaths per thousand in the first month of life, and those during the next eleven months, the number of deaths is relatively larger in the first month in countries of low infant mortality; in countries of high infant mortality, however, the highest rate applies to infants between the ages of two months and twelve months. Taking data from 2,000 Baghdad families visiting the center in 1954 and from families visiting a similar center in Hamburg, Germany, in 1952, the experts computed that the 135 deaths per thousand among Baghdad infants were divided into 40 in the first month and 95 in the remaining eleven months of the first year of life. The 33 deaths per thousand among Hamburg babies were divided into 27 in the first month and only 6 per thousand in the remaining eleven months. Deaths in the first month are caused by conditions of birth and are, in highly developed countries, near the irreducible minimum. That they are to a large extent beyond human control, at the present state of medical science, is seen in the similarity between the rates of Germany and Iraq. The causes of death later in the first year of life are social. In Iraq they are malnutrition, with its consequent lack of resistance to disease, and contaminated water. There is widespread belief that it is harmful to give a baby solid food during its first year, and many babies do not receive food other than breast milk until they are old enough to feed themselves. The state of nutrition of Baghdad and Hamburg babies may be compared with data on weights. On the average, the Iraqi child weighs 200 grams more than the European at birth. At about the fourth month, the curves of average growth cross, and by the end of the twelfth month the Iraqi child weighs on the average 1,600 grams less than the European.

Ignorance and superstition.—Poverty and ignorance, the basic causes of death and illness in Iraq, take various specific forms. One of the most important is the lack of scientific knowledge of the cause and cure of disease. The fellahin, the Bedouins, and a large proportion of the urban people live in a world in which Allah gives good health or takes it away at will, in which flies come from Allah, and so do dysentery and trachoma, with no causal nexus.

No studies have been made of the medical knowledge possessed by the Iraqi people. However, from the fact that, in 1947, 90 per cent of the population was illiterate, we can presume that the degree is low. The study made by Stuart Dodd in seven Syrian villages in 1931 is instructive because of the similarity between them and Iraqi villages.[14] The Syrian villages were inhabited by Alaouites, who are of the Shi'a sect of Islam, as are the majority of Iraqi villagers in the irrigation zone; members of this sect are the poorest and most backward group of Syria's population. The villagers were mostly fellahin, raising cereals and livestock, and receiving an annual income equivalent to about $80 (American) per capita. Their homes were of mud, their fuel of dung; in almost every detail their way of life was

[14] Dodd, *A Controlled Experiment on Rural Hygiene in Syria.* Other references on unhygienic practices and superstitious beliefs include Granqvist, *Birth and Childhood among the Arabs* and *Child Problems among the Arabs;* and Stevens, *Folk-Tales of 'Iraq.*

similar to that of the Iraqi fellahin. Dodd's survey disclosed an almost complete lack of scientific knowledge of the causes of disease. No one among the one hundred families interviewed knew that the mosquito carries malaria or that food is the carrier of diarrhea and typhoid. Only 15 per cent knew that eye diseases are communicable. One villager in four knew that colds are communicable. It is probable that such a survey in Iraq would yield similar results.

Lack of knowledge of the way in which diseases are communicated, when combined with extremely low incomes, leads to a variety of unhygienic practices. All the Alaouite villagers threw their garbage into the yards or fields. No family had a latrine of any kind. One-third of the villagers admitted that they did not wash their hands after defecation, and over half of them ate with their fingers from a single dish for the whole family. In Iraq, also, many do not understand the importance of keeping human excreta out of food and water. The contents of cesspools are bought by market gardeners to be used as fertilizer, and night soil is used on all intensively grown vegetables. If the vegetables are not polluted before they are harvested, they become polluted before they are sold, through the common practice of rinsing them in irrigation ditches on the way to market. The irrigation ditch which serves as the village water supply is commonly used as a latrine also. Bilharzia is spread by pollution of streams by urine, while the dysenteries, typhoid, and intestinal parasites are spread by contaminated feces.

If measures are taken against flies or mosquitoes, it is usually only because they are considered a nuisance. Meat, bread, confections, dates, and dairy products appear in the markets and are stored in homes with little protection against flies or other sources of contamination. Here poverty enters also as a cause, for the majority of the people would not be able to afford foods that had been packaged or refrigerated. Young children in the villages are commonly seen with their eyes covered with flies, because they wipe their eyes with sticky fingers, leaving a residue that attracts flies. Only a minority of rural mothers are aware that trachoma is spread in this way.

In all levels of society, eating utensils are simply rinsed with cold water, and often they go from one user to another without even that precaution. Dishes are often washed on the ground in the courtyard and stacked there. In the villages, common dishes are used by all, going first to the guests and tribal elders, then to the younger or less important men, and finally to the women and children. In the tribal guesthouse Arab coffee is served from a few cups to all the men, each man's order reflecting his position in the tribe.

Most of these unhygienic practices originated in poverty as well as ignorance, and the majority are also of tribal origin—cultural holdovers from a time when water was so scarce that it could not be used for washing, when soap was inaccessible, and when the camp could be moved as it became unsanitary.

The folklore of Iraq is exceedingly rich, and superstitious explanations exist for almost every natural phenomenon, including the high mortality that has existed through the centuries. It is commonly believed that evil spirits, possessing supernatural powers, can cause disease. The jinn (genii) are numerous inhabitants of the Iraqi fellah's world. They dwell under the ground and can enter a human being in various circumstances, as when a person steps on a crack or takes a bath. Contact with jinn can cause sickness or death, unless one protects himself in their

presence by touching steel, calling Allah's name, or carrying magic amulets. Women and children are the special prey of Qarina, a female devil who is blamed for the high mortality of infants and among women of childbearing age. She can be warded off by amulets made of the afterbirth or the navel cord of the newborn child.

The most common fear is of human beings possessed of the Evil Eye, who are believed to be able by a look to bring misfortune to an object they covet or to its owners. Boy babies, the Arabs' most valued possession, are the main target of the Evil Eye, but houses, animals, and (a recent addition) automobiles can be affected also. Blue beads are the usual amulet to ward off misfortune, the idea being that the eye is drawn to the bead rather than to the object wearing it. They are pinned on babies' caps, embedded in walls of houses, strung around horses' necks, and woven into little pillows hung from the rear-view mirrors of automobiles. Most village babies wear some kind of amulet. However, the best defense against the Evil Eye and other malicious spirits is to avoid envy. "The Arabs have a very strong feeling that admiration and envy are . . . closely related. They do not believe that people may honestly delight in the good fortune of another . . ."[15] For this reason boy babies may be dressed as girls and may even be called by girls' names. In rural areas children are seldom washed, and flies are allowed to swarm on their faces and eyes. Thus disfigured, they are protected from envy.

When illness strikes, superstition affords remedies. Burning or cauterizing with a heated nail was a common remedy for a variety of ailments in rural Palestine. If a child had diarrhea, mutton, onions, and herbs were wrapped in dough and baked, and the cake was broken over his face. Antimony applied around the eyes is used by women in rural Iraq as both a cosmetic and a medicine for eye disease. It is a short step from antimony to aureomycin ointment, if the cause of the disease is not understood. Many preventive measures and remedies, such as inoculations, D.D.T., and antibiotic drugs, are to their recipients just a new kind of amulet—and, through their greater effectiveness, are even more magical than the discarded ones.

Nutrition.—Nutrition is a factor of great importance in explaining the generally poor health of Iraq's population. An expert of the Food and Agriculture Organization of the United Nations summarized his report on the state of nutrition in Iraq as follows: ". . . our findings as a whole make it clear that malnutrition is general. Apart from the upper classes suffering from faulty nutrition through overeating, it may be said that 75–80% of the inhabitants do not seem to receive either proper or sufficient food. Most children are backward both as to height and weight, and adults are underweight."[16] Professor Gounelle's conclusion can be corroborated statistically. The average per capita daily calories for Iraq were estimated at 1,930 for the period 1946–1949, whereas the daily calories recommended for maintaining good health in American adults range from 2,000 for a sedentary woman to 4,500 for a man doing heavy work (2,400 for a moderately active woman and 3,000 for a moderately active man). By the same standard, one daily gram of protein is recommended for each kilogram of body weight among adults—for example, sixty grams of protein for an adult of 130 pounds—and, for

[15] Granqvist, *Child Problems among the Arabs*, p. 112.
[16] United Nations, *Report to the Government of Iraq on Nutrition*, p. 8.

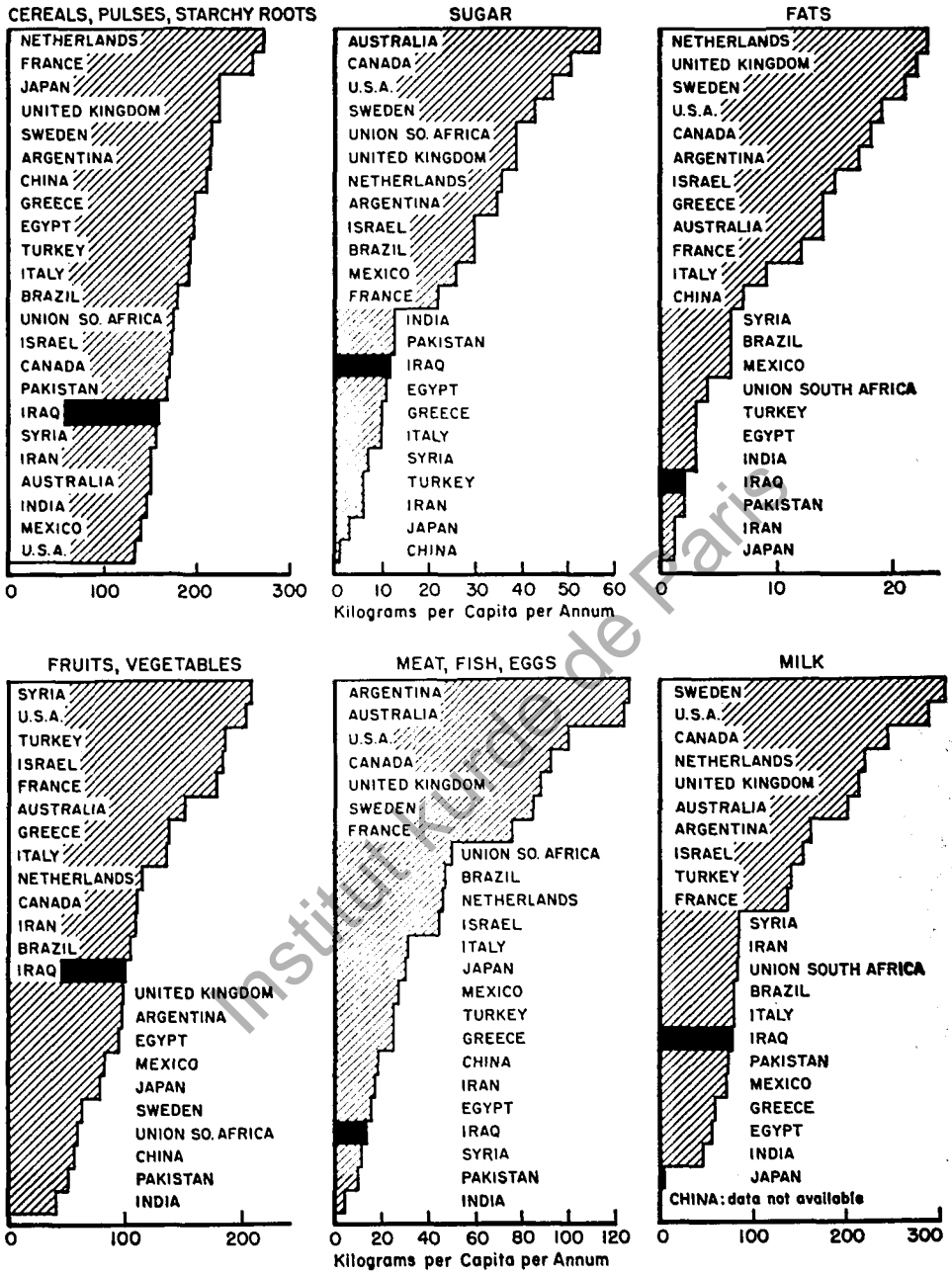

Fig. 6. Food supplies per capita, Iraq and selected countries, about 1946–1950. SOURCE: Food and Agriculture Organization of the United Nations, *Second World Food Survey* (Rome, 1952), pp. 41–48.

children, two or three grams of protein for each kilogram of body weight. Yet the average daily intake of proteins in Iraq during the period 1946–1949 was only fourteen grams.[17]

In figure 6 Iraq is compared with twenty-two populous or important food-producing countries with respect to daily per capita supplies of various foodstuffs during the period 1946–1950. The data on cereals for Iraq as well as for other preindustrial countries are undoubtedly understatements because of the difficulty of estimating farmers' consumption of their own produce. However, figure 6 proves that the diet in Iraq is relatively deficient in protective values and hints strongly that it is deficient in quantity as well.

More recent data, pertaining to 1954–55, give average per capita daily caloric intake at 2,340 for Iraq, 2,340 for Egypt, 2,250 for Lebanon, 2,150 for Jordan, 2,130 for Syria, and 2,000 for Iran. Nutrition in Iraq appears relatively good in comparison with other Middle Eastern countries. Moreover, Iraq was ahead of these other countries in the percentage of animal foods in the diet, with 14 per cent of the average caloric intake consisting of meat, fish, milk, and eggs.[18] However, in countries in which a significant segment of the population is wealthy enough to choose their diets freely, about 40 per cent of the calories consumed consist of animal foods.

Over-all averages obscure the inequality in the distribution of food consumption within a country. That the wealthy and middle classes customarily suffer from obesity, while the diets of the fellahin and urban poor are lacking in both energy and protective values, is documented by a small-scale nutritional study made by Dr. Mahmoud Jalili in 1949–50.[19] He divided a sample of fifty-five families into five groups, on the basis of income, and studied their purchases of food over a one-year period. His five classes and their average daily consumption are summarized in table 26. The relative numbers in the classes obscure the fact that Class V includes the great majority of Iraq's population, and therefore the findings relating to it must be weighted heavily. In fact, because the Class V sample was drawn from villages near cities, the families studied were probably relatively well off in comparison with truly rural people.

Dr. Jalili found that the average daily caloric intake of adults in the five classes ranged from 3,328 to 1,813. Of the Class V people, he separated out a subgroup whose daily intake averaged only 1,460 calories. The first three classes were found to have sufficient calories—in fact, a surplus, considering their sedentary way of life. Class IV was somewhat deficient because members of this class do much harder physical labor than those in the first three classes. The diet of Class V was markedly deficient: "Although these people are supposed to do hard physical work because of their occupation, yet they do not perform much work because of their inability to do so due to their deficient diet and the endemic diseases they suffer

[17] The data on Iraq are taken from United Nations, *Second World Food Survey*, p. 49. Of the fourteen grams of proteins, eight were of animal protein and six of pulse protein. The standards were set by the National Research Council, *Recommended Dietary Allowances*, pp. 7, 16. It should be noted that differences in climate, average body weight, and similar factors reduce the usefulness of the National Research Council standards in international comparisons.

[18] U. S. Department of Agriculture, "Food Balances, Consumption Year 1954–55 . . ." The data include food imports and estimated consumption of home-produced foods, and exclude food exports and nonfood uses.

[19] Jalili, "The State of Nutrition in Iraq," *Journal of the Faculty of Medicine, Baghdad, Iraq*, XIV (May–July, 1950), 73–141.

from . . . These people are on the border of starvation though they do not look really emaciated."[20] Class V was deficient not only in carbohydrates but also in proteins, fats, minerals, and vitamins. The iron deficiency among Class V was intensified because they suffer from intestinal parasites which increase the body's need for iron, and yet they consume less iron than a normal body needs. Dr. Jalili holds low milk consumption responsible for a calcium deficiency in all five classes.

It is evident that nutrition is generally inadequate in Iraq. Poverty is by far the major cause, because the purchasing power of both rural and urban workers is

TABLE 26

AVERAGE DAILY CONSUMPTION OF FIVE INCOME CLASSES IN IRAQ, 1949–50

Income class	Yearly income (dinars)	Number of families	Location	Occupational groups	Average daily caloric intake
I	More than 1,000	15	Baghdad and Mosul cities	Merchants, landowners, important government officials	3,098
II	500–800	18	Baghdad and Mosul cities	Merchants, government officials	3,328
III	200–300	6	Baghdad and Mosul cities	Minor government officials, artisans	2,897
IV	About 100	6	Houses in various cities	Servants, unskilled laborers	2,613
V	About 50	10	Huts on outskirts of cities	Farmers, casual laborers	1,813

SOURCE: Jalili, "The State of Nutrition in Iraq," *Journal of the Faculty of Medicine, Baghdad, Iraq*, XIV (May-July, 1950), 73–141.

too low for them to afford an adequate diet. However, faulty food habits partly account for the malnutrition of the poor and almost wholly account for the dietary complaints of the classes that have sufficient food. One of the most tragic examples of faulty dietary habits is the overlong nursing of babies and the prejudice against giving them supplementary food until the second year of life. When combined with the poor nutrition of the mothers, this practice accounts in significant part for the high level of infant mortality. Many families, however, would be unable to purchase proper food for their babies even if convinced of its value.

Another example is the consumption of tea and refined sugar; the former has no caloric value and neither has protective values. The problem is not of excessive consumption in an absolute sense. According to the Food and Agriculture Organization data summarized in figure 6, Iraqis consume less sugar on the average than do people in more highly developed countries. The problem is rather in the proportion of the family income spent on these relatively nonnutritive foods and the fact that there appears to be an inverse correlation between the consumption of such foods and family income. In a cost of living study made in Baghdad city in 1954, by the Ministry of Economics, it was determined that families living in huts spent more of their food budgets and incomes—both relatively and absolutely—

[20] *Ibid.*, p. 93. Gounelle found some diets consisting of 1,200 calories daily. See United Nations, *Report to the Government of Iraq on Nutrition*, p. 9.

on tea and sugar than did those living in houses and having higher incomes. Families living in houses spent on the average 13 per cent of their food budget and 7 per cent of their total outlay, or 0.277 dinars weekly, on tea and sugar. Those living in huts spent on the average 23 per cent of their food budget and 15 per cent of their total outlay, or 0.323 dinars weekly, on these two foods.[21] In the rural areas, where money incomes are smaller, an even larger percentage of the money income may be spent on tea and sugar. An agricultural economist making consumption surveys on three government land development settlements found the families spending 20–32 per cent of their entire cash incomes on tea and sugar. The poorest rural people cannot afford these two commodities, but most would abandon all foods other than bread and dates before giving them up.

Methods of preparing and cooking food are important factors in nutritional deficiencies. Excessive soaking and shredding of vegetables and exposing them to air and sunlight are common practices. Vegetables when cooked are usually combined with meat and rice, which involves much longer cooking than the vegetables require. The women ordinarily do the day's cooking each morning, allowing the food to remain warm until the men return for lunch in the afternoon. After lunch, the leftover food stands at room temperature until it is reheated for the evening meal. Copper utensils, highly destructive of vitamin C, are commonly used by the poor. Even the families who have iceboxes or refrigerators use them for cooling drinks rather than for preserving food values.

Climate plays a part in dietary deficiencies. Citrus fruits are in the market only during the winter and are priced so high that the poor cannot afford them as a regular food. Because of the intense heat and the shortage of irrigation water in summer, combined with chaotic marketing conditions, there is very little variety in fruits and vegetables during that season. For several months in summer, no foods rich in vitamin C and no leafy green vegetables are available. The heat affects milk and egg production also. There are no canneries in Iraq, and only the wealthy can afford imported canned foods with their high duties and transport costs. Techniques of food preservation are not known by the lower classes, nor would they be able to purchase the equipment necessary for home canning. Some drying of fruits is done by farmers in northern Iraq, but these foods when sold outside their area of origin are too expensive for general consumption.

The inadequate diet of the majority of Iraq's population results in rickets and osteomalacia from lack of calcium, widespread anemia from lack of iron, infant beriberi from lack of vitamin B_1, and, among those who can afford adequate food, obesity and dyspepsia from high consumption of fats and carbohydrates in the absence of exercise. However, the lack of vitality and of resistance to disease caused by the caloric deficiency is a more severe consequence than is any specific dietary deficiency.

Because poverty is the major cause of the inadequacy of diets in Iraq, diets can be expected to improve with increasing incomes as economic development proceeds. To change faulty habits, education will be required, and for that purpose a Nutrition Institute has been established in Baghdad on the basis of Professor Gounelle's recommendations. The increasing demand for fruits and vegetables

[21] Iraq, *Report on the Household Budget Enquiry in the City of Baghdad and Its Environs.*

in the cities is inducing a larger supply, and a few firms have begun production of meat, poultry, and dairy products on a scientific basis.

However, the supply of animal products will probably prove somewhat inelastic, for at present most of the animal products consumed in Iraq are primary foodstuffs—that is, the animals are not raised on food that could be consumed by human beings. Zimmerman lists primary foodstuffs as including (1) all vegetable foods, and (2) animal foodstuffs not produced from feeds which could have served as food for human beings.[22] Scientific animal husbandry is almost nonexistent in Iraq. Sheep and goats are raised on desert grass and scrub brush that would otherwise simply die, cows are fed wild grass and gleanings, poultry live by scratching for their own food, and fish come from the rivers. In richer countries, animal products are secondary foodstuffs, diverting resources from direct human consumption. It is an important characteristic of animal foodstuffs that they return less in edible calories than the quantity of calories consumed by the animals.[23] Because animal foods in Iraq are mostly primary, they are not produced at any great sacrifice of calories for human consumption. However, the supply of such foods can be increased rapidly only if the animals are fed more scientifically, which will render them secondary foodstuffs. Iraq's grain exports may have to be curtailed in order that the people may be provided with the increasing quantity and quality of animal products they will surely demand as their incomes rise.

Sanitation and medical services.—Conditions of sanitation and the availability of medical services leave much to be desired, but are improving rapidly. The quantity of purified water consumed has risen from 38,800,000 cubic meters in 1949 to 63,800,000 in 1954,[24] or from approximately 7.5 to 11 cubic meters per capita per annum, assuming population at 5,200,000 in 1949 and 5,700,000 in 1954. Water purification plants, which a decade ago existed only in the largest cities, were in late 1955 in existence or under construction in 89 of Iraq's 137 municipalities. The Ministry of Social Affairs has an active well-drilling program for villages.

At present no city or town has a modern sewage disposal system, although most cities have some drains to carry rain water from the streets to the rivers. Most town houses have septic tanks, but the majority of the population, who live in rural areas, have no system of waste disposal. The use of irrigation ditches and riverbanks as latrines contributes to the spread of filth-borne diseases. Garbage is collected in the largest cities and towns.

The number of licensed physicians has increased from 433 in 1942 to 833 in 1954, or from approximately 1.0 to 1.5 per 10,000 population. Iraq is ahead of many countries of the world in number of doctors as compared with population size. The major problem here as elsewhere is the tendency for doctors to remain in the largest cities; of the doctors practicing in 1954, 59 per cent were in Baghdad liwa alone. An even more serious problem is the shortage of trained nurses. In 1954 doctors outnumbered licensed nurses. Moreover, standards of nursing are low, because few girls of good family are allowed to enter the profession.

[22] Zimmerman, *World Resources and Industries*, p. 181.

[23] The ratio of food (or primary) calories to calories of animal product is called the animal multiplier. For milk the ratio is four to five (that is, four to five feed calories to one calorie of milk); for beef or eggs, eighteen. Lindberg, "Food Supply under a Program of Freedom from Want." *Social Research*, XII (May, 1945), 184.

[24] Statistics on consumption of purified water and the number of doctors, nurses, midwives, hospitals, and hospital beds are taken from Iraq, *Statistical Abstract, 1947* and *1954*.

The majority of babies born in Iraq are delivered by untrained midwives. Although the Ministry of Health has licensed several hundred of them, possession of a license does not signify that the midwife has been trained. In 1954 there were only eighty-five trained midwives in Iraq. A survey conducted in 1955 in a public housing development outside of Baghdad, inhabited by regularly employed laborers and junior government officials, indicated that 90 per cent of the mothers had been attended in childbirth by untrained midwives.

The number of hospitals increased from 83, with 5,378 beds, in 1951, to 104, with 7,240 beds, in 1954. In 1954 half a million people received vaccinations and inoculations, the majority for smallpox, given free of charge at government institutions.

Because of the agreement among government planners and the population as a whole that better sanitation and medical facilities are desirable, we can expect a continued rapid expansion of such services.

Declining mortality.—It is probable that death rates have been declining in recent decades in Iraq. Evidence exists in the recent expansion of educational, medical, and sanitary facilities, combined with small-scale studies of the local effect of such projects upon health conditions. From these studies it can be reasoned that nationwide measures such as inoculations and the increasing availability of purified water must be having a significant effect upon over-all mortality.

Underdeveloped countries have tended to stress curative medicine more than preventive medicine, and preventive medicine more than the development of a healthy group of people in a sanitary environment, because, in the short run, it is cheaper and easier to cure disease than to prevent it, and low productivity in such countries has precluded a high level of health among the general population. Governing groups, whether colonial or indigenous, have tended to use measures which are dramatic and immediate in their effects, and have found that the superstitious and illiterate masses welcome such measures. A striking example is the drive against trachoma carried out in southern Morocco by authorities of the French government in coöperation with the World Health Organization and the United Nations Children's Fund. Aureomycin ointment was used and came to be known by the recipients as the "miracle ointment."

> In some villages, tests were made with sulfa drugs and an anti-fly campaign designed to exterminate the germ carriers. No aureomycin treatment was given at first. But villagers in these test areas clamoured for the miracle ointment, of which they had heard from other villages.... It is difficult to make the villagers understand the link between dirt, flies and trachoma.... The method which the Arabs do understand, however, is the aureomycin ointment...[25]

In many countries such policies have resulted in the paradoxical combination of declining rates of illness and constant or even declining per capita food consumption, as the population has increased without correspondingly increased agricultural productivity.

An alternative method of reducing morbidity and mortality is to raise productivity and thereby incomes, to educate the population on the causes and prevention of disease, and to raise their resistance to infection by improvements in nutrition and housing. Although slower and more costly, this approach does a double job. Not only does it reduce the incidence of disease but also, through instilling in

[25] *The Iraq Times* (Baghdad), December 8, 1955.

tradition-minded people some understanding of cause and effect, it reinforces the efforts devoted to increasing productivity and prepares the people for eventual adoption of birth control. It is the only long-run solution to illness and poverty, for mortality must eventually rise in countries in which populations are allowed to grow dense while mores perpetuating high birth rates and low labor productivity remain unchanged.

Individuals must use palliative measures because they cannot alone effect basic solutions. Thus many doctors in Iraq use antibiotics indiscriminately because they cannot perform their rightful educational functions. They cannot seriously recommend that patients of medium or low incomes avoid eating contaminated food, drink milk and orange juice each day, or heat their homes in winter. In rural areas it does little good to tell villagers of the evils of impure water if there is no inexpensive way for them to purify water. However, the Government of Iraq possesses the economic resources with which an all-out attack on poverty can be made. Beginnings can be seen in the programs of village development, town planning, and public health training at present being carried out. Nevertheless, curative medicine still tends to be stressed above preventive medicine and environmental sanitation. For example, most of the efforts at control of bilharzia, the debilitating and prevalent disease spread by urination in irrigation canals, are devoted to curing infected persons, who quickly become reinfected, and destroying the snails that act as vectors. The more fundamental solution of educating rural people not to urinate in the canals is not stressed because it is much more difficult. Thus, while it is certain that mortality will continue to decline in Iraq, a valuable opportunity will be lost if health measures are not made part of a general program to teach the scientific principles of cause and effect and to raise the level of living.

Factors Explaining the Level of Fertility

The fertility of Iraq's population is high, even in comparison with other countries of relatively high fertility. Yet it cannot be said that it is at the biological maximum. Certain factors operate in all cultures to reduce fertility somewhat below the level of fecundity. Iraqi widows do not remarry so universally as do widowers: the Census of 1947 revealed that 15 per cent of females and only 2 per cent of males aged ten and above were widowed and not remarried. Differential mortality might account for part, but certainly not all, of this difference. The institution of the dowry tends to postpone marriage for males. Divorce is easy and common in Muslim states as compared with other Eastern countries. Marriage is typically early in Iraq for females, but the relationship between the age of marriage and fertility is complex; although, on the whole, earlier marriage means higher fertility, childbearing immediately after puberty may reduce fecundity. Certainly the mere absence of antinatal practices does not assure fertility at the level of fecundity. The females included in a postwar British hospital survey would have had, in the absence of any birth control, an average of five live births during the childbearing period. At the other extreme, females of Soviet Armenia in the late 1920's were averaging almost eight live births per female living to the end of her reproductive years. Palestinian Muslims, with crude birth rates approximating those of the Armenians as well as those estimated for Iraq, tended in the

1930's to have almost eight live births per surviving female.[26] Rates as high as these probably approximate a kind of sociobiological maximum, reflecting a minimum of cultural factors tending to reduce fertility, an almost complete absence of overt antinatal practices, and strong institutional conditions favoring high fertility.

No systematic information exists concerning the prevalence of antinatal practics in Iraq, but the consensus of medical workers is that they are uncommon. Although cultural factors operate to postpone marriage and to prevent certain groups from remarrying if the marriage is dissolved, birth control is practiced by a negligibly small portion of the population. During two years of operation of the Maternal and Child Health Center in the town of Samawa on the southern Euphrates, only a few upper-class women requested birth-control information, while among the middle and lower classes, according to a nurse-midwife, it was "not even thought of." We can understand why it is not considered by the overwhelming majority of Iraq's women when we examine the institutional factors which motivate and implement high fertility.[27]

The institution most important to fertility in any society is the family, but its nature and meaning differ widely between East and West. Kinship systems, common to all cultures, can be organized in a cognative way—that is, the individual recognizes all his relatives, of both sexes, but the nuclear family of husband, wife, and children holds primary importance. Nuclear, or conjugal, families, which have been dominant in countries of Western civilization since before the advent of industrialism, tend to restrict family size by placing the burden of rearing the children almost entirely upon the parents. Alternatively, kinship systems may be organized along patrilineal or matrilineal lines, as in most societies not strongly influenced by Western civilization. The nuclear family is absorbed into the extended family, clan, or tribe; the ties between husband and wife have less strength than those between successive generations. Maintenance of lineage, whether on the male or female side, is an incentive for having large families. The Muslim family is patrilineal, surviving only through its sons. Two Arab proverbs say, "The boy is the tent peg of the house," and "A girl's house is ruined, she builds up the house of someone else."[28] The Muslim family is patrilocal: upon marriage the girl goes into the house of her husband's father, and if she should be divorced her children remain with her husband's people. Finally, it is patriarchal; the elder males rule the entire household, including their adult sons. Surviving sons are necessary not only to maintain the lineage but also as social security. In Iraq, as in other Eastern agrarian countries, there is no capital market to provide earnings without direct supervision of business, nor are savings banks and life insurance available to most people. Parents are supported in their old age by their sons, who, in rural areas, take over cultivation of the family land or, in urban areas, carry on the father's business. Under conditions of high mortality typical of such societies, many sons

[26] Lorimer *et al., Culture and Human Fertility,* pp. 31–38.

[27] For general discussion of the determination of fertility, see Davis, "Institutional Patterns Favoring High Fertility in Underdeveloped Areas," *Eugenics Quarterly,* II (March, 1955), 33–39; and Lorimer, *op. cit.* Discussions relating specifically to Muslim countries are contained in Daghestani, "The Evolution of the Moslem Family in the Middle Eastern Countries," *International Social Science Bulletin,* V (1953), 681–691; Gaudefroy-Demombynes, *Muslim Institutions,* chap. viii; Granqvist, *Birth and Childhood among the Arabs* and *Child Problems among the Arabs;* Woodsmall, *Moslem Women Enter a New World.* A less scientific but interesting view is contained in Stewart and Haylock, *New Babylon: A Portrait of Iraq,* chap. xii.

[28] Granqvist, *Child Problems among the Arabs,* p. 138.

must be born to insure that one or two will survive to support their aged parents. Girls are a necessary by-product, and, although their birth is not heralded, they are loved and protected.

Households, termed joint or composite because they include several nuclear families, are typically large—a fact in itself conducive to high fertility. The parents are not alone responsible for caring for their children, either financially or physically. Additional children can be absorbed into such households with little trouble. Another handful of rice is added to the pot; another yard or two of cloth is bought at the time of the feast when everyone has new clothes; and the grandmothers or widowed relatives, who are about the house all day, care for the children while the mothers go to market or work in the fields. Children become economic assets early in life, learning the father's trade or helping with the harvest.

Marriage need not await economic independence and typically takes place at an early age—for girls, soon after puberty, for boys somewhat later because of the necessity to give a dowry. Marriage for Iraqi men tends to be later in urban than in rural regions in part because the dowry must buy a larger number of material possessions. In the villages the "bride's furniture" consists of a metal bed, a crude wooden chest, some bedding, and a few cooking pots; in the towns it must buy more substantial furniture such as tables, chairs, and wardrobes. Moreover, urban men have access to cabarets and brothels as alternatives to early marriage. For a man who has adopted Western values, attendance at an institution of higher education or the process of learning a trade may postpone marriage, but his father may at any time become impatient to see grandchildren and order him to marry a woman selected by the family. Because the bearing of many children is the foremost aim of marriage, and companionship between the husband and wife is not considered, a man of any age tends to take a young wife.

A further incentive to marry off females soon after they reach puberty is the system of morality wherein the female but not the male may bring disgrace to the family through "misconduct." The exact nature of an immoral act ranges from showing her face in public—among the most conservative families in small towns—to being a prostitute. The typical avenger is the brother and the typical weapon a knife. Although civil authorities in the cities are beginning to consider honor killings murder, the punishment is at most a few years in prison, and an unknown but sizable number are unreported. The following items from the *Iraq Times* are representative:

[December 15, 1955] Killed his sister. A—— was arrested in Mosul, North Iraq, after stabbing his sister Z—— to death in the street. He claimed he killed her for reasons of honour.

[December 19, 1955] Killed sister for honour reasons. Police arrested A—— and his cousin J—— for the fatal shooting of A——'s sister, F——, on Saturday morning at W——, near Baghdad. They readily confessed that they shot her for reasons of honour as she had escaped from her husband.

[July 6, 1956] Murder for honour. Sayid A——, Judicial Investigator, yesterday continued investigation into the murder of L—— . . . She was stabbed to death by her uncle S—— for reasons of honour. Police are trying to find out whether the woman was killed because of bad conduct. Her father and uncle told the Investigating Magistrate yesterday that they had heard about her misconduct, while her husband . . . told the Magistrate that his wife was faithful. The husband attributed the crime to disputes between his wife and her relatives and promised the Investigating Magistrate to produce a certificate from the headman of their quarter to this effect. The

murderer . . . confessed yesterday that he had killed L—— for bad conduct and that he had been tracking her for more than a year. L—— was on her way to her house . . . S—— saw her, shouted for her to stop and when she turned stabbed her seven times. She died instantly. Her three-month-old daughter . . . whom she was carrying was wounded.

The interesting point in the last story is the relevancy, in the eyes of the court, of whether the misconduct charges were true. Presumably, if the murderer could prove his charges, he would be exonerated.

The seclusion and differential treatment of females are products of the code of morality. Although they are not in the same category as slaves—for they enjoy certain rights, such as inheritance, under Muslim law—females are in some respects a kind of commodity belonging to the male members of the family. Thus, according to Bedouin tradition a certain number of women may be given, as an alternative to money or rice, to compensate another tribe for injury done it. If the fasl-woman, as she is called, does not bear sons, she may be sent back to her tribe and another woman demanded in her place. Among the Shi'ites a poor family may be forced by economic necessity to give a daughter in temporary marriage a number of times. Wealthy tradition-minded men consider polygamy a source of prestige, much as other men are proud of having two automobiles. It is not to be inferred that the wives in plural marriages are usually mistreated. The Quran specifies that a man's wives should receive equal treatment and that a man must take no more wives than he can support adequately. Most Muslim men feel a strong obligation to protect and care for their women, and, unless the latter have been exposed to Western values, they find life in the harim secure and happy. But the Muslim woman is barred from obtaining secondary or higher education or achieving economic independence, not only because these activities would require that marriage be postponed but also because they might bring her in contact with men and thus bring dishonor to the family. When asked why he would not allow his daughter to become a nurse, a middle-class Iraqi replied, "If she became a nurse, some important sheikh would see her and want her. I am a poor man. If I were to refuse, he would make trouble for my family." Thus women are identified with the two functions of gratifying sexual desires of men and bearing children, and it never occurs to the majority that any other function is possible. For the Muslim woman, married young and taken into a strange house, status and security depend upon bearing many sons as soon as possible, and her life depends upon the avoidance of any act that might arouse suspicion of immorality.

The Islamic religion itself is conducive to high fertility. Born of a life of pillage and warfare in a physically hostile environment, its maintenance and expansion demanded an abundance of warriors. Polygamy was approved by the Prophet Muhammad as a humane alternative to female infanticide and a way of allowing excess females to help maintain the population. During the centuries of Islam's expansion, more men meant larger armies and the control of more and better resources. As the religion spread into settled agricultural regions, such as the Mesopotamian plain, where cultivation replaced warfare as a means of existence and civil government replaced rule by tribal elders, Islam continued to support high fertility. The word "Islam" means literally submission, yielding, resignation, to the will of God. That certain passages of the Quran can be construed as enjoiners

against contraception is less important than the "whole emphasis in Islamic culture on strict conformity to social obligations and the sense of divine destiny . . ."

Associated with these values is a strong sense of the omnipotence of Fate. Among orthodox Muslims and many humble followers of the Prophet, the circumstances of human life are not influenced by the actions of individuals. It is, in fact, impious for them to attempt to interfere in any way with the courses of nature. It is, then, not surprising that Muslim populations are generally characterized by extremely high fertility, and include some groups . . . with recorded fertility at or near the maximum indicated by any moderately reliable data.[29]

The family in Iraq is in a state of transition, and examples can be found of every shading from tribal groupings reminiscent of the early days of Islam to the conjugal, nuclear family found in the dualistic quarters of the largest cities. Fertility remains high in all groups except those at the latter extreme. Unlike society in Western Europe and in lands settled by Europeans, in which the nuclear family has long been dominant and the association of landholding and marriage has always put a certain limitation on fertility, the relatively independent conjugal family in Iraq is a result of conscious abandoning of old values in favor of new. The break from the paternal household, often a painful one, requires strong motivation—usually the desire for companionship between husband and wife, for independence and privacy, and for higher levels of consumption.

Many elements of this new life are causally related to limitation of fertility. Conjugal family life, with its duplication of facilities, is enormously expensive. Therefore not only is economic independence a necessity, but the husband must earn much more than he would have needed to pay his share in the operation of the paternal household. The new set of values includes many items of consumption, formerly luxuries, as necessities—for example, education and medical care for the children. Thus not only do more of the children survive because of their more healthful environment, but each one becomes more expensive to raise. The wife, in order to operate the household without a large number of female helpers and a mother-in-law as overseer, needs a certain amount of education. Therefore her marriage must have been postponed after puberty, with the result that she will have interests and sources of enjoyment other than childbearing. The fertility of such couples is affected also by a selective factor: if they have been able to break with tradition to an extent sufficient to establish their own home, they are likely also to be able to withstand the abuse which will be heaped upon them by their elders for having only a few children.

The fact significant to over-all fertility in Iraq is the extremely small percentage of the total population represented by this group. Not only must they be of the upper-middle class or upper class, but they must have adopted a new set of values and be willing to adhere to their convictions in the face of strong criticism. In 1947 only 16 per cent of Iraq's population were living in the four cities containing strongly dualistic elements, and the great majority of the inhabitants of these cities were still living and working under traditional conditions.

It may be argued that high mortality, which supplied rationality for the high fertility of Iraq's population in the past, is changing under the impact of economic development and that, as the rationality vanishes, the fertility must change. How-

[29] Lorimer, *op. cit.*, p. 187.

ever, the large families typical in Iraq are not the result of a consideration of alternatives and the decision to act in a given way. Rather they are the result of obedience to cultural dictates which, through a process analogous to natural selection, possessed a rational basis until the past few decades. That is, unless a primitive society supported high birth rates, it simply did not survive. The majority of Iraq's population cannot quickly adopt attitudes which are contrary to the deeply held values of generations of ancestors.

Judging by experience thus far in preindustrial countries, it is doubtful, indeed, whether fertility must eventually fall after a decline in mortality. In Ceylon, India, and Egypt, birth rates have remained at or close to former levels despite prolonged and sizable reduction in death rates. Perhaps the most significant variable is the way in which mortality and morbidity are lowered: if they are lowered through palliative measures imposed from above, fertility can remain largely untouched; but if they are lowered through an over-all program designed to teach the individual that he can and must control his environment, then, perhaps, a larger number of the offspring of the present generation of school children will begin to accept the idea of lower fertility. Either way, it can be predicted confidently that Iraq's population will continue to increase rapidly for several generations, until it is much larger than it is at present.

CHAPTER V

INCOME AND CONSUMPTION

THE MOST STRIKING characteristic of life in Iraq is widespread poverty. By almost any standards—including those of a large segment of Iraq's population—adequate food, clothing, shelter, and other elements of a healthful and decent life are markedly deficient for all but a small percentage of the population at the upper end of the income scale. However, attempts to quantify the extent and degree of poverty and to make international comparisons of income involve many difficulties which, although they are not insuperable, greatly reduce the precision of estimates.

We must first distinguish between a level and a standard of living.[1] Although the two are often confused in common parlance, a level of living is an actually attained condition of life, while a standard of living is a desired condition of life, by which actual conditions may be evaluated. The degree of satisfaction attained by the individual from his income depends not only upon the absolute quantity of goods and services which he can buy but also upon the size of the gap between his level and his standard of living.

This differentiation is of particular significance in countries undergoing economic development: factors such as urbanization, growing labor mobility, the import of foreign capital goods, and the influx of foreign technicians—integral parts of the development process—tend to raise the standards of living of the indigenous population. Discontent may even grow as real incomes rise, if the standards are rising more rapidly. Political unrest develops when contact with the West is limited to the import of consumption goods without measures to increase earning power. Poor countries must allocate relatively more of their resources to producing consumption goods, as opposed to investment goods, than do wealthier countries, and within a country at a given time the poorer classes consume a higher proportion of their incomes than do the wealthier classes. The reason is the same in both cases: poor nations or individuals must devote most of their earning power to securing the elementary necessities of life. However, it is also true that—barring depression of consumption by public policy—the percentage of national product consumed in underdeveloped and developing countries at present tends to be higher than it was in countries now highly industrialized at a comparable stage in their development. The reason is a vast difference in standards. Iraq's people are able to observe—in the cinema, in shopwindows, among foreigners, and among wealthy Iraqis—levels of consumption never dreamed of in earlier centuries. Every increase in real income can be matched or exceeded by an increase in aspirations far up the income scale. Thus the difference between levels and standards of living constitutes one factor restricting the supply of domestic savings. (Others are discussed in chap. vii.)

Second, we must distinguish between a level (or standard) of consumption and a level (or standard) of living. Consumption refers simply to the goods and services consumed by the individual; living refers to all the elements, material and nonmaterial, which enter into his welfare. Nonmaterial elements include freedom,

[1] See Davis, "Standards and Content of Living," *American Economic Review*, XXXV (March, 1945), 1–15; also Public Administration Clearing House, "Definition and Measurement of Standards of Living."

security, leisure, the size of the gap between the standard and the level of living, and hope that the gap will be reduced in the future. If our concern is with welfare, we should attempt to measure levels of living rather than of consumption. However, measurement of nonmaterial elements of welfare is fraught with difficulties even in our own society, and in societies of different value systems reflects the estimator's degree of sympathy with these value systems. In a country such as Iraq, where values are in a state of flux, members of the society cannot themselves agree on the proper or prevailing value system. For example, does underemployment represent a deduction from or an addition to the level of living? The tradition-minded shopkeeper may derive as much enjoyment from an hour of bargaining over the price of a copper jug as does another merchant from a night at the cabaret. It would be impossible to assign a net value, positive or negative, to underemployment in Iraq, even if its extent could be determined. We attempt to avoid such difficulties by assessing only levels of income and consumption, assuming that a good or service is worth what is paid for it. In making this assumption we may exaggerate the differences between developed and underdeveloped countries, by using norms formulated in highly developed countries in assessing the incomes of all. The United Nations Department of Social Affairs elaborated this point with respect to the Middle East:

> The nomadic tribes of the Middle East are good examples of a society where it is difficult to assess "standards of living" according to norms evolved elsewhere, particularly norms evolved in a sedentary urban-industrial society. Nomadic societies lack schools, newspapers, doctors, hospitals, police, law systems, etc., in fact are deficient in practically every social instrumentality generally considered necessary to ensure a decent standard of living. Yet, their way of life does exhibit clear-cut ... adjustments to their environment ..., and, with its highly developed folk culture, provides satisfactions that may not be measurable by the standards of other peoples in quite different environments.[2]

Further difficulties in assessing levels of income and consumption of underdeveloped and developing countries arise from a dearth of reliable statistics. Any realistic estimates must include the sizable proportion of the national product that is consumed without entering the market. Even if its physical quantity were known, placing a money value upon it would involve arbitrary decisions. Iraq's rural population subsists largely on its own agricultural production, selling a part of it for a small cash income. Rural people build their own houses from materials of little or no commerical value. Only the urban third of the population obtains necessities through the market. It is understandable that no national income statistics are being regularly assembled in Iraq and that the cost of living data gathered by the Ministry of Economics pertain to urban areas only.

Estimates

The Statistical Office of the United Nations made a rough estimate of Iraq's national income for 1950 at 30 dinars, or $84 (American), per capita, or, taking the population at 5,000,000, a total of 150,000,000 dinars, or $420,000,000. Economic experts visiting Iraq since that time have been unable to improve upon the accuracy of the United Nations estimate. Yet it is not clear to what extent the subsistence sector of the economy was included nor how it was valued. In that

[2] United Nations, *Preliminary Report on the World Social Situation*, p. 151. See also Buchanan and Ellis, *Approaches to Economic Development*, pp. 17–18.

same year, Iraq appeared in the income class, under $100 per capita, with Afghanistan, Iran, Sa'udi Arabia, Yemen, most of Asia and Africa, and a number of Latin American countries. Within the range of $100 to $149 appeared Egypt, Lebanon, Syria, and Turkey among Middle Eastern countries, and Japan, the Philippines, Greece, and a number of Latin American countries. Israel was the only Middle Eastern country with per capita income above $150 in 1950.[3] Comparisons of the absolute differences in per capita income between Iraq and more highly industrialized countries have little validity. Although most people would agree that per capita income is higher in Italy than in Iraq, to say it is two, three, or four times as high has little meaning. Comparisons between countries of similar institutions, climate, and state of economic development have more validity; probably the most important consequence of the similarities is that the proportion of the national product consumed directly by the agricultural population does not vary greatly among them. Observation confirms that, prior to the enormous increase in Iraq's oil revenues, per capita income did not differ much between Iraq and Iran, and was significantly lower in Iraq than in Egypt, Syria, and Lebanon. Iraq's relative postition has been changing rapidly since 1950. Dr. K. G. Fenelon, Expert in Statistics for the Ministry of Economics, estimated Iraq's net national income in 1957 at 292,400,000 dinars.[4] If the population numbered about 6,000,000, per capita income would be 49 dinars, or $136.

Income is not the only indicator of relative levels of living, nor is it necessarily the best one, because of the difficulties involved in its measurement. Various other indicators may be used, none of them conclusive. On the basis of international differences in per capita income, life expectancy, tuberculosis rates, illiteracy, diet, and clothing, the Department of State has classified fifty-three countries as "well-developed," "intermediate," or "underdeveloped." Although it is not included in the list, Iraq clearly belongs in the underdeveloped group with Egypt, Palestine, India, Japan, China, and twenty-three others, representing in all two-thirds of the world's population.[5] By Eugene Staley's definition also, Iraq is underdeveloped, for it is "characterized (1) by mass poverty which is chronic and not the result of some temporary misfortune, and (2) by obsolete methods of production and social organization, which means that the poverty is not entirely due to poor natural resources and hence could presumably be lessened by methods already proved in other countries."[6]

Within Iraq's population there are significantly different levels of consumption. Numerically, the two most important groups are the fellahin and the urban wage earners; fragmentary data exist concerning the consumption of each of these groups. The International Bank Mission described the yearly income and consumption of a typical fellah in the irrigation zone. He raises a winter crop of 25 donums (15.5 acres) of barley. If his yield is 300 kilograms per donum—a reasonable

[3] United Nations, *op. cit.*, p. 131. The basis for the United Nations Statistical Office estimates is national income expressed in American dollars. The method of conversion of the various currencies into dollars was, with some countries, to use prewar exchange rates adjusted for changes in purchasing power of the currencies concerned, and, with other countries, to use the exchange rates prevailing in 1950.

[4] K. G. Fenelon, "Development in Iraq," *The Economist*, CLXXXIII (June 22, 1957), 14.

[5] U. S. Department of State, *Point Four: Coöperative Program for Aid in the Development of Economically Underdeveloped Areas*, pp. 103–108. See also Buchanan and Ellis, *op. cit.*, chap. i.

[6] Staley, *The Future of Underdeveloped Countries*, p. 13.

assumption on flow-irrigated land—the total crop amounts to seven and a half tons. His landlord will give him about two-fifths of the crop, or three tons of barley. From this he must save seed for the next year and pay his harvest help, leaving two to two and a half tons. If his family consists of five or six members, he must save at least one ton of barley for food, or more if he has livestock. Therefore one ton or slightly more remains to be sold. Usually he will have sold his crop long before the harvest. In addition to the high interest represented by a forward sale, he must pay the tax on sale of agricultural commodities and charges for bagging, weighing, and transport. In all, his cash income from the winter crop may consist of 10 dinars, or less than $30 (American). A summer crop may give him another 10 dinars. The yearly money income of five to six persons therefore consists of 20 dinars, or $56.[7] If the family's consumption of its own produce is added in, the total family income may be valued at $100–$150, or approximately $20–$30 per capita.

The money income is spent upon tobacco, tea, sugar, dates, a few vegetables, cotton sheeting (out of which clothing for all the family is made), and an occasional second-hand jacket or homespun cape. Household equipment is simple and is purchased when a new household is established. Regular purchase of supplies such as soap or kerosene cannot be made by fellahin unless they have supplemental sources of income. Little or nothing is spent upon education, medical care, or recreation, nor upon agricultural implements other than primitive plows and spades. Savings may exist in the form of the women's jewelry upon which part of the dowry is spent.

Consumption of rural people varies throughout the country, but is low by urban standards. Tenants in the mountainous and hilly rainfall zone receive a larger share of the crop, and peasant proprietors are numerous. However, life is more precarious in this region because of the uncertainty of rainfall. In the words of a villager near Mosul, "In the year when we do not have drought, we have locusts." The poorest elements of the population are the Bedouins and the marsh dwellers, but they are partly compensated by the freedom which they enjoy, as compared to the fellahin on the alluvial plain, who are tied to the land by debt. Fellahin near the major cities have a somewhat higher level of consumption because of the bargaining strength given them by additional employment opportunities.

Details concerning the level of income and consumption of urban wage earners are supplied by a survey[8] conducted in Baghdad city in 1954 by the Ministry of Economics: 350 households were selected at random to be included in the survey, 291 in the built-up sections of the city and 59 mud and reed huts in the area known as 'Arasat al-'Asima. Because the study was designed to cover wage earners only, any household in which the monthly income of one member exceeded 20 dinars was rejected. Unfortunately, the survey did not indicate the general level of income in Baghdad city. However, we can surmise that only the families of semiskilled and skilled laborers and the better-educated white-collar workers were excluded. In 1954 the minimum legal wage, which is the going wage rate in many types of employment, was 250 fils a day, or about 6.5 dinars a month. In certain employments in which there is a shortage of labor (e.g., in construction), un-

[7] International Bank for Reconstruction and Development, *The Economic Development of Iraq*, pp. 132–134.

[8] Iraq, *Report on the Household Budget Enquiry in the City of Baghdad and Its Environs.*

skilled laborers might have received as much as 350 to 400 fils a day, or 9–10 dinars a month. But many workers, particularly young boys, were receiving less than 250 fils. Government salaries, including allowances made for the high cost of living, were at that time at such levels that account clerks, assistant auditors and draftsmen, one-language typists, clerks, and unskilled office workers were included in the survey.

The average household (in the 291 houses surveyed) was 7 persons, including 1.4 wage earners; 40 per cent of these wage earners were laborers. The average hut sheltered 5.7 persons, including 1.2 wage earners, 61 per cent of whom were

TABLE 27

AVERAGE MONTHLY HOUSEHOLD EXPENDITURE OF WAGE EARNERS IN BAGHDAD CITY, 1954

Category	291 houses		59 huts	
	Dinars	Per cent	Dinars	Per cent
Food	11.2	57	8.0	66
Clothing	1.4	7	0.9	8
Soap, cleaning materials	0.7	4	0.4	3
Fuel, electricity*	1.4	7	1.2	10
Furniture	0.3	2	0.1	1
Rent	1.8	9	0.0	0
Miscellaneous	2.7	14	1.5	13
Total	19.6	100	12.2	100

SOURCE: Iraq, *Report on the Household Budget Enquiry in the City of Baghdad and Its Environs.*
* Weighted average of winter and summer expenditure.

laborers. Government employees were the next most numerous group, comprising 27 per cent of wage earners living in houses and 19 per cent of those living in huts. There were a few drivers, tailors, weavers, barbers, and house painters in the former group and none in the latter. Among those engaged in commerce, retailers with shops were more numerous than street peddlers among the former, while the reverse was true among the latter. It is obvious that the wage earners of the huts had fewer skills than did the inhabitants of the houses, an indication of their rural origins.

Average monthly expenditure for the two groups was 19.6 and 12.2 dinars per household, respectively, or 2.8 and 2.1 dinars per capita, that is, $94 and $72 per capita per annum. While few urban wage earners receive a significant amount of income in kind from employment, they do receive many free government services such as medical care and education unavailable to rural people. The distribution of average monthly expenditures made by the two urban groups is summarized in table 27.

The more detailed findings cast light on the level of consumption represented by household expenditures. For example, both groups spent as large a percentage of their food allotment on meat as on bread and flour—an indication of a higher level of consumption than among the fellahin, who eat almost no meat. Of the 291 houses, 69 per cent had electricity, but none of the huts had electricity. In the houses, kerosene was the most commonly used summer fuel and charcoal the most

Iraq's poverty. The wealth of the cities in contrast to the rural areas and the great difference between the urban rich and the urban poor might suggest maldistribution as the explanation. But average annual income probably is not above $150 per capita, indicating that absolute equality in income would not alleviate poverty.

No systematic data exist on the distribution of income and ownership of wealth in Iraq. The distribution has had in the past, and probably retains to a significant degree in the present, the shape typical of underdeveloped countries: a large

TABLE 28

REVENUES OF IRAQ, FISCAL YEARS 1949–50, 1953–54, AND 1955–56

Source	Per cent of government revenue		
	1949–50 (actual)	1953–54 (actual)	1955–56 (estimated)
Import and excise duties	36	39	39
Import duties	27	30	31
Excise duties	9	9	8
Government's share of oil royalties[a]	11	32	36
Agricultural produce tax (istihlak)	14	7	6[b]
Direct taxes	13	7	6
Income and surtax	8	5	4
Property tax	3	1	1
Stamp duties	2	1	1
Public services; registration fees; profits from National Bank of Iraq, companies, and miscellaneous	17	13	13
Extraordinary revenue	8	2	..
Total revenue (dinars)	28,632,872	47,720,843	50,973,000

SOURCE: United Nations, *Quarterly Bulletin of Economic Development*, no. 13 (April, 1956), pp. 51–53.
[a] Of oil royalties, 30 per cent enters government budget; 70 per cent goes to Development Board.
[b] From fiscal year 1954–55, a land tax in part replaced the istihlak.

number of incomes below the average and a tiny number far above it, with relatively small numbers in the intermediate categories. The wealthy in Iraq have probably not been so numerous or so wealthy as those in Egypt, as evidenced by the poverty of Egypt's fellahin and the relatively higher average per capita income. Inequality may well increase in the early stages of economic development, because of the concentration of savings and ownership of assets; for, where average income is low, only those already wealthy can save.[13]

Such concentration can be offset, at least in part, by a redistribution of government services in favor of the lower income groups. In Iraq, government services have been confined almost completely to urban areas, but realistic plans are being made and carried out to bring schools, public housing, water purification, and medical care to rural regions. The educational system is free through the college level, and entrance and promotion are based upon merit. It is unlikely, however, that government services for lower-income persons will become so extensive as to offset completely the concentrative effects of the ability to save.

Moreover, the existing system of taxation is highly regressive. It is apparent from table 28 that—even with the present large oil revenues, 30 per cent of which

[13] This point is argued by Kuznets in "Economic Growth and Income Inequality," *American Economic Review*, XLV (March, 1955), 22–23.

enter the ordinary government budget—customs and excise duties remain the most important source of revenue. Customs duties alone were equivalent to more than 20 per cent of the value of all imports in 1953–54. These duties are levied not only on luxuries and capital goods but also on important items in the budgets of the poor, such as tea, sugar, salt, tobacco, and textiles. Consumption surveys indicate that the urban poor may spend as much as 15 per cent of their incomes on tea and sugar, and that fellahin spend an even larger percentage of their money incomes on these two items. Yet, even after the rates on tea and sugar had been reduced in January, 1956, they remained approximately 10 and 25 per cent of the Baghdad prices of tea and sugar, respectively. According to the same law, the duty on imported textiles amounted to approximately 40 per cent by value.

Another important source of revenue is the agricultural produce tax (istihlak) levied on marketed cereals, vegetables, dates and other fruits, and tobacco, and on exported livestock products. Although the tax is collected from wholesale merchants, its main incidence is elsewhere. For products consumed within the country, as, for example, wheat, rice, fruits, and vegetables, the tax tends to be shifted to the consumer. For crops such as barley grown for export, the price of which is influenced by the world market, the tax is borne by the producer. It is evident that the fellah is taxed both when he sells his crop and when he spends the proceeds for consumption items. The International Bank Mission estimated that "these indirect taxes on sale and purchase might reduce the fellah's real income from his saleable surplus by as much as one third."[14]

The urban middle and lower classes also are affected adversely by the system of taxation. Many major consumption items are taxed in some way, by istihlak or excise duties on those locally produced or by customs duties on imported items. Other government revenues, such as stamp duties and post, telegraph, and radio fees, are mildly regressive. Moreover, the salaried and self-employed middle-income groups bear almost the entire burden of the income tax. As it does not apply to income from agriculture, landlords are exempted. Many other wealthy persons are able to evade the income tax by personal influence or other means. Iversen reported "large-scale tax evasion and tax fraud," attributing it to "not only . . . too lenient and arbitrary treatment of the taxpayers, but also . . . weak morale on the part of the tax collectors."[15]

Although great extremes in wealth and income affect national income by limiting the size of the market and discouraging incentive, the basic explanation of poverty in Iraq lies in low productivity. Despite a growing number of exceptions, the typical production process is poorly organized, the workers are unskilled, and tools and equipment are deficient.

Agricultural productivity.—The ambiguity inherent in defining productivity is particularly apparent in agriculture. Output per unit of land is the most commonly used measure of agricultural productivity because it is easily computed from statistics assembled by most governments. In figure 7, Iraq is compared with selected countries and the world average with respect to output per unit of land for Iraq's most important grains. By this measure, agricultural productivity in Iraq appears very low, as we can reason a priori that it must be. We are tempted

[14] International Bank for Reconstruction and Development, *The Economic Development of Iraq*, p. 134.
[15] Iversen, *A Report on Monetary Policy in Iraq*, p. 61.

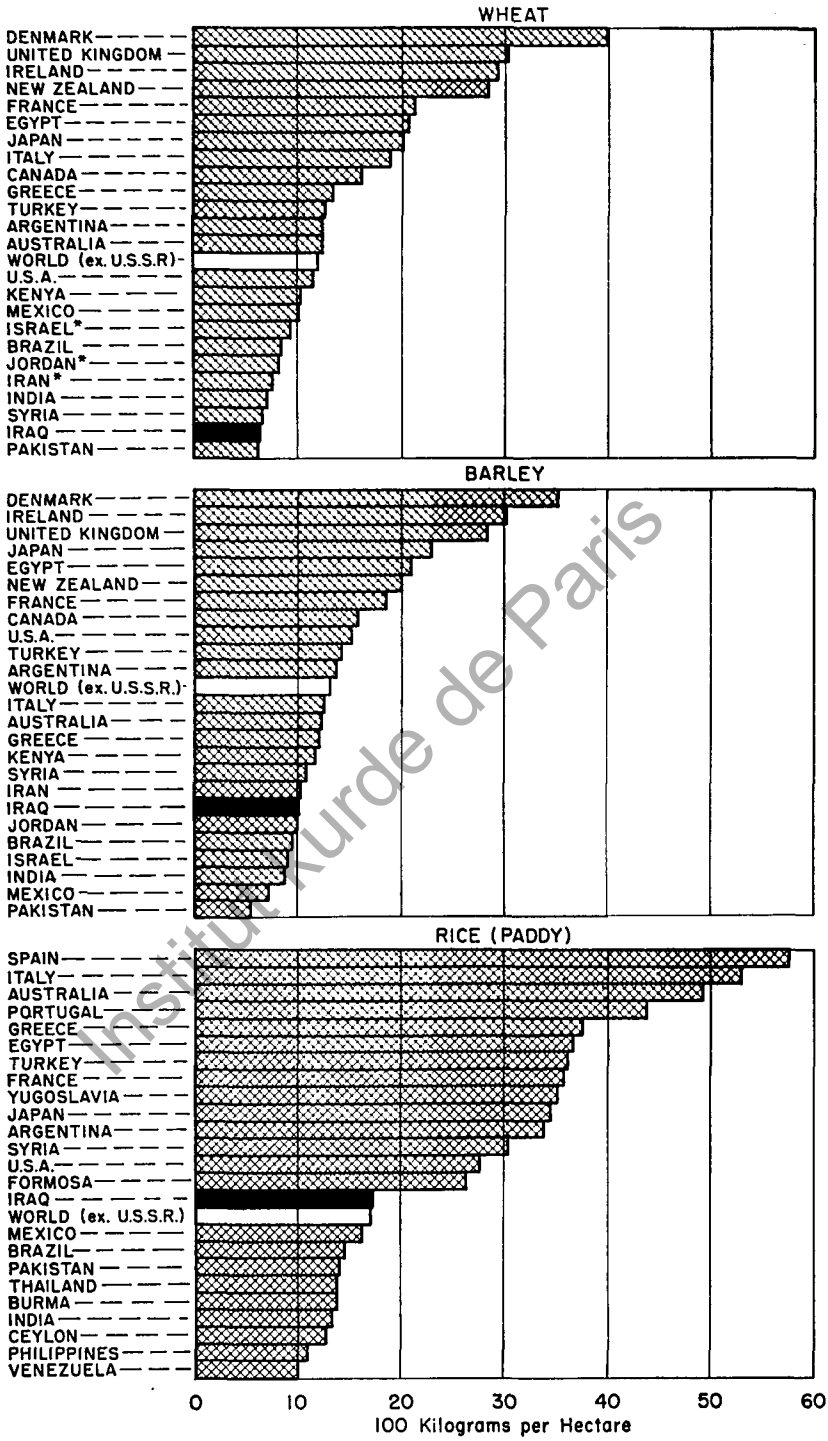

Fig. 7. Yield per hectare, wheat, barley, and rice, Iraq and selected countries, 1953. SOURCE: Food and Agriculture Organization of the United Nations, *Yearbook of Food and Agricultural Statistics, 1954* (Rome, 1955), I, 21–37. (Asterisk indicates data for 1952.)

to forget that, given technical input-output possibilities, the optimal combination of factors depends upon their relative prices. Iraq is a land-rich country, as compared with Egypt, for example, in which a larger amount of labor and less land can profitably be used to produce the same product, or with the United States, in which there is a tendency to substitute machinery for other factors. Thus Iraq makes a better showing in comparison with other Middle Eastern countries if productivity is defined as output per capita of rural population. For the period 1938–1943, Doreen Warriner estimates cereal production in metric tons per head of settled rural population as follows: Transjordan 0.54, Iraq 0.39, Syria 0.36, Lebanon 0.36, Egypt 0.33, Palestine 0.32, average for the region 0.35.[16]

In industrialized economies, low productivity can be expressed in theoretical terms as relatively high cost curves: that is, the optimal combination of factors, differing with different relative prices, renders a cost structure which is high as compared to other producers over the range of output and for all scales of production. Iraq is able to continue competing with its agricultural products on the world market—an indication that economic theory derived in economies with highly developed price systems does not apply in economies with sizable subsistence sectors. The cost of agricultural products is low not because of efficient production but because their production does not render an adequate living to cultivators.

Typical farming practices in Iraq are not markedly different from those which evolved in Mesopotamia in Neolithic times.[17] The soil is prepared by plowing with a locally made wooden, steel-tipped plow. Because of the weakness of the draft animals, the plowing is so shallow that it must be repeated several times to make a good seedbed. Draft teams typically consist, in central and southern Iraq, of a donkey and a cow or two donkeys, weak and small from poor breeding and the shortage of summer pasture; in northern Iraq, mules are more commonly used. The two-man shovel, primitive but effective, is used for heavy earth-moving operations such as preparing irrigation works, and a spade is used for cultivation. Most seeding is done by hand; neither seed drills nor cultivators and harrows are in common use. Irrigation is carried out in traditional ways, wasteful of water, without the drainage that is necessary to avoid soil salination in irrigated regions. In the past, land was simply abandoned as it became salinated. Weed control, insecticides, and fertilizers are unknown to fellahin. Manure, a natural fertilizer, cannot be spared from its other use as a household fuel. Crop rotation, another method of maintaining soil fertility, is not practiced. Land is allowed to lie fallow every other year as the only means of restoring humus. Harvesting is done by hand with sickles and is a laborious operation. Some farmers in areas of acute labor shortage, unaware that use of the scythe and cradle would double or treble the hand-reaping capacity of each worker, have resorted to hiring combines or reapers in exchange for about one-third of their grain yield and at a sacrifice of the straw left in the field, which is normally used for fodder, fuel, and building materials. The crops are carried from the fields to the villages on the backs of animals and human beings—paradoxical, for the wheel was invented in Mesopotamia. Threshing is

[16] Warriner, *Land and Poverty in the Middle East*, p. 12.

[17] For descriptions of farming practices prevalent in Iraq, see Ali, *Land Reclamation and Settlement in Iraq*, chap. ii; United Nations, *Report to the Government of Iraq on Farm Management* and *Report to the Government of Iraq on Small Agricultural Implements.*

done usually by the trampling of animals in southern and central Iraq and by a roller pulled by oxen in the northern hilly regions. The grain is bagged and carried, again on backs, to the nearest town.

The absence of farm management can be further illustrated by other agricultural operations. Livestock are raised with little or no medical attention or special feeding. Beginnings have been made in dairy farming around the largest cities, but the cleanliness of milk products marked "pasteurized" is highly variable. There is no scientific poultry or egg production outside a few experimental and educational institutions. Fruit trees are seldom pruned or protected from insects and disease; as a result, deciduous fruits are of poor quality when they leave the orchard and, because of the absence of grading, poor packing, and transportation difficulties, of even worse quality when they arrive in the market. There is little grading of products for differential prices according to quality, and farmers, trying to increase their pitifully low incomes, frequently shovel dirt into grains and pulses in order to add to the weight.

Because of the large size of the agricultural sector of Iraq's economy, low productivity in agriculture greatly depresses the per capita national income.

Industrial productivity.—Industrial production has been and remains confined almost entirely to urban areas. According to the Industrial Census of 1954, the three largest cities alone contained one-third of all industrial establishments and employed 56 per cent of all industrial workers, excluding oil production. Three of the four firms outside of oil production employing 1,000 workers or more were located in the environs of Baghdad.[18] The dualistic nature of Iraq's economy and society is exemplified by the dichotomy between oil production and the remainder of industrial establishments. In 1954 nearly 12,000 workers were employed by the three exporting oil companies, and the largest firm outside of oil production employed less than 3,000. Because of the relatively high degree of mechanization in the oil industry, the gulf between it and the remainder of economy is greatly widened when value of product is considered. The Industrial Census gave 39,000,000 dinars as the total receipts of all industrial establishments other than oil during 1954; the exports of the three oil companies for that same year were estimated by Lord Salter at 136,000,000 dinars.[19] Employing foreign managers and technicians, providing the best technical schools in the country, and offering superior wages and fringe benefits for local labor, the crude oil industry is not typical of production in Iraq.

Despite the recent growth of large-scale industry and its conscious encouragement in government policy, the majority of industrial enterprises are small and use traditional methods of handwork. In 1954, 45 per cent of Iraq's industrial enterprises other than oil production employed only one worker, and only 1 per cent employed more than twenty workers. The average number of workers per establishment was four; it was highest in Basra and Baghdad liwas (eleven and seven respectively) and lowest in Amara, Kut, and Arbil liwas (less than two

[18] Iraq, *Report on the Industrial Census of Iraq, 1954.* The three largest cities are Basra, Mosul, and "Greater Baghdad"—Baghdad city plus the immediate northern and southern suburbs and the city of Kazimain. The oil industry and the port facilities of Basra are excluded from the data. An industrial establishment was defined as any enterprise producing a product for sale or engaging in maintenance or repair work and having a fixed place of business.

[19] Salter, *The Development of Iraq,* p. 144.

workers). Yet the 1 per cent of enterprises employing twenty or more workers together employed 43 per cent of the industrial labor force. Productive processes in the many tiny enterprises and the few large ones differ in kind rather than in degree. Most small enterprises are worked by male artisans, with an ethnic division of labor and skills passed from father to son. Processes are little mechanized and have not changed much over the centuries. Production is on a small scale, often fulfilling a special order from an individual customer. Because of its relative inefficiency, with consequent high cost and poor quality, this type of production has difficulty competing with imported equivalents even after high transport costs and customs duties have been added to the price. As standards of consumption rise, the urban Iraqi is rejecting the hand-made article in favor of the mass-produced one. Shoes, textiles, matches, soap, salt, bread, and vegetable oil are among the domestic products recently available in standardized mass-produced form. Still, by their numbers the small establishments remain the typical form of production.

The average value of tools and equipment in the 22,460 enterprises outside of oil production enumerated by the census was 700 dinars, or slightly less than $2,000. Average gross horsepower utilized by the machinery was less than nine per establishment. Of the enterprises, 91 per cent were owned by one person and an additional 7 per cent by two partners. Only 97 of the 22,460 enterprises were private limited companies, outnumbered by the 116 government-owned enterprises. The annual payroll of all the enterprises gave an average of 64 dinars, or $180, to each worker in 1954. If the 8,450 unpaid family workers are excluded, the average is raised to 71 dinars, or approximately $200. Despite high profits to some owners, it is reasonable to assume that average productivity per worker corresponds to his low earnings. A heavy burden of underemployment is carried in undertakings of small and medium size.

The most common types of establishment were found to be spinning and weaving, tailoring, metalwork, carpentry, and baking. Operations employing the largest number of workers were spinning and weaving, date packing, tailoring, brickmaking, metalwork, and baking. Of these processes, only spinning and weaving and date packing were in part carried out on a large scale in 1954. It is noteworthy that the most important industries in Iraq are those supplying food, clothing, and shelter—evidence of the underdeveloped nature of the economy.

Since 1954 a number of new large-scale enterprises have gone into operation, given impetus by the planning agencies which will be discussed in chapter vi. The Daura refinery near Baghdad alone employs an estimated 1,000 workers and is modern and highly mechanized. The coming decades will see major changes in industrial processes in Iraq. At present, however, low per capita industrial productivity contributes to low per capita income.

CHAPTER VI

ECONOMIC DEVELOPMENT: POTENTIALITIES AND PROGRAMS

"POVERTY and the hunger, disease, and lack of opportunity for self-development that it implies have been the lot of the ordinary people in the underdeveloped countries for centuries past. The new thing is that now this poverty has become a source of active political discontent."[1] Iraq is more fortunate than countries in which discontent over poverty has grown but resources do not permit increasing per capita consumption, or temporary gains in levels of living are wiped out by population increase. The only persisting basis for rising real income is increased productivity. In Iraq the pace of change can be rapid, making possible a rate of growth of national product in excess of population growth, because of the size of the oil revenues and the decision of the government to turn over the larger portion of these revenues to a planning agency entrusted with formulation and execution of an economic development program. The Development Board was created in the face of strong demands from all sides to use the revenues for financing an immediately higher level of consumption. Any criticisms of Iraq's development program must be taken along with the highest commendation of this farsighted and unusual act.

OIL REVENUES AND THE DEVELOPMENT BOARD

The immediate obstacle to development in most underdeveloped countries is the shortage of funds for capital formation. Therefore oil is the key to Iraq's potentialities for rapid economic growth. In the words of the Clapp Mission, "the economic problem of Iraq is one of translating oil revenues into the rehabilitation of the Tigris-Euphrates valley."[2] Iraq's prospects have not always been so favorable as they are at present. The government was forced to borrow 3,000,000 dinars in order to cover a deficit in its ordinary budget for 1948–49, and 1953 was the first year in which exports other than oil plus oil revenues exceeded imports in value. If the United Nations estimate of Iraq's national income of 1950—150,000,000 dinars—has substantial validity, then oil revenues for 1955 alone amounted to almost half of the entire national income of five years earlier. The 1955 Five-Year Plan of the Development Board calls for spending between 1955 and 1959 an amount equal to twice the national income of 1950. The abrupt change in Iraq's financial position is apparent in table 29, in the acceleration in the growth of both oil production and oil revenues in 1952.

Between 1951 an 1952 oil production more than doubled, jumping from 1.6 to 3.3 per cent of the world total. The increase in oil production originated in part from the urging of the Government of Iraq and in part by decision of the international oil companies to expand output after the cessation of Iranian production. The increase was implemented by the opening in 1952 of a thirty-inch pipeline from the Kirkuk fields to the Mediterranean port of Banias, by increased production at the Kirkuk fields, and by the opening of the Zubair field near Basra in 1951 and its subsequent rapid expansion of production. Four oil producers are

[1] Staley, *The Future of Underdeveloped Countries*, p. 18.
[2] United Nations, *Final Report of the Economic Survey Mission for the Middle East*, p. 36.

operating in Iraq, three of which export crude oil. The Iraq Petroleum Company is by far the largest: 79 per cent of the oil produced in 1954 came from its Kirkuk fields. The Basra Petroleum Company, with its Zubair fields, produced 15 per cent of the 1954 output, the Mosul Petroleum Company 4 per cent, and the Khanaqin Oil Company 1 per cent. The Khanaqin field, with its nearby refinery, has operated for domestic consumption only. Its relative importance has been reduced by the opening of the new refinery near Baghdad, which is supplied from Kirkuk. In 1954, 98 per cent of the crude oil produced in Iraq was exported.[a]

While oil production doubled between 1951 and 1952, oil revenues trebled. The phenomenal rise in oil revenues is partly the result of increased production, but

TABLE 29

OIL PRODUCTION AND OIL REVENUES OF IRAQ, 1948–1955

Year	Oil production		Oil revenues (millions of dinars)[a]		
	Metric tons (millions)	Per cent of world total	Total	To ordinary budget	To Development Board budget
1948	3.5	0.8	2.0	2.0	....
1949	4.0	0.9	3.3	3.3	....
1950	6.2	1.3	5.3	5.3	....
1951	8.1	1.6	13.3	6.6	6.7
1952	18.1	3.3	39.4	21.5	17.9
1953	27.3	4.7	49.8	15.0	34.8
1954	29.6	....[b]	68.4	....[b]	....[b]
1955	30.0	....[b]	73.7	....[b]	....[b]

SOURCES: United Nations, *Quarterly Bulletin of Economic Development*, no. 13 (April, 1956), p. 47; Iversen, *A Report on Monetary Policy in Iraq*, p. 92; *The Iraq Times*, January 9, 1956.

[a] Oil revenues pertain to fiscal years beginning April 1.

[b] Comparable data not available.

an even more important stimulus was the 1951 agreement between the Government of Iraq and the international oil companies. The agreement, signed in 1951, ratified by the Parliament in February, 1952, and retroactive to January 1, 1951, requires the international oil companies to pay the Iraqi government 50 per cent of all profits from oil production. Profits were defined as the difference between the value of crude oil at the point of export from Iraq and the cost of production. However, border values and costs were defined in the agreement in such a way that the government's revenue should not fall below a certain percentage of the value of production at posted prices, and a minimum was set on production such that the revenues should not fall below a certain absolute amount. The method of computing profits was revised in Iraq's favor in March, 1955. The Iraq Petroleum Company had been selling crude oil at a discount under posted prices and deducting the discount as a cost. According to the 1955 agreement, the maximum deduction allowed in the computation of profits, formerly seventeen and a half shillings per ton of Kirkuk crude, was set at two shillings. As a result, the 1954 revenues included a retroactive payment of 10,700,000 dinars.

The magnitude of the oil revenues can be understood if they are compared with foreign exchange earnings from domestically produced exports, which are primarily agricultural products: grains and dates composed 76 per cent by value

[a] Iraq, *Statistical Abstract, 1954*, p. 149.

in 1954. (See chap. i, table 3.) Until 1952, exports excluding oil exceeded the oil revenues in value, but by 1954 the oil revenues were almost four times the value of exports other than oil. Were it not for the oil revenues, Iraq's balance of trade would be unfavorable; domestically produced exports were only one-fourth the value of imports in 1954. It would be fallacious to include the value of oil exports along with other exports, because the oil exports do not earn foreign exchange for Iraq except in the form of revenues.

Even before the 1951 agreement, certain influential people in the Iraqi government foresaw that the oil revenues, then still small, could be of greater benefit to the country's economic development if they were spent by a nonpolitical, semiautonomous agency rather than through ordinary government channels. The Development Board was created in May, 1950, having as its purpose "the development of the resources of Iraq and the raising of the standard of living of her people."[4] Although the board was linked to the government through the membership of the Prime Minister and the Minister of Finance, it was stipulated that the six executive members could not be government officials. The nonpolitical nature of the board was specified in the provision of the law that an executive member "shall be deemed to have resigned if he becomes a Minister or an official or a member of the Senate or is elected a Member of Parliament, or if his private interests will directly benefit from the programme and projects of the Board." The board was designed to be semiautomonous; although its over-all plans must be ratified by the Parliament, it keeps its own budget and may initiate many activities without express permission.

According to the 1950 law, the Development Board was awarded 100 per cent of the oil revenues. As can be seen in table 29, this provision was never fully enforced. After the 1951 oil agreement, when the potential size of the revenues became apparent, pressure grew to place the administration of the funds under the jurisdiction of a larger group. The law was amended in 1952 to give 70 per cent of the oil revenues to the board and 30 per cent to the ordinary government budget.[5] A subsequent amendment in 1953 distinguished between large "capital development projects," to be carried out directly by the board, and "small development projects," to be carried out by the government departments with funds supplied by the board.[6] Therefore the government's 30 per cent is available for meeting ordinary expenses, which have grown with the increased pace of economic activity.

The autonomy of the board was reduced by the 1953 law, which created a Ministry of Development, thus placing its employees under civil service and adding a third cabinet member, the Minister of Development, to the board. Although this revision had certain desirable features, such as facilitating coördination of parallel or overlapping projects of the board and the ministries, it has lessened the board's efficiency by requiring adherence to traditional administrative procedures and has obstructed the recruitment of skilled personnel because of the inadequacy of government salaries.

[4] Law no. 23 for 1950; see Iraq, *Compilation of Laws Concerning the Development Board.* See also Habermann, "The Iraq Development Board: Administration and Program," *Middle East Journal,* IX (Spring, 1955), 179–186; and Iversen, *A Report on Monetary Policy in Iraq,* chap. v.

[5] Law no. 6 for 1952.

[6] Law no. 27 for 1953.

Planning has been made difficult by the continual increase in oil revenues—a difficulty which any country would be happy to encounter—requiring the continual upward revision of projected expenditures. The first Five-Year Plan for 1951–1956, which sanctioned a total expenditure of 65,800,000 dinars, or an average of 13,000,000 dinars a year, was revised in 1952 into a Six-Year Plan for 1951–1957, which sanctioned a total expenditure of 155,400,000 dinars, or an average of 26,000,000 dinars a year. Another Five-Year Plan was passed in 1955,

TABLE 30

PROJECTED EXPENDITURES BY THE DEVELOPMENT BOARD OF IRAQ, 1955-1961

Category	Dinars (Millions)	Per cent of total
Irrigation, drainage, flood control	153.8	32
Transportation and communication	122.9	25
Roads	63.7	13
Railways	24.9	5
Bridges	22.9	5
Airports	7.4	2
Port	4.0	1
Industry, mining, electrification	67.1	14
Buildings	61.9	13
Housing	24.1	5
Public buildings	20.9	4
Medical centers	10.0	2
Educational buildings	4.3	1
Resorts and rest houses	2.6	1
Land reclamation, agricultural and livestock improvement, wells	14.3	3
Small development projects of government departments	61.3	13
Administration and research	7.0	1
Total	488.3	

SOURCES: *The Iraq Times*, April 30, 1956; and Ministry of Development.

proposing an expenditure of 304,300,000 dinars, an average of 61,000,000 dinars a year. This plan was revised in 1956 into a Six-Year Plan for 1955–1961, involving 488,300,000 dinars, including the 46,600,000 that had been spent during 1955, an average of 81,000,000 dinars a year over the six-year period.[7] The recent Six-Year Plan is outlined in table 30.

The recommendation that irrigation, drainage, and flood control should receive the largest single share of the funds was made by the International Bank Mission as well as by subsequent advisers and is carried through the latest plans. Transportation rightly comes next, as it, unlike industry, cannot conceivably be financed and planned by private enterprise. Industrial development receives a smaller but significant share. The only major category of consumption-like expenditures, buildings, is an essential part of Iraq's economic development. Housing, schools, and medical institutions are necessary for the morale and efficiency of the labor force, and public buildings will contribute to national pride. The much smaller allocation to the improvement of agricultural productivity can be sufficient if

[7] Law no. 35 for 1951, Law no. 25 for 1952, Law no. 43 for 1955; *The Iraq Times* (Baghdad), April 30, 1956.

effectively used and accompanied by appropriate policies with respect to rural institutions. The "small development projects" to be carried out by various government departments will cut across all other categories of expenditure.

Projected expenditures have been based more upon expected revenues than upon the rate at which the mobilization of resources could realistically be expected to proceed—a fact indicated by the failure of the Development Board to spend the amount sanctioned in any year thus far. For each of the fiscal years 1951–52, 1952–53, and 1953–54, less than half of the appropriation was spent. In 1955–56 three-fourths of the appropriation of the 1955–1959 plan was spent. The sizable sterling balances which have resulted from the board's failure to disburse all its funds protected the development program from substantial curtailment after the Suez crisis of November, 1956. Oil exports temporarily dropped when the pipeline through Syria was cut at the same time that the canal was closed, but the board's plans and commitments suffered surprisingly little modification.

Recognizing the need for technical assistance in over-all planning as well as in implementing specific projects, the Government of Iraq invited the International Bank for Reconstruction and Development to send a study mission in 1951. Its report, published in 1952, is a comprehensive survey of existing economic conditions and resources for development as well as a catalogue of recommendations. Since 1952, two additional over-all surveys have been made: one by three Danish monetary experts headed by Carl Iversen, made in 1952–53 and published in 1954; and the study made by Lord Salter in 1954 and published in 1955.[8] A number of studies on specialized aspects of the development program have been carried out—for example, the Knappen-Tippetts-Abbett-McCarthy survey of irrigation needs and potentialities, and the Arthur D. Little Company survey of industrial possibilities. It is outside the scope of the present work to compare their findings and recommendations. The important point is that no internally consistent development plan, complete with priorities, has yet evolved from these studies. The projected expenditures of the Development Board reflect the adoption of specific points made by the advisers and the pressures of interests within and outside the country. Projects based upon unsound planning (or the absence of planning), while they do employ hitherto unemployed labor and generate new income, have several harmful effects. First, although the supply of oil revenues may appear inexhaustible, certain resources, particularly skilled and semiskilled labor, are in short supply, and it is unfortunate to waste them when they could be helping to raise the productivity of the economy. Second, wasteful projects lend substance to the claims made by irresponsible political elements that the Development Board exists only to channel the oil revenues into the coffers of the wealthy. Actually, the board has learned much in its first years of operation and has already made some significant achievements, the more important of which will be mentioned later in this chapter. But Iraq is discovering that unlimited capital is only a partial substitute for modern social and economic institutions as means of mobilizing resources to alleviate poverty. Technicians, advisers, machinery, and building materials can be imported, but impartial and effective administration and institutions which encourage and teach efficient work habits cannot be imported

[8] International Bank for Reconstruction and Development, *The Economic Development of Iraq;* Iversen, *op. cit.;* Salter, *The Development of Iraq.*

and can be developed only slowly at best. Over-all plans, to be effective, must give immediate attention to these intangible requisites of economic development.

Agricultural Development

There is general agreement among those who have studied Iraq's economy that its major potential for development lies in agriculture. The International Bank Mission concluded, "Aside from oil, water and land may be said to be the principal natural resources of Iraq."[9]

Although estimates vary, it is believed that the area under cultivation can be approximately doubled as the irrigation projects are carried out. The International Bank Mission held that "In the rain-fed zone the area under cultivation could theoretically be more than doubled; and in the irrigation zone it could be almost tripled."[10] The consulting engineers Knappen-Tippetts-Abbett-McCarthy envision a 70 per cent increase in cultivated land if their recommendations concerning irrigation and drainage are carried out. The United Nations Relief and Works Agency more optimistically projected a 90 per cent increase in cropped land between 1955 and 1975.[11]

The more intensive cultivation of presently cropped land is of even greater potential importance than the geographic expansion of cultivation. Present methods of cultivation are extensive and inefficient, legacies of a period when land was plentiful relative to population size. Perpetuation of extensive cultivation has been encouraged by the absence of a land tax. Almost half of the land in agricultural holdings lies fallow in winter and far more than half during the summer. Soil experts believe that the fallow system, supposed to restore the fertility of the soil, is actually harmful in areas in which salination is a problem, as it is in much of the irrigation zone. Certainly capital improvements such as irrigation, drainage, leaching out salt, leveling the land, and providing roads and utilities are far costlier than they would be if the land were farmed more intensively.

Water is the essential ingredient for extension as well as intensification of cultivation. At present much of the water of the Twin Rivers is wasted, entering the permanent marshes or flowing into the Persian Gulf. The rivers, flowing from north to south and originating in winter rain and snow, are characterized by extreme annual variation in flow. Each reaches its minimum in September. The Tigris, the larger of the two rivers, reaches its maximum in April, the Euphrates in May—too late to be of optimum use in winter crops and too early for use in summer irrigation. Wasteful irrigation is encouraged by the plethora of water when it is available, while the area in summer crops is restricted by water shortage. The variations in flow, together with the flatness characteristic of the alluvial plain, have produced periodic floods throughout Iraq's history. The obvious needs are storage facilities to prevent floods and to make water available in summer, and irrigation facilities to carry the water to land under cultivation. A drainage network, physically less impressive than dams, barrages, and canals, is of equal importance, for the salt which accumulates in the soil through irrigation must be

[9] International Bank for Reconstruction and Development, *op. cit.*, p. 136. Iversen, *op. cit.*, p. 177, and Salter, *op. cit.*, chap. ii, agree.

[10] International Bank for Reconstruction and Development, *op. cit.*, p. 137.

[11] Iraq, *Development of the Tigris-Euphrates Valley*, pp. 4–5; United Nations, *Quarterly Bulletin of Economic Development* (Beirut), no. 11 (July, 1954), p. 1.

washed away if land is not to be abandoned after a few decades of use and if land already salinated is to be reclaimed.

Interest in the irrigation of Mesopotamia is as old as civilization. It is no historical accident that civilization arose in fertile river valleys in which settled, irrigated cultivation flourished. However, until the present century, the central authority necessary to plan and implement a complex irrigation network has not existed in Mesopotamia since before the Mongol invasions. Toward the end of their reign, the Ottoman rulers were beginning to evidence some interest in the rehabilitation of agriculture in the valley. A British irrigation expert, Sir William Willcocks, was employed by the Ottoman government in 1908. His report, *The Irrigation of Mesopotamia,* was published in 1911, and under his direction the first modern structure for river control, the Hindiya barrage, was completed on the central Euphrates in 1913. Under the Mandate, the British authorities undertook repair and improvement of existing works. A second barrage, at Kut on the Tigris, was completed in 1939 by the newly independent State of Iraq, but shortage of investment funds continued to impede large-scale measures until recent years.

In 1946 the Government of Iraq employed Mr. F. F. Haigh, a British engineer, to head a commission on irrigation. The report, submitted in 1949 on the eve of Iraq's changed financial position, recommended multipurpose dams to prevent floods and store water for irrigation. The sites selected by the Haigh Commission, recognized in part by earlier authorities, are incorporated in the plans of the Development Board. Thanks to the 1951 oil agreement, these plans are on their way toward realization. The irrigation and flood control system utilizes three natural depositories: the Wadi Tharthar, a dry riverbed terminating in a large natural depression in the Jazira Desert north of Baghdad, Lake Habbaniya, and the Abu Dibis depression west of the Euphrates. The system requires construction of dams on the Tigris and its tributaries. In April, 1956, Iraq celebrated the opening of the first major irrigation works built by oil revenues, the Samarra barrage, regulator, and inlet channel leading from the Tigris to the Wadi Tharthar, and the Ramadi barrage, regulators, and channels leading from the Euphrates to Lake Habbaniya and the Abu Dibis depression. Of the major dams, the Dokan on the Lesser Zab River is under construction and is scheduled to be completed in 1959, and the Derbendi-Khan dam on the Diyala River is beyond the planning stage. Other proposed dams on the upper Tigris will be undertaken if studies being made at present prove them necessary.

The report of the engineering firm Knappen-Tippetts-Abbett-McCarthy, submitted in 1952, which works out in detail the consequences of the irrigation, flood control, and drainage program of the Development Board, contains a promise and a warning. The promise: "Iraq has the soil and water resources which, if properly developed, will ensure the country a strong economic position and a high standard of living for all its inhabitants in perpetuity." The warning is not only that "it will be necessary . . . .to provide the proper equipment and organization for carrying out maintenance on a regular schedule," but also that "educational programmes will . . . be required to ensure the success of the Development Plan. These programmes should include farm-extension services, agricultural research, incentives to farmers for adoption of soil-building practices, farm-credit facilities, and

properly planned and managed resettlement schemes."[12] Four hypothetical conditions are posited by the engineers. Condition 1 is the cultivation of 8,000,000 acres under the present system which allows 30 per cent of this acreage to lie fallow each year and devotes 39 per cent to grains and 20 per cent to roads, canals, and utilities. Condition 2 is the presently cultivated 8,000,000 acres farmed in the same way but with the addition of drainage facilities, which would raise crop yields. Condition 3 maintains the same cultivation of the 8,000,000 acres as under condition 2, but adds 5,600,000 acres of arable land cultivated on the basis of modern diversified and intensive methods "including crop rotation, improved methods of cultivation and irrigation, [and] livestock management." The engineers determined that it was unrealistic to project such methods for all the arable land because of the shortage of water. Therefore condition 4 assumes that 5,600,000 of the 8,000,000 acres now cultivated, in addition to the 5,600,000 brought under cultivation, are farmed as described under condition 3. Net farm income, exclusive of production costs other than labor, under condition 2 was computed to be less than twice that of condition 1. For condition 3, net farm income was almost five times, and for condition 4, almost seven times, that of condition 1.[13] In summary, achievement of Iraq's agricultural potential requires that farmers utilize different methods of cultivation. It cannot be too strongly emphasized that irrigation works without major changes in farming practices will not bring the increase in agricultural productivity envisioned by the planners.

Recognition of the importance of land tenure to agricultural development is reflected in the Miri Sirf land development program,[14] instituted more than a decade ago. Although title to much of the land in Iraq is as yet unsettled, it is estimated that more than 90 per cent of all land is under some form of government tenure. Ownership in fee simple is confined mostly to urban areas. The cultivated portions of government lands are farmed by individuals under a variety of tenures. More than half of the total land surface in Iraq is Miri Sirf, or purely government land, much of it potentially cultivable if irrigation were provided. The government has been able to institute land reform by distributing Miri Sirf lands which are newly opened to cultivation by irrigation projects, thereby avoiding some of the objections of tribal sheikhs who understandably would resent relinquishing their customary domains.

A potentially important move toward the creation of a class of small owner-operators was made in 1945, when the government established the Dujaila land settlement project, one hundred twenty-five miles southeast of Baghdad. The completion of the Kut barrage in 1939 and the postwar construction of the Dujaila canal made possible the irrigation of nearly 250,000 acres of hitherto uncultivated land with Tigris water. The sheikhs of the region, indignant that fellahin should be given land at all, were placated by a grant of more than half of this new land and perpetual water rights for it. Since 1946 the remaining land has been divided

[12] Iraq, *Development of the Tigris-Euphrates Valley,* pp. 25–26. This publication is an abridgment of the detailed report.

[13] *Ibid.,* pp. 4–5 and plates 3–8. Production cost does not include labor cost, since it is assumed that family labor is used.

[14] For descriptions of the Miri Sirf program, see Adams, "The Land Development Program in Iraq with Special Reference to the Dujaila Settlement, 1945 to 1954"; Ali, *Land Reclamation and Settlement in Iraq;* Ali, "Miri Sirf Land Development in Iraq," *International Social Science Bulletin,* V (1953), 713–717; Burns, "The Dujaylah Land Settlement," *Middle East Journal,* V (Summer, 1951), 362–366.

into plots of 62.5 acres and distributed to some 1,300 settler families chosen from among 50,000 applicants. Certain requirements were laid down regarding the way in which land was to be used: the settler must live on his land, having no outside employment, must build a house according to general specifications, and must diversify his crops in a specified way. If a settler complies with the regulations for ten years, he will obtain title to the land, but he may not sell or mortgage it for another ten years.

Many problems have arisen since the Dujaila project was established. The most serious physical problem has been the increasing salinity of the soil, reducing crop yields and even necessitating the abandonment of some lands. Although this condition has been recognized for more than a decade, only recently have steps been taken to provide suitable drainage.

Agricultural credit, necessary to the small proprietor if he is to raise his level of living, has not been generally available to Dujaila settlers. A law of 1946 authorized the Agricultural Bank to lend settlers up to 100 dinars at a maximum of 7 per cent interest per annum, but four years later only about one-quarter of the settlers had received loans. Others remain in the grasp of moneylenders and pay a much higher rate of interest. Moreover, the credit that was extended by the Agricultural Bank was unsupervised, and some of it resulted in unproductive expenditures. Many settlers, having realized their lifelong ambition to be proprietors of land, used the loans to acquire the marks of their new status: another wife, a horse, and a gun. Furthermore, about two-thirds of the settlers have taken on "assistant farmers"—often a relative and his family—who actually perform the labor and receive half of the crop or less. The settler, while living on his land as the law requires, thereby escapes manual labor and enhances his social status.

Traditional methods of cultivation have necessarily been followed in the absence of instruction in improved methods. The requirements in regard to diversification of crops have been widely disregarded, particularly the stipulation that vegetables be grown. Several coöperatives, established by the government to market the crops and provide agricultural machinery, went out of existence because of mismanagement, lack of financial supervision, and failure to educate the members in the principles of coöperation.

Despite these and many other difficulties, as compared to fellahin the settlers and even their "assistant farmers" are less ragged, are better nourished, and live in better mud huts. While crop yields and farm incomes are difficult to assess, most visitors have the impression that they are somewhat higher than among the fellahin living near the Dujaila project. Schools and clinics established by the United Nations Educational, Scientific, and Cultural Organization as a training center have had some impact upon the way of life there. The least tangible difference between the settlers and fellahin is perhaps the most important: the settlers have a spirit of self-determination and hope for the future.

Since 1951 six additional Miri Sirf projects have been established in various parts of the country on lands newly brought under irrigation. In 1953 an estimated 1,250 families were settlers on these other projects, in addition to 1,300 at Dujaila—a total of 2,550 families, representing about 2 per cent of the 125,045 agricultural holdings enumerated by the Census of Agriculture of 1952–53. Not only is the number of persons affected very small, but the auxiliary services neces-

sary to turn fellahin into successful owner-operators have not been available on a significant scale. Credit, farm supervision, and drainage are slowly being introduced on the newer projects, but shortage of trained field personnel and administrative bottlenecks limit the scope of all activities. Hence the Miri Sirf land development program has had little impact as yet upon the dominant form of land tenure in Iraq or upon over-all agricultural productivity. If the program is vigorously pursued, it can have a profound effect upon agricultural institutions. If not, the presently dominant form of land tenure may spread into the lands brought under cultivation as the irrigation works are completed.

Industrial Development

It is understandable that countries undergoing economic development should wish to encourage the growth of industry. In countries in which a relatively high percentage of the labor force is engaged in manufacture and production is highly mechanized, the working class is relatively prosperous. However, the relationship between industrialization and high per capita income is complex. In the United States, mechanization is a result as well as a cause of workers' prosperity. Because of the chronic labor shortage which has existed, machines have been substituted for men in many operations in which such substitution would be economically impossible elsewhere in the world. Some totalitarian countries have financed rapid industrialization by depressing consumption, with the result that the industrialization process has not necessarily been accompanied by the elimination of poverty. In contrast, Denmark and the Netherlands have achieved high levels of income based in large part upon efficient, scientific agriculture. Prosperity results from the concentration of resources in the production of products in which a country is relatively efficient, using scientific, as opposed to traditional, processes. Relative prices must be taken into account in the choice between different proportions of technologically substitutable factors. If either the choice of product or the choice of factor proportions is strongly influenced by noneconomic considerations, the productive process may fulfill noneconomic needs but will not alleviate poverty. An underdeveloped country may import iron ore, coal, and all the plant, equipment, and skilled personnel necessary for a highly mechanized steel mill. This may enhance national prestige, and foreign advisers should not denounce it as foolish, but the country will be disappointed if it places its hopes for rising per capita real income in such projects.

However, consideration of factor prices and technical input-output relationships is not sufficient for a country desiring to utilize its resources to achieve optimal economic development. The prices received for exports on the world market must be considered also. On the whole, the terms of trade have been adverse for producers of primary products. The result has been that underdeveloped countries have helped to pay for the increasing prosperity of workers in highly developed countries, through the relative prices of primary products and manufactured goods. This trend may be reversed in the future, as pressure of world population on food supplies increases, and former primary producers such as India and Japan enter the world market with their manufactured goods.[15] In the past the terms of

[15] Salter, *op. cit.*, pp. 16–17, believes that the terms of trade are becoming less unfavorable for primary producers. Singer, on the other hand, sees increasing inequality between developed and underdeveloped countries: "Economic Progress in Underdeveloped Countries," *Social Research*, XVI (March, 1949), 3–4.

trade may have supplied a rational argument for industrialization. Whether or not this argument loses some of its force, it is intelligent for underdeveloped countries at least to diversify their products and to enter production of those manufactured articles or processed primary products for which some comparative advantage exists.

The population argument for industrialization has validity in countries of high population density with little undeveloped agricultural resources, as in Egypt, where rising per capita income requires a certain amount of industrialization in order to employ the increasing numbers for whom there is no land. This argument has little application to Iraq. There is already a shortage of farm labor in many regions, and the development program calls for more intensive cultivation of a larger area of land.

The people in many small countries, remembering times of acute shortage when countries normally supplying them with necessities were at war, desire industrialization for self-sufficiency. Yet self-sufficiency is impossible at the level of living which Iraq's people desire. The country's most valuable resource, oil, loses its value unless it is sold abroad. The aggregate of goods and services entering the national income will be greater if the foreign exchange earned by oil is spent on importing goods which could be produced domestically only at high cost, and if domestic resources are concentrated on products which can be produced with relative efficiency.

Certain raw materials important to the achievement of a high degree of industrialization are unavailable in significant quantities in Iraq: notably timber, coal, and metallic ores. The cost of importing these in their raw state is so great that manufactured articles produced from them could not compete on the world market. Another essential ingredient of rapid industrialization, a skilled and disciplined labor force, is in short supply. Former artisans make excellent industrial laborers with a minimum of retraining, but they have never composed a large proportion of the population. The degree to which truly rural people can lack mechanical skills is almost incomprehensible to the urban-bred American, who was given his first mechanical toy when he was a baby, who as a small child watched his mother use a washing machine and his father change a tire, who learned how to follow directions so early that he thinks he was born with the ability, and who in the course of everyday life handles telephones, venetian blinds, automatic vending machines, automobiles, and a thousand other contrivances. He may not regard these actions as industrial training, but without them it would take much longer to make him a skilled mechanic. This is not to imply that Iraq's rural people cannot enter industry; a trip through Baghdad's factory and workshop sectors would convince one that they can and do become good industrial laborers. However, national prosperity will be enhanced by emphasis on teaching agricultural people better ways of doing what they are already doing, especially because of the large proportion of oil revenues being devoted to extension of land under cultivation. The spread of primary education and the availability of practical technical schools will gradually enlarge the skilled labor force.

The Development Board has wisely chosen to sponsor industries which utilize domestic raw materials and the products of which can be absorbed by the domestic market. One of the important achievements thus far has been the completion of

an 11,000,000-dinar oil refinery at Daura, near Baghdad, in November, 1955, supplied by a twelve-inch pipeline from the Kirkuk oilfields. All of Iraq's rapidly increasing petroleum needs, except aviation gasoline, can be domestically supplied in the foreseeable future. Several cement plants and a bitumen refinery, built with oil revenues, are in operation to use domestic raw materials. Iraq's most promising undeveloped industrial resource is the natural gas produced in conjunction with oil, at present burned off and wasted. Familiar sights at the Kirkuk oilfields are the fires of the "degassing stations," modern and brighter counterparts

TABLE 31

ACTIVITIES OF THE INDUSTRIAL BANK OF IRAQ, 1947–1954

Loans (dinars)	1947 to end of 1952–53 fiscal year	1953–54 fiscal year
Total number of loans	504	181
Total amount loaned	1,429,000	734,000
Average size of loan	2,840	4,060
Loans to companies		
Number of loans	10	3
Amount loaned	1,244,000	245,000
Average size of loan	124,400	81,670
Total capital of companies	5,075,000	850,000
Average participation of the Bank	25%	29%
Loans to individuals		
Number of loans	494	178
Amount loaned	185,000	489,000
Average size of loan	370	2,750

SOURCE: Iraq, *Statistical Abstract, 1954*, pp. 134–135.

of the nearby Eternal Fires into which Shadrach, Meshach, and Abednego were cast. Many chemical products could be produced from the gas, the most important being ammonium sulfate fertilizer. Gypsum, the other ingredient necessary for the fertilizer, is found in significant quantities near the oilfields. A chemical industry utilizing the natural gas received half of the 44,000,000 dinar allocation for industry, mining, and electricity in the Five-Year Plan of 1955, which indicates that the Development Board intends to take action on a large scale. A cotton spinning and weaving plant at Mosul, built with Development Board funds, was nearing completion in mid-1956. Sugar plants sufficient to fulfill domestic requirements were being planned. Sugar beet culture will aid in the diversification of agriculture in northern Iraq.

The Industrial Bank is a second agency responsible for initiating and financing industry. It was established in 1940 under the Ministry of Finance with a capital of 500,000 dinars, but did not begin operations until after 1946. In 1950 its capital was raised to 1,000,000 dinars, in 1952 to 3,000,000 dinars, and in 1956 to 8,000,000 dinars. Its operations are small compared to those of the Development Board, but are important to Iraq's economic development. Because of the absence of a capital market, the Industrial Bank is the only major institution to which individuals or companies may appeal for funds. The Bank is empowered to make loans for the purchase or improvement of plant and equipment and for supplying short-term

working capital. It may also initiate industrial enterprises on its own account, gradually selling the shares as enterprises become profitable. Unincorporated enterprises or individuals may borrow up to 20,000 dinars, and the Bank may own shares up to 250,000 dinars in incorporated companies. The maximum period of a loan is set at ten years for companies with a capital of 100,000 dinars or more, and five years for other loans.[18]

At the end of the fiscal year 1953–54, the Industrial Bank had made 685 loans totaling more than 2,000,000 dinars. As it appears in table 31, the vast majority of transactions were small loans to individuals; the average loan of this kind was under 400 dinars for the first five years of operation and increased to somewhat less than 3,000 dinars during the fiscal year 1953–54. As the activities of the Bank have expanded, increased attention has been given to unincorporated enterprises. Until the end of 1952–53, such enterprises had received only 13 per cent of all funds loaned; during the fiscal year 1953–54 they received two-thirds of the funds loaned. The Bank participated in thirteen large industrial enterprises from the beginning of its operations until 1954, supplying approximately one-quarter of their capitalizations. These enterprises include a jute mill, a spinning and weaving mill, a woolen textile factory, a vegetable-oil extraction factory, a grain mill, a modern bakery, a date-packing plant, a tannery, a cement plant, a plaster factory, and a river-dredging operation. Although earning a profit is not one of the expressed goals of the Industrial Bank, it has consistently shown a profit, in some years as high as 10 per cent, on its operations.

The International Bank Mission strongly recommended that the Industrial Bank, rather than the Development Board, finance enterprises capable of management and financial participation by Iraqis, and that the Development Board confine its industrial undertakings to very large ventures which require foreign management and which will not become profitable for some years—for example, the Daura refinery and the chemical plant. This distinction has not materialized. Both agencies are financing textile mills and cement plants. According to the law of the Industrial Bank, a company receiving a loan must have at least seven shareholders. On the other hand, industries sponsored by the Development Board or operated directly by one of the ministries can be completely divorced from the private sector of the economy. The processing and marketing of petroleum products, dates, and tobacco are government monopolies, as the sugar industry will be.

Development of Human Resources

"Iraq's most underdeveloped resource is the intelligence of her people," said an Iraqi educator. As we have seen, approximately one-third of babies born alive do not survive their first year; the mean expectation of life at birth is probably no more than half that of people in highly developed countries; the majority of Iraq's population go through life with their senses dulled by malnutrition and disease; in 1947 only one out of seven males and one out of thirty females could read or write, with the consequence that even in wealthy homes children may be reared by illiterate women with a narrow range of skills and interests; and, because of the dearth of facilities for technical training, an acute shortage of skilled and semiskilled labor coexists with widespread underemployment.

[18] Law no. 12 of 1940, as amended by law no. 37 of 1950, in Iraq, *Compilation of Laws, Regulations and Fundamental Statute of the Industrial Bank.*

The classification of factories and dams as "investment" and health, housing, and educational facilities as "consumption" is somewhat arbitrary, for human beings not only are the ends of economic activity but also are resources capable of development. Iversen went so far as to assert in his report that improvements in health, education, nutrition, and housing would probably pay for themselves in increased labor productivity.[17] Some amelioration of the conditions of life of the labor force, particularly in rural areas, is essential to the development of Iraq's unused resources. The danger in most countries seeking rapid economic development originates in the popular pressure to spend all the development funds for these consumption-like items, which, although necessary, do not alone bring the increased productivity necessary to eliminate poverty. Iraqis are in the happy position of being able to eat their cake and have it too. Wisely expended to conserve factors in short supply, the oil revenues are sufficient to build houses and dams both on a large scale and at the same time.

Projects having an immediate effect upon levels of living are desirable not only because of their impact upon labor productivity but also for political reasons. Centuries of foreign rule administered by selfish governors have made the people of Iraq skeptical of government promises. The inhabitants of Baghdad cannot see the dams and rural roads under construction, but they can see government officials riding in new automobiles; propaganda organs in opposition to the government are ever ready to help them conclude the worst. An official of the Development Board reported upon a visit to a number of Kurdish villages scheduled for submersion within a year under water backed up behind the Dokan dam. They had had several years' warning and offers of help in resettling. When the official asked village leaders what plans they had made for moving, they replied, "None. We do not think the government will ever finish the dam." Lord Salter, recognizing the distrust of the Development Board among certain segments of the population, recommended "substantial expenditure of a kind which will bring quick and clearly visible benefits."[18]

The desirability of meeting the immediate needs of the general population is recognized by the Development Board. The projected expenditure for housing, 6,000,000 dinars in the Five-Year Plan formulated in 1955, was raised to 24,000,000 dinars in the plan of 1956. The board envisions building 30,000 houses between 1956 and 1960.

Attention is being given first to the acute shortage of housing for lower-class laborers in the largest cities and to housing for personnel of a number of industrial plants under construction outside the main cities. During the coming five years, however, the housing plan calls for building in all parts of the country, housing those presently living in mud and reed huts as well as urban slums. The extremely low level of income of these groups, the large scale of the program, and shortages of labor and construction materials necessitate departure from conventional building methods. In 1956 the Development Board began an experimental program designed to encourage the development of labor-saving methods of construction and the use of new building materials. Tenders were let for five hundred experimental houses, to be built in groups of twenty or thirty by each contractor.

[17] Iversen, *op. cit.*, p. 70.
[18] Salter, *op. cit.*, p. 37.

The architectural design but not the method of construction nor the materials to be used were specified in the tenders. In rural areas, materials will be supplied and the labor of underemployed rural people will be used in order to minimize the cost of their houses.

Very little had been attempted in public housing until the formulation of this recent plan. A few hundred houses near Baghdad city, built by the Ministry of Social Affairs, are occupied by junior government officials and laborers not of the lowest class—that is, people who would otherwise live in crowded sections in old multifamily dwellings. Many of the government departments have their own housing programs for their employees. Most cities and towns have housing for teachers

TABLE 32

ENROLLMENT IN GOVERNMENT SCHOOLS OF IRAQ, 1930–1954

Year	Primary schools[a]		Secondary schools[b]	
	Enrollment	Per cent of girls	Enrollment	Per cent of girls
1930–31.....	35,000	20	.....	..
1931–32.....	.....	..	3,000	10
1953–54.....	258,000	24	35,000	23

SOURCES: Iraq, *Report of the Educational Inquiry Commission;* United Nations, *Compulsory Education in Iraq;* Iraq, *Statistical Abstract, 1954,* pp. 58–60.
[a] First through sixth years.
[b] Seventh through eleventh years.

and for railway employees. The Mortgage Bank was established in 1948 for the purpose of financing private building, but, because the loans are limited to 60 per cent of the value of the property and must be repaid within eight years, lending has necessarily been restricted to middle- and upper-class people. The new plan of the Development Board is the first attempt to house the sizable sector of the population now living in dwellings which cannot be classified as houses. It is essential that such a program reach the rural areas as well as the cities and towns, or else the stream of rural-to-urban migration may be turned into a flood.

Remarkable progress has been made in education since Iraq became a nation. Under the Ottoman regime, schooling was available only to wealthy males. Since the end of the First World War it has reached the middle class and even some in the lower class, and the percentage of females in the schools has increased despite doubling and redoubling of total enrollment. Expansion of education did not await the growth of oil revenues; however, schools established in old houses and even in mud or reed huts are now being replaced by modern buildings financed by oil revenues. The compulsory education law of 1940, which requires six years of school for each child wherever facilities are available, has had no need of enforcement, for classrooms are filled to overflowing just as quickly as teachers can be trained to staff them. Table 32 indicates the phenomenal increase in enrollment in government primary and secondary schools since Iraq's independence.

In 1950 an estimated 23 per cent of children of primary school age were attending school. The percentage has grown since that time. Progress in bringing primary schools to villages and small towns has been especially notable. Although remote areas, such as the mountains and marshes, have scarcely been touched by

education, the more densely populated agricultural regions are rapidly receiving schools. Where possible, a woman teacher is provided for girls. Where one is not available, the few villagers who strongly desire their daughters to be educated are breaking down the tradition of segregation of the sexes which is still dominant in Iraqi primary schools. Secondary schools, which are found in urban areas only, remain completely segregated.

Institutions of higher education and special schools have grown also. In the academic year 1953–54 there were approximately 5,000 students divided among eleven colleges. Although the vast majority of college students are men, the colleges of law, commerce and economics, arts and science, medicine, pharmacy, dentistry, engineering, and secondary school teacher training are coeducational. There is a special liberal arts college for women; the agricultural and police colleges are limited to men students. In 1947–48 approximately 4,000 students were registered in eight colleges; the colleges of arts and science, agriculture, and dentistry had not been established at that time. A student may enter one of the special schools before he completes the eleven years of primary and secondary education required for entrance into the colleges. Among these are schools of agriculture, domestic arts, nursing, the primary teachers' training schools for men and for women, and technical schools.

With the exception of private schools, all education in Iraq is free of charge, even in the colleges and special schools. As attendance at institutions of higher education often involves living away from home, not only tuition but also board and lodging, medical care, clothing, and travel between the student's home and the school are provided at government expense. Admission to the colleges is based upon scholastic record and proportional representation from the various liwas. Promotion from one level to the next depends upon passing public examinations, which are uniform throughout the country. The first public examination comes at the end of the sixth year of primary school, and the substantial percentage of students who fail may try again the next year, enter a special school open to primary school graduates, or discontinue their education. The examination at the end of the eleventh year is a real hurdle, and entrance into the college of the student's choice depends in large part upon his score in this examination.

The educational system is highly centralized. The Ministry of Education in Baghdad is in charge of appointment, promotion, and dismissal of teachers, founding and financial support of schools, determination of curriculum and textbooks, teacher training, and formulation and grading of examinations. Courses of study as well as examinations are, with a few exceptions, uniform throughout the country. Even the curriculum of private schools is influenced by the public examinations, which the students must pass to obtain a certificate to enter a college.

Defects in the educational system are the result in part of this high degree of centralization and in part of the rapidity with which the system has expanded. The curriculum is determined in urban areas and has little reference to rural needs. It may well prove that the education of the present generation of rural school children is making them singularly unfit to be fellahin. As early as 1932, the Monroe Commission advised that rural schools turn their attention to increasing agricultural productivity, raising standards of health, teaching coöperation,

and educating girls in domestic arts and sciences.[19] Little has been done to carry out this recommendation, although a few hours a week are devoted to "object lessons and hygiene" and "moral and civic duties" in all primary schools.

A further problem is that neither rural nor urban education is directed toward practical goals. Emphasis is upon memorization with little development of understanding and judgment and almost no learning by doing. Rules of Arabic grammar are commonly memorized without practice in their use. A graduate of the College of Commerce who has studied accounting may have had almost no practice in it and therefore may be incapable of keeping simple business accounts without further training. A poorly trained teacher finds it easier to read a lecture and require the students to memorize it than to use demonstration and discussion. In the present emergency, primary school teachers are not required to be graduates of secondary schools, but the government hopes to remedy this situation. Moreover, visual aids, laboratories, and workshops are more costly than ordinary classrooms, desks, and textbooks. The government has been forced to balance quality against quantity of education, and the clamor continues for ever more schools.

However, there is a cultural reason for the poor quality of the educational system—the tradition that learning means memorizing and that a scholar must not work with his hands. Until recently it has been considered hardly scholarly even to memorize facts relating to practical subjects such as engineering. Higher education in Iraq illustrates the warning of the Senate Committee on Foreign Relations that technical assistance in education must not serve to "increase the number of holders of law and liberal arts degrees in an economy which . . . [is] already surfeited with frustrated intellectuals and which needs plumbers and mechanics."[20] The Arab preference for rhetoric over action has deep roots. Before secular schools were established, education consisted largely of memorizing the Quran and arguing its interpretation, under Muslim schoolmasters. The love of language for its own sake goes back to nomadic days, when memorization was the only way in which the beautiful poetry could be carried from one generation to the next. Freya Stark vividly describes a girls' school in Baghdad in 1931:

> A new word would thrill the whole class, from the teacher down to the youngest there. They loved it for its own sake; they would contemplate it with pleasure on the blackboard and remember it the day after: and I would think of the tribes of Islam many centuries ago, marching behind their rival poets, listening to the glittering alternative word-play as they rode, and shouting applause. It is a curious trait, this abstract love of language, independently of meaning or purpose: it has made Arabic immensely rich and magnificent, a great organ sounding in empty spaces for its own pleasure alone.[21]

The rapid economic change of the past few years is forcing a degree of pragmatism into education in Iraq. There has been a recent trend toward fundamental education—the term coined by the United Nations Educational, Scientific, and Cultural Organization for practical training in literacy, agricultural methods, hygiene, domestic science, and citizenship. Throughout the country, night primary schools and literacy centers are in operation, staffed mostly by primary school teachers who wish to supplement their incomes. An estimated 14,000 persons were

[19] The report of the Monroe Commission is contained in Iraq, *Report of the Educational Inquiry Commission.* Other works on education in Iraq include United Nations, *Compulsory Education in Iraq;* Matthews and Akrawi, *Education in Arab Countries of the Near East.*

[20] U. S. Congress, *Technical Assistance and Related Programs,* p. 8.

[21] Stark, *Baghdad Sketches,* pp. 56, 58.

attending evening schools in 1955. Other programs, such as the village development operations of the Ministry of Social Affairs and the health visitor programs in the major cities, may be regarded as part of fundamental education. A few rural primary schools are adopting practical curricula, introducing reading materials dealing with health and hygiene, teaching the boys to farm experimental plots and the girls to sew. Such students could not pass the government examinations without further training. For the price of depriving the more intelligent rural children of a possible although unlikely chance to go on to higher education, a larger number learn to read and cipher and to improve the life of the village. A value judgment is required to determine the net worth of giving fundamental, rather than literary, education to rural children. However, for adults there is little disagreement on the value of fundamental education as an emergency measure. As Unesco envisions, this type of education will gradually lose its importance as the formal school system, public health facilities, and social services develop to take over its functions.

Education and housing are only two examples of the many fields in which the Government of Iraq is answering popular demands for a better way of life. Water purification systems, medical institutions, and town planning are other examples. These programs are progressing rapidly, for almost no one is opposed to them. Higher consumption is necessary but not sufficient to effect higher productivity. It is certain that sick and illiterate fellahin cannot form an efficient agricultural labor force, but they need not only pure water, medical facilities, and education but also better tools and draft animals, fertilizers, insecticides, credit, security of tenure, and financial incentives.

CHAPTER VII

OBSTACLES TO ECONOMIC DEVELOPMENT

IRAQ'S resources, properly utilized, can support an increasing population at a rising level of living. The desire for economic development is reflected in the creation of the Development Board, an agency entrusted with planning and executing the expenditure of 70 per cent of the oil revenues. Yet it is becoming increasingly apparent that the shortage of foreign exchange and capital for investment—a problem to which much attention is given in the literature on economic development—is not the only or even the major obstacle to achieving rising levels of productivity and income in Iraq: not all of Iraq's economic problems are oil soluble. Many of the obstacles to economic development have been touched upon in earlier chapters. It remains to summarize them in order that their relative importance may be assessed.

ECONOMIC OBSTACLES

Limitations on investment capital.—Much has been written on the vicious circles in which underdeveloped countries find themselves entrapped. On the production side, the problem is the inability of individuals or the country as a whole to spare resources from the acute short-run problem of securing the essentials of life for investment to achieve larger future returns. More advanced methods of production, technically available, cannot be adopted to raise per capita income because its level is already so low, and because, with few exceptions, such methods require capital formation. People of industrialized countries such as the United States tend to think of capital in its special forms of highly mechanized equipment and modern plant. In considering preindustrial areas, we must view capital in its more general sense of roundabout methods of production. Investment, or capital formation, requires an allocation of resources to production other than for immediate consumption, in such a manner that the same total effort eventually produces a larger quantity of goods. Capital therefore need not take the form of plant and equipment but can consist of a subsistence fund to support labor. In economies in which it is cheap in comparison with other factors, labor can play a major part in capital formation. For example, if 10 per cent of the agricultural force of a village was used in digging irrigation and drainage ditches with simple shovels, the total agricultural product of the 90 per cent working under improved physical conditions would probably exceed the former product of all the workers. In this example, investment has meant simply the support of the 10 per cent and their families while they were not directly producing for their own sustenance. If the irrigation workers were given wheelbarrows and improved shovels—a slightly larger investment—the total agricultural product of the village might be enhanced by an amount more than sufficient to compensate for the new equipment at some realistic rate of depreciation. However, there comes a point beyond which investment in a given direction does not pay. In this village, steam shovels and other mechanical equipment might be so costly to import and maintain, and the deterioration through inexpert use so rapid, that the saving in labor would be exceeded by the increase in cost.

For Iraq, the 1951 oil agreement has eliminated the problem of capital shortage, and the people need not forego consumption in order that investment may take

place. The problem becomes one of planning the direction of investment in order to initiate a process of cumulative economic expansion. If the revenues are spent in ways that will develop both profitable investment outlets and other sources of investment funds, productivity can continue to rise even after the oil reserves are depleted or even if oil declines in importance as a fuel. Professor Langley warns:

> There is serious danger that the oil royalties will be used to finance development projects that will . . . raise national income and nothing more. If this happens population growth will soon absorb the increased output as it has done in Egypt. If this Malthusian result is to be avoided the oil royalties must be used as a fulcrum by means of which national income can be levered not only to a higher level but *to a higher level from which it will continue to grow.*[1]

Foreign exchange earned through oil or trade of other commodities is one of four sources of funds upon which an economy can draw to finance its development. A second source, foreign capital obtained by loan or gift, presents the same problem as oil revenues: it raises national income, but whether it serves to develop further sources of investment funds depends upon how it is invested. Foreign investment in the private sector of Iraq's economy has been large in the petroleum industry but insignificant elsewhere. The government has borrowed relatively small amounts of investment funds from abroad: the largest single amount was $12,800,000 loaned by the International Bank for Reconstruction and Development for the Wadi Tharthar project. Free assistance from abroad, rendered primarily by the United States and the specialized agencies of the United Nations, has for the most part been limited to providing technicians. International assistance agencies have wished to conserve their resources for nations suffering from acute shortage of investment funds.

Involuntary domestic savings are a third source of development funds, arising primarily from taxation and borrowing. Some governments have resorted to note issue as a way of extracting savings, but inflation is the usual result. As we have seen (chap. v), Iraq's taxation system is narrow and regressive. During the fiscal year 1953–54, surtax and income tax were payable from only 24,319 individuals and 195 companies; the amount they paid represented only 5 per cent of government revenue.[2] In 1956 the income tax rates were lowered in an attempt to ease the tax burden of the urban lower and middle classes. As the tax base was not widened, a reduction in the total amount collected can be anticipated. Aside from the government's share of oil revenues, taxes affecting the income and consumption of the poor are the major sources of government revenue. The incomes of the poorer classes are too low to provide an important source of funds for investment; furthermore, taxing this group has deleterious effects upon consumer demand and incentive to work. Government borrowing has not played an important part in public finance in Iraq. In 1953 the total domestic public debt amounted to only 5,000,000 dinars, or less than one dinar per capita. Attempts to sell bonds to the general public in order to combat inflation have failed because of the high propensity to consume, and the lack of faith in the government. Monetary policy has been as ineffectual as fiscal policy. The power of the central bank, the National Bank of Iraq, in exercising monetary policy is restricted by

[1] Langley, "Oil Royalties and Economic Development in the Middle East," *Middle East Economic Papers, 1954*, p. 97.

[2] Iraq, *Statistical Abstract, 1954*, pp. 124, 291.

institutional deficiencies. It may rediscount commercial papers, but has little control over private banks because of the high degree of liquidity they customarily maintain. Moreover, government accounts, including the 30 per cent of oil revenues not given to the Development Board, are not handled by the National Bank of Iraq but by another public institution, the Rafidain Bank, which operates for a profit.[3]

Voluntary domestic savings remain as the source of funds necessary in a process of cumulative economic expansion. According to Professor Langley, "Unless the level of domestic saving can be increased, very little lasting benefit can be obtained by the Middle Eastern peoples from their oil wealth."[4] At present private savings in Iraq are not normally available for investment. There is no capital market, for the idea of investing for an assured return of a small percentage over a period of years does not interest those with potentially loanable funds. Simple people, unfamiliar with banking systems and distrustful of the government, would discount highly any money turned over to an impersonal institution in return for a stock, a bond, or a passbook. Desiring security, they hoard their savings in the form of currency or precious metals. Those who wish enhancement of social status as well as security purchase, but do not necessarily develop, agricultural land. Those who wish to profit from their savings speculate in urban real estate or engage in trade or usury; until recently, and to a large extent today, they have had good reason to demand personal control over any enterprise in which they invest and a quick and high rate of return on their investment. It is not intended to imply that personal integrity is a monopoly of the West but rather that exact and efficient accounting systems and impartial enforcement of law are essential if corporate private enterprise is to flourish in Iraq.

Not only do private savings take essentially unproductive forms, but also the supply of savings is restricted by increasing standards of consumption. Nurkse[5] sees an analogy between consumption in less and more highly developed countries and Duesenberry's findings on the consumption function for different levels of income within a country: countries with high national incomes save a larger proportion of their incomes, but the propensity to consume of low-income countries shifts upward with time, and they do not save a larger proportion of their national income as it rises. Western technology is continually inventing new consumption goods, which start as luxuries, gradually become accepted as necessities within their countries of origin, and are exported throughout the world. A special problem of underdeveloped countries is that rising standards of consumption do not require the same degree of institutional change as does rising productivity. The artisan in a Iraqi town, for example, does not consider it incongruous that he should continue to use methods handed down from generations of forefathers, and yet enjoy such modern inventions as moving pictures and the radio. However, he wonders why the government does not do something about the rising cost of living. He might buy a refrigerator if he could afford it, but owning an automobile has probably never occurred to him. The Baghdad artisan, with opportunity to

[3] Iversen, *A Report on Monetary Policy in Iraq*, chaps. i, ii.

[4] Langley, *op. cit.*, p. 98. Other articles touching upon the supply of domestic savings in Iraq are Dalli, "Problems of Industrial Enterprise in Iraq," and Oboosy, "A Study in the Theory of Economic Underdevelopment with Special Reference to Iraq," both in *Middle East Economic Papers, 1954.*

[5] Nurkse, *Problems of Capital Formation in Underdeveloped Countries*, pp. 58–60.

observe the consumption of a large wealthy community, may eventually decide to learn some new skills in order to live better, but not until he has passed through a period of growing unrest. The desire for higher consumption is felt by all but perhaps the upper 1 per cent of the income scale, and therefore almost all the increase in personal income generated by Iraq's development expenditures can be expected to go into increased consumption rather than into savings available for investment.

Strong pressure is exerted on the planning agencies to allocate a larger percentage of the oil revenues for public consumption items such as housing and medical institutions. Although such expenditure is desirable for morale and working efficiency, resources used in producing these things must be drawn from projects of capital formation. It is a commonly held illusion that, because of the oil revenues, consumption need not be foregone at all during the development process. Some, but not the majority, of the resources needed for economic development can be imported, no matter how much foreign exchange Iraq commands. Engineers and machinery can be brought in to build factories, but labor and materials must be bid away from residential construction. The slack of unemployment has created this illusion by allowing a temporary increase in consumption among the classes first benefiting from the development expenditures. Already a severe shortage of skilled labor is appearing, and shortages of other factors will undoubtedly follow. The result of competition for scarce resources is inflation, with its arbitrary and disruptive effects upon planning and the distribution of income.

Inflation is particularly likely to occur in economies undergoing industrialization, because of the inelasticity of supply to increasing demand. There are important institutional barriers to increasing output that no increase in price can overcome in the short run. Agricultural products constitute one such bottleneck. More and better food is the first demand of Iraq's poorer classes as their incomes rise. The supply of vegetables is expanding rapidly, but production of fruits and animal products is lagging, with consequent price increases. Labor immobility is a further bottleneck, the result of family and tribal ties, lack of training facilities, lack of knowledge of opportunities, and traditional taboos against the performance of certain jobs. In contrast with the situation in industrialized countries, in which money expenditures raise real incomes through the investment multiplier so long as there is substantial unemployment, increased money expenditures in underdeveloped countries—in the absence of a system of planned priorities reinforced by appropriate fiscal and monetary measures—only raise prices.

The conclusion is unavoidable: domestic savings must be increased and directed into capital formation if a self-sustaining process of economic development is to be initiated. The problem of unproductive uses of savings is being attacked by the government, through measures such as the encouragement of banking, the creation of the Industrial Bank, and, under a law of 1950, exemption from taxes and import duties on machinery for certain Iraqi-owned industries. Restriction of consumption is more difficult and must be attempted with great care if the incentive to work is not to be destroyed.

Limitations on the inducement to invest.—The limited size of the domestic

market has been an important factor in reducing the profitability of potential investment in many lines. The majority of the population consume little more than their own agricultural produce and a small quantity of textiles, tea, sugar, and tobacco, and the demand for these commodities is restricted by heavy import and excise duties. Some consumption items purchased by the middle and upper classes, produced by hand in small quantities, are as costly as their imported equivalents, although they lack the higher quality and prestige value. Thus a vicious circle exists in that low purchasing power, the result of low productivity, restricts the inducement to invest and therefore keeps productivity low. As with any vicious circle, the way to break it is by an attack at every point. The solution suggested by Nurkse—"balanced growth," investment in many different industries, simultaneously increasing the demand for a wide variety of products and suddenly rendering their production profitable[6]—is already taking place in Iraq. The urban middle and lower classes are now able to purchase shoes of good quality, produced locally on a large scale, at a fraction of the price charged by custom shoemakers; sanitary large-scale production of vegetable oil products and bread has recently begun. However, because of the importance of agriculture as the largest industry in Iraq, profitable manufacture of many products, in competition with foreign mass production, awaits a rise in the purchasing power of the rural population which can result only from increased productivity in agriculture.

The dearth of skills of all kinds is a more serious deterrent to profitable investment, and was named by Iversen as the major obstacle to rapid expansion of output.[7] It raises costs and makes certain operations impossible. It requires importing foreign managers and technicians, who demand higher salaries abroad than they received in their home countries but cannot work so hard because of difficulties in adjusting to climatic and institutional differences. It affects all levels of operation, from unskilled laborers who cannot systematically follow instructions to managers who lack training in administrative techniques. A mechanic who can keep machinery in working order, an accountant who can tell the firm its exact financial position at any time, or a typist who can quickly produce a neat letter finds excellent employment opportunities, because such workers are rare.

There are a number of reasons for this serious state of affairs. Virtually all the unskilled agricultural and industrial laborers, who constitute the majority of the labor force, are illiterate. Moreover, the old apprentice system, which passed skills of small-scale production from father to son, is breaking down under the impact of rural-to-urban migration and the trend toward mechanized operations. Technical training schools are few in number. There were only four such schools, with approximately six hundred students, in 1954. Moreover, in the words of a foreign visitor, "These technical schools are not technical; they are theoretical." As in the entire educational system, the emphasis is upon memorization with little practice. Middle Eastern culture is not technically oriented, and the person who works with his hands loses status thereby. Those receiving higher education tend to select nontechnical fields of study. A white-collar position behind a desk—preferably in the government service, because of the consequent privileges and prestige—is the goal of the majority of educated people, including, unfortunately, many who have received technical training.

[6] *Ibid.*, pp. 11–13.
[7] Iversen, *op. cit.*, p. 156.

Lack of external economies is a further obstacle to profitable investment in underdeveloped countries. A firm wishing to establish itself outside Iraq's major cities cannot assume the presence of electricity, transportation, housing and community facilities for its workers, and a labor force accustomed to industrial discipline. Even in the cities, production costs are raised by the high price of electricity, which leads some plants to maintain their own generators, by the necessity to train laborers in the most elementary operations, by rapid depreciation of plant and equipment from poor use and maintenance, and by the difficult supply situation, which requires manufacturers to keep excessive inventories of parts and raw materials. For several months after the floods in the spring of 1954, rail and road transport to Basra, Iraq's port, was severed. Even after communication had been restored, it took several more months to clear the docks of Basra. Consider the plight of a manufacturer operating on small reserves.

Government participation.—Lack of economic organization and facilities is one reason for the large amount of government participation in enterprise in countries wishing rapid development. It would be inappropriate to use profitability as the criterion for judging industries serving as external economies to other types of enterprise. The development of hydroelectric power, irrigation, and flood control are publicly financed and managed in most countries. But while enterprises such as Iraq's new refinery and the projected chemical plant could, in more highly developed countries, be financed by private capital, they require public initiation in Iraq. Partial private participation in a number of large undertakings has been made possible only through the aid and at the initiative of the Industrial Bank; presumably these enterprises will be divorced from the Bank when their viability has been proved.

Another sound reason for public participation is that certain goals may be achieved only by departing from the price system. In the United States, for example, postage rates were set low and uniform throughout the country in the belief that development would be furthered by easy communication. In Iraq, if kerosene, already produced and distributed by government monopoly, were made available to the poor at subsidized prices, charcoal burning and cutting of brush, which are major causes of soil erosion and deforestation, might be halted. Similarly, when the chemical plant is completed, the government might decide to supply fertilizer to fellahin at prices below the cost of production.

There appears to be no reasonable alternative to state participation in developing economies. However, it has its dangers, in that it places the allocation of resources in the hands of an agency that does not need to follow economic principles. Many possible ends can be achieved besides the economic one of maximizing utility from the resources available to the country: for example, self-sufficiency, defense, or international prestige. Both the choice of industry and the factor proportions used can be guided by any or all of these motives, but if a rapid and self-perpetuating rise in national income is desired, economic motives must be placed foremost. Not only may the choice of undertaking be uneconomic—that is, serving neither to create external economies nor as a venture which could eventually be turned over to the private sector of the economy—but highly capitalized methods of production may be adopted because planners and, too often, their foreign advisers believe that the combination of factors used in the West is in

some absolute sense "best," irrespective of relative prices.[8] Either way, the result is a long-run misallocation of resources.

More serious, government control means political appointment of workers, managers, and even technicians; overstaffing; and, because excessive bureaucracy and red tape are characteristic of public administration in underdeveloped countries, inefficient administration. Thus even in industries which could be economically viable if well managed, valuable skills and materials are wasted, and any profit shown is from needlessly high prices. The International Bank Mission noted that in the government-operated tobacco monopoly the personal influence of the producer had much to do with the grade and price received by his tobacco.[9] Yet Iraqi cigarettes, of variable quality, find a market because of high duties on imported cigarettes. The philosophy of eliminating competition rather than working for efficient production and improved quality is contagious, and is evident in the private sector of the economy also. Private producers come to expect the government to protect their markets by means ranging from high duties to outright prohibitions on import of competing products. If industry in Iraq is to pay for itself, it must be increasingly subject to the inexorable criteria of profit and loss.

Noneconomic Obstacles

Cultural factors.—People born into Western society during the past few hundred years have experienced rapid technological and social change from birth, learning to welcome it if it contributes to anything they value—comfort, prestige, leisure, health, enjoyment, excitement, or peace of mind—without a corresponding sacrifice of some other value. To some extent we have come to value change for its own sake. It is difficult for us to understand societies in which the *status quo* is valued for its own sake. "We have always done it this way" is given as a sufficient reason for continuing the old way, even if new methods are easier and more profitable. To call this attitude "irrational" is an ethnocentric judgment. To the traditionalist, change has a negative value to be balanced against any positive achievements.

Elements of traditionalism exist in all societies, stronger among the elder members than among the young, embodied in custom, law, precedent, and ritual, serving as brakes to prevent the society from rushing headlong on uncharted courses. However, there is a difference in degree which has divided East from West. The breakdown of traditional values among Western Europeans and their descendants overseas has been termed the Idea of Progress. This critical examination of previously accepted institutions is causally related to the Renaissance, the voyages of discovery, the Reformation, the political revolutions of the eighteenth and nineteenth centuries, phenomenal technological advances in agriculture and industry, and the achievement of a demographic balance characterized by low fertility and mortality. Within the present century the values of the East have begun to change rapidly. The most contagious element in the Idea of Progress appears to be the notion that a short and miserable life need not be the lot of the majority of mankind.

[8] This point is made by Eckaus in his article, "The Factor Proportions Problem in Underdeveloped Areas," *American Economic Review*, XLV (Sept., 1955), 539–565. He also maintains that a limited number of technical choices frequently gives a real basis to overcapitalization.

[9] International Bank for Reconstruction and Development, *The Economic Development of Iraq*, p. 227.

Material advance requires institutional change, however, and among the institutions which must change are many that are dear to the hearts even of those most ardently desiring material advance. The inherent stability, security, leisure, and grace of the old society must certainly suffer diminution if Western levels of income are to be achieved. This discussion does not imply that the writer places a negative value on Arab culture and a positive value on adoption of the culture of the West. Rather, the ruling class and a large part of the population of Iraq have chosen to adopt material characteristics of Western society which are inconsistent with certain elements of the traditional culture. Stephen Vincent Benet, referring to the industrial order which replaced the older society in the United States after the Civil War, wrote:

> Say neither . . .
> "It is deadly magic and accursed,"
> Nor "It is blest," but only "It is here."[10]

Many of the problems already arising from Iraq's development program are results of an uneven change in values. Consumption and material aspirations increase all too easily, while the cultural obstacles to greater productivity are formidable. The probable explanation is that higher standards of consumption among the wealthy have always been visible to Iraqis and therefore have a place in the traditional system of values, but few people have had the opportunity to observe higher standards of productivity. According to tradition, an educated person cannot perform manual labor or wear work clothes without being shamed. At best this leads to the employment of an unskilled assistant to carry the tools and hand them to the technician; at the worst it induces badly needed technicians to seek white-collar positions, in which their skills are wasted. Procedure without planning, appropriate to a leisurely way of life and a plentiful labor supply, is resulting in a major waste of resources as the pace of economic activity quickens. The continued use of outmoded administrative machinery and the perpetuation of a system of land tenure discouraging efficiency are so important that they will be treated separately in this chapter.

The Islamic religion is often mentioned as a cultural obstacle to economic and social progress. As with the argument over the relationship between the Reformation and the Industrial Revolution, it is difficult to separate cause from effect. Certainly many objections to change are couched in religious terms, in Muslim as well as in Christian societies; frequently the attempt is made thereby to lend authority to the negative value placed on change by tradition-minded people. In Iraq the Shi'a holy cities remain the most conservative parts of the country. Urban women who have discarded the black cape elsewhere believe that they cannot go safely in these cities without it. A xenophobic minority speaks eloquently in nationalistic as well as religious terms, but it does not gain much popular support because it advocates throwing out imported consumption items along with foreigners. Religious authorities frequently speak out against social change. During 1954 the Women's League of Baghdad held a "Women's Week," with speeches, radio announcements, and newspaper articles in favor of increased rights. The religious authorities of Baghdad retaliated with an "Anti-Women's Week," which

[10] From *John Brown's Body* in *Selected Works of Stephen Vincent Benet*, published by Rinehart and Company. Copyright 1927, 1928 by Stephen Vincent Benet.

among educated Iraqis only increased the effectiveness of the first week's propaganda.

Among the rural and illiterate majority of the population, ignorance and superstition are often expressed in religious terms. Asked where flies come from, the villager will probably reply, "From Allah," which really means, "I don't know." The "God wills it" philosophy of resigned acceptance is in large part a rationalization for a life which the individual believes he cannot control—until recent times, a realistic way of thinking for poor people. Village medical workers in the Middle East have delighted in collecting good-luck charms from the caps of babies whom they have treated, for the mothers readily give them up when medical care is available.

The Shari'a, or Sacred Law of Islam, has acted as an obstacle to the establishment of modern institutions in Iraq as in other Islamic countries. A Muslim country wishing to modernize has the choice of reformulating the Sacred Law to harmonize with social and economic development or replacing it by secular law.[11] The former course is exemplified in the writings of a Pakistani religious authority, who suggests that the Islamic prohibition of interest be enforced and that, in the absence of loans, a coöperative form of organization be established to supply capital for development projects. He further suggests that the almsgiving requirement of Islam be enforced, revised to tax income rather than capital.[12] Turkey and more recently Egypt have moved far along the alternative course of secularization. Riza Shah of Iran attempted similar reforms with less success. Iraq appears on balance to be choosing secularization also, gradually replacing the Shari'a with civil law. For example, under the established principle of waqf, a man could entail a piece of real estate and assign income from it to some religious or charitable cause in perpetuity. As a result, urban land became fragmented to such a degree that it was almost impossible to amass enough land for a building of medium or large size. Under pressure from urban real estate interests and town planners, this law was radically amended in 1954 to make possible the construction of large buildings and straight streets through the downtown sections. Interest rates and the sale of alcoholic beverages, both prohibited outright under Islam, are now regulated by secular law.

The religious requirement that a dawn-to-dusk fast be maintained during the month of Ramadan is still widely observed in Iraq. The prohibition includes drink and tobacco as well as food. Because the month is calculated on a lunar basis, its calendar incidence rotates. When Ramadan occurs during the summer, with sixteen hours of daylight, during which the maximum temperature may exceed 120° Fahrenheit with less than 10 per cent humidity, the effect on labor productivity is profound. The only way to keep the fast under such conditions is to avoid exertion. Government offices, which normally keep a thirty-five-hour week, open later and close earlier, and no one expects to do much work during this period. Coffeehouses and restaurants hang sheets over their doors; the only way to tell what nonfasters are inside is to enter and appear a nonfaster oneself. The foreign technicians in charge of building one of the postwar barrages noted a significant decline in the productivity of their laborers during Ramadan, despite the fact that

[11] Gibb writes: "Islam, as a way of life, stands or falls with the supremacy of the Sacred Law." *Mohammedanism*, p. 191.

[12] Ahmad, *Economics of Islam.*

the majority were not fasting; for those doing heavy labor are exempt from the necessity of keeping the fast. The management instituted a new system of payment, setting a reasonable goal for the entire crew each week, and giving each man an extra day's pay if the goal were accomplished. Not only did productivity no longer fall during Ramadan, but the year-round efficiency of the crew rose markedly. Whereas the failure of one specialized worker to appear at work had formerly been taken as an excuse for the whole crew to take the day off, now some other worker will ask to be shown how to do the missing man's job.

Much has been written about the failure of laborers in preindustrial countries to respond to financial incentives.[13] Within a certain range at least, there is likely to be a negative correlation between wages and the supply of labor wherever the acquisitive mentality of capitalist society is absent, because of the relatively low value placed on material welfare and the high value placed on leisure. The reply of the proverbial peasant when asked to perform a certain task for a dollar is typical: "Thank you, but I already have a dollar." However, very little experimentation in incentive pay has been done in underdeveloped countries, perhaps in part because employers as well as workers tend to have stereotyped views on the "correct" levels of consumption for workers of different classes and to accept low productivity as normal. Because of the rapid pace of economic and social change in Iraq, much of the cultural opposition to increasing labor productivity might vanish if incentives were systematically applied. Planners could make wide use of this principle. However, two conditions are necessary in addition to financial incentives. The change must be technically possible; that is, if special materials or training are necessary, they must be available to the workers. Moreover, the cultural change must not conflict with deeply entrenched mores.[14] A pessimistic conclusion concerning the adaptability of Middle Eastern people to changing economic requirements is often the result of failure to provide both incentive and means or of an attempt to achieve change in an unrealistic direction.

Administrative deficiencies.—In his report on Iraq's economic potentials and problems, Lord Salter wrote:

> More than once in my experience I have been invited to advise a country on economic policy, and have then found that the heart of the problem is the reform or creation of an administrative system capable of carrying it out. . . . The chief limiting factor to the success of development in Iraq may prove to be neither the amount of money for investment, nor even the limits of skilled labour and materials available, but the efficiency of the administrative machine.[15]

The traditional way of doing business in the Middle East, whether privately or in government, is by *ad hoc* decisions, based in part upon the status of the individuals concerned, implemented in a leisurely manner by means of personal relationships. Little or no value is placed upon handling matters impartially, uniformly, or expeditiously. This system, which originated in the slow pace of life and small volume of business of an earlier era, has become an anachronism in Iraq and constitutes perhaps the major obstacle to economic development. Although administrative deficiencies exist in both the public and private sectors of

[13] See Boeke, *Economics and Economic Policy of Dual Societies*, pp. 39–40; and Moore, *Industrialization and Labor*, chaps. v, vii. Iversen, *op. cit.*, p. 121, is hopeful that Iraqi workers will respond to appropriate incentives.

[14] This point is discussed, with many examples, in Mead (ed.), *Cultural Patterns and Technical Change*.

[15] Salter, *The Development of Iraq*, p. 96.

the economy, they are far more serious in the public sector, for several reasons. First, operation for a profit tends to limit the degree of inefficiency that can be tolerated in private business. Second, public activities are generally larger; while the old administrative methods may be suitable to small-scale enterprises in which specialized management might cost more than it is worth, they seriously impede large-scale activity. The Iraqi government's policy of public participation spreads the deficiencies of public administration into all phases of the economy and makes it imperative that they be removed if much of the oil revenue is not to be dissipated in wasted effort and graft.

Deficiencies in Iraq's civil service are the result of three factors enumerated in the unpublished report of William Brownrigg, an American expert on public administration who visited Iraq in 1954. The first is the philosophy of the system, a legacy of the Ottoman Empire. The civil service has constituted a way of life for leisured and educated people, and the majority of secondary school and college graduates are expected to enter it. Business is transacted in a manner consistent with the rules of hospitality and status, but inconsistent with the demands of an increasing work load. Personal calls occupy a substantial amount of an official's time. To each caller above a certain rank, refreshment is served and polite conversation is made before any business is conducted. If an official has received a promotion or other honor, courtesy demands that his associates and close friends call to congratulate him. There is no stigma attached to arriving late or leaving early, or to eating, having one's shoes shined, or reading the newspapers during office hours. Overstaffing is general, but the problem is far more serious than the consequent waste of literate manpower. There is work that needs to be done and is not being done: papers to be signed if farmers are to receive loans in time to buy seed for this year's planting, payrolls that must be met regularly if the morale of day laborers is to be maintained, customs declarations to be filled out if materials for dams and bridges are to be available when needed. Meanwhile, some officials drink tea with their friends, while others are pitifully overburdened by an enormous volume of paper work, using administrative techniques devised centuries ago.

Rank, salary, and promotion are handled in such a way that little incentive exists for efficiency. Rank and pay depend largely upon scholastic attainment rather than upon duties and responsibilities. If a doctor's degree is required for a certain rank, one may find in this rank a medical doctor in the Ministry of Finance and a doctor of philosophy in the Ministry of Health. Promotion is automatic, depending upon length of service. The only way to skip ranks, aside from using personal influence, is to obtain another educational degree. The system gives no recognition for special training, as received, for example, from working with foreign technical assistance workers, unless it results in a degree. Special skills go similarly unrewarded. The typist who uses hunt-and-peck can receive the same rank and pay as the typist who uses the touch system. Mr. Brownrigg discerned nepotism and favoritism as strong additional factors in initial placement and promotion.

A government official, once hired, retains tenure regardless of merit, provided he does not offend some important personage. Unfortunately, one of the more probable ways of offending his superior is to advocate administrative reform. If a government employee is forced out of one position, even for dishonesty, he is

almost certain to obtain another. The following story is not only true but typical. A newly arrived foreign technician went on a field trip and had a terrifying ride. When he returned to his office, he remarked to an official, "You know, I think that driver you assigned me is crazy." The official replied, "You are right. He is crazy. He used to drive for me, and finally I could not stand to ride with him any more." "Then why did you assign him to me?" "Why, someone has to have him."

Even more wasteful than the maintenance of unqualified persons in government employment is the policy of misplacing skilled people. It takes luck, influence, or both for a person to be assigned where he can make the best use of specialized training. Further misplacing results from the desire of many who have special skills to secure general administrative positions because such positions seldom require wearing work clothes, carrying tools, or leaving the city.

The second defect in the public administration is faulty organization and failure to train personnel in administrative techniques. The assumption is made that any intelligent person can handle any administrative or clerical job, as indeed he can according to methods now used—deciding each case subjectively on its merits by prolonged discussion or exchange of unstandardized memoranda, recording transactions chronologically into ledgers as a method of filing, carrying out complex statistical computations with pencil and paper. Because of the lack of uniform rules, even routine matters cannot be handled automatically. The result is that technicians must spend an exorbitant amount of time on administrative details. Before the volume of government business began to multiply rapidly a few years ago, this method was satisfactory, although it was never efficient. Now that the volume of business has increased, these procedures suddenly become not only inefficient but impossible.

The use of a large number of unskilled and frequently illiterate workers in government offices creates a vicious circle. An official must have a "farrash" or two for time-consuming errands such as mailing letters, paying bills, purchasing travel tickets, or cashing checks. Yet the processes remain time-consuming because of the unnecessarily laborious procedures used. The farrash is content to wait for several hours at the customs house while someone hunts for a package, while numerous officials and inspectors examine it, debate about the rate of duty, and make notations in ledgers. If he is sent across town to deliver a letter and must return because it lacks the proper signature or revenue stamp, it is all in a day's work to him. His employer does not protest, for such laborers are cheap and can be hired in any quantity. Furthermore, to have several men seated outside one's door is a mark of status. When they are not running errands they carry papers from one office to another and serve tea. But the busy man who tries to get along without a farrash makes no headway. When he protests at unnecessary delays, he is asked impatiently, "Why don't you send your farrash?"

Responsibility is distributed in a haphazard fashion because the lines of command are not clearly drawn. On the one hand, regulations specify an excessive degree of centralization. An adviser on fiscal administration discovered that six signatures, including those of the liwa governor and the ministry's second highest official, were required on one voucher worth fourteen cents. The Minister of Finance may personally veto any item in the budget of any ministry, and there is no effective machinery for appeal. The signature of the top executive of a banking

institution may be required on a loan; if he is ill or on vacation, business may come to a standstill. Approval of the Council of Ministers itself is required for many small matters. On the other hand, minor employees are allowed in effect to make policy decisions in their actions. A college registrar may refuse to grant a former student a transcript of his record, because the student wishes to use it to apply for higher education for which the registrar believes him unfit. When a protest is made against the registrar's action, the argument may resolve itself into whether or not the student is indeed unfit, rather than whether the registrar had the right to decide. A secretary may omit from the minutes of a meeting an item of business discussed at length because he believes that his superiors did not have the authority to discuss such a matter. The farrash seldom hesitates to express his opinion in discussions which he overhears, whether they be matters of routine administration or important policy decisions, and his advice may be heeded. Objectively determinable matters are frequently decided on the basis of relative eloquence. Even the Development Board is not exempt from confusion in the lines of responsibility: the heads of its technical sections (e.g., irrigation or industry) must request officials of equal rank that routine matters such as meeting payrolls be carried out. Personal enmity or mere procrastination can have disastrous effects upon development projects.

The third major defect of the government bureaucracy is the inadequacy of pay scales. This lowers morale, discourages efficiency, and forces employees to look for other sources of income through additional employment or dishonesty. Until June, 1956, a director general, second in rank to a minister, received a monthly salary, inclusive of high cost of living allowances, of 66–100 dinars, or $185–$280; an engineer, 56–100 dinars, or $157–$280; an accountant, 32–48 dinars, or $90–$133; and a typist, 19–30 dinars, or $53–$84. Iversen notes that, while government expenditures increased fourfold between 1936–37 and 1951–52, the cost of living in Iraq's urban areas increased fivefold to sixfold. At the same time, government employment was increasing. A significant decline in the purchasing power of the civil servant since the prewar period can be deduced.[10]

In June, 1956, salaries and daily wages of government employees were raised by amounts varying from 30 to 70 per cent. The regressive distribution of the increases over the wage scale was mitigated to some extent by the mildly progressive high cost of living allowances. While these increases are a step in the right direction, they still do not bring the earnings of civil servants to a level that would eliminate the temptation to seek additional income. Public employees are urban, literate people—the very group whose material aspirations have been rising most rapidly. Single-family dwellings with modern conveniences, automobiles, and many other amenities are still far beyond the reach of the majority if purchased on their salaries.

Why then do such a large proportion of Iraq's literate people enter and remain in the civil service? One of the most important reasons is that they receive many fringe benefits. The labor law, which has been in existence since 1936, is supposed to apply to industrial workers as well as to salaried government employees, but because of the weakness of the enforcement machinery its major application is to the latter. Under its provisions the worker receives ninety-two paid days off each

[10] Iversen, *op. cit.*, pp. 57–58.

year: fifty-two Fridays, twelve days of annual leave, twelve national and religious holidays, and sixteen days of sick leave. In addition, women receive six weeks of paid leave for childbirth. Compensation is paid for death, disease, or injury incurred as a result of employment, unless personal negligence can be proved; the maximum payment for death or total disability is two years' salary. A pension system for salaried government employees has been in existence since Ottoman days; the employee pays 6 per cent of his salary into the fund and receives up to two-thirds of his former salary, depending upon his length of service, when he retires. Certain semigovernment departments, such as banks and the railway, have their own pension systems. Only the few largest private undertakings have the accounting machinery necessary for effective social security. As a further benefit, government employees have heretofore received preference in housing. In many small towns, the only houses of relatively modern design are those built for employees such as military officers, administrative officials, teachers, and railway workers. Junior government officials compose a substantial percentage of the occupants of the first public housing project completed in the vicinity of Baghdad. The Mortgage Bank has assisted its employees in obtaining loans for building a block of modern houses, and a group of teachers have formed a housing coöperative. Though all these benefits are necessary for workers in a modern society, their confinement to civil servants tends to overstaff government offices and to encourage an economically unnecessary degree of public participation in industry.

A second reason for entering government service is that the work week of thirty-five hours or less does not preclude outside employment. The government work day is not broken by a lunch period but consists of six straight hours, at the end of which the employee is through for the day. Many medical doctors in government employ hold private clinics in the late afternoon, and other workers with skills in demand can find ample employment opportunities for their spare time.

A third, more insidious, reason for entering or remaining in public service is to take advantage of its many special privileges and opportunities. The cultural tradition of the Middle East does not condemn the giving and receiving of baksheesh; it has long been an accepted way of doing business. The tradition-minded person considers impartial instruments, such as the tenders utilized by the Development Board, as downright unfair. The district governor who sends a whole sheep to the kitchen of the local hospital, to be cooked there for a feast he is giving, does not consider his action dishonest but rather a privilege due his status. There are no specific written rules to define his privileges, and custom is on his side. Whether "taking care of one's own" family or tribe through any available means is a higher virtue than loyalty to one's national government is an ethical question which we do not care to debate. The point relevant to our argument is the effect of such practices upon economic development. Laws cannot be enforced so long as the enforcement officers can be easily bought off. Work on important projects tends periodically to come to a standstill as if by mutual consent, and the easiest way to start the work going again is to give baksheesh all along the line.

Iraqis are not inherently more dishonest than other people. Rather, their administrative organization lacks institutional safeguards to punish dishonesty and incompetence and to reward honesty and efficiency. The type of check in common use in Iraq unfortunately operates by impeding the entire operation rather than

by disciplining those found guilty of malfeasance. An amusing example is offered in a memorandum written to his chief in Baghdad by a foreign technician stationed in a rural area:

> Tractors stopped at eleven o'clock. Drivers stated that they were allowed only four gallons of fuel per day by M—— [the government agent in charge of supplies]. Discussed this with M——. He said that he did this because staff had been getting fuel from drivers for their personal use. I suggested that this should be handled by disciplinary action against those misusing the fuel instead of by stopping tractors . . .

Another example is the rule in government hospital kitchens that no food, not even staples such as salt or flour, may remain overnight. The purpose of this rule is to prevent pilfering by kitchen help, but as a result every commodity must be ordered every day. This necessity, combined with the regulation which specifies a different menu or number of grams of each food according to the rank of the person being fed, makes an obviously large amount of paper work. Because no literate person would work as a cook, an additional staff member may be required to keep the kitchen accounts. In many ministry offices, an official who wishes a pencil or a new light bulb must ring for the farrash who has the keys to the supply cabinet and may even have to sign for it; he will probably be asked to turn in the old bulb, to insure that he will not sell the new one. Too often, the answer is that this particular farrash is not at work today: "Cannot it wait until tomorrow?" The entire system of checks is based upon the assumption that anyone will take any material thing for which he is not held personally responsible, and that labor and time are worth very little. The idea that loss of 10 per cent of the paper and pencils might lead to more economical operation through heightened efficiency is quite foreign to the government service, because of the prevalence of underemployment. The farrash in charge of the supply cabinet would probably be hired anyway.

Some of the most laborious checks are inefficient in accomplishing their purpose. Despite the fact that several different agencies within the Ministry of Finance are empowered to audit the budget, the budget is never completely audited. The most thorough agency does only spot checks of a post-audit nature and often lacks documents, such as receipts, with which to check the statements of expenditures made.

The mission sent by the International Bank for Reconstruction and Development was given permission to study any phase of Iraq's economy, but was forbidden to investigate public administration. One cannot help suspecting that the opposition to reform is based on the many opportunities for dishonest acquisition of funds by personnel on all levels. If procedures were simplified and specified in writing, if impartial examinations were held to determine the ability of employees and potential employees to perform their clearly stated duties, much of the corruption would be eliminated. The individual reformer stands to lose his tenure in the civil service and all the attendant privileges. He is likely to be dubbed a troublemaker or even subversive by those who oppose change per se as well as by those who fear that their incompetence or dishonesty will be uncovered. Reform must come from unimpeachable sources at high levels, and thus far such sources have not recognized the damage being done to Iraq's development program by their failure to take action.

It was hoped that the bill increasing government wages and salaries, passed by

the Parliament in May, 1956, would raise the level of efficiency and honesty in government. But the low level of remuneration is but one of three major causes of inefficiency. First, the philosophy of the system must be changed. Qualified men must be hired to fill specific jobs, and a full day's work must be demanded of them. But the time of these people will be wasted if they continue to work, however hard, according to old administrative methods and with inadequate equipment. Therefore, second, administrative techniques and organization must be made more efficient. As in industry, efficiency does not necessarily mean highly mechanized operations, especially when labor is relatively inexpensive. The assistance of experts will be needed in administrative reorganization, but they cannot retrain every employee in the hierarchy. The intelligence and initiative of individuals can be relied upon, through incentives offered for efficiency and honesty. Bonding would eliminate countless inspectors, and inspectors of inspectors. Undoubtedly the new system would result in individual hardships, especially because of the overstaffing and underemployment in many offices. Illiterate office workers in particular would be eliminated, as they could not easily be retrained in new methods. However, urban industrial employment could absorb them, and night schools are available to those who wish to remain in white-collar work. Finally, the level of remuneration must be raised high enough to afford a decent life without outside employment or dishonesty, and the salary structure must reflect differences in duties and responsibilities. Any one of these changes taken alone will not remove this major impediment to Iraq's economic development.

Agricultural institutions.—By almost any standard, agriculture merits the highest priority in Iraq's development program. It is the occupation of the majority of the labor force. Aside from oil revenues, agriculture earns almost all the foreign exchange, and has the most extensive natural resources capable of development. The prevailing low levels of agricultural productivity go far to explain Iraq's poverty. Large-scale production of many industrial projects awaits the increase in rural purchasing power. Projects of irrigation, drainage, and flood control are the largest single items in the development budget, reflecting national recognition of the importance of agriculture. However, there is an unfortunate tendency to attempt to achieve agricultural development through capital expenditures alone. Dams, farm machinery, and rural roads are essential, but, along with these developments, the institutional barriers which have withheld scientific discoveries from Iraq's farmers must be removed. Until recent years, there has been no instruction in agriculture for rural areas. To send a village boy to school almost insured that he would remain in the city. The status system has prohibited educated persons from engaging in farming. Although there are at present a college of agriculture and several agricultural schools, most of the graduates of these institutions enter the government service. Even agricultural extension agents, a recent innovation, do not stray far from their offices in the cities and towns. Thus the fellahin remain cut off from the knowledge which they need if crop yields are to rise.

The underlying cause of the perpetuation of inefficient, unscientific farming practices is the system of land tenure. In the words of a United Nations expert on education who visited Iraq in 1950:

> The agricultural productivity of ... [Iraq] has fallen to an extraordinarily low level. The superficial causes of this lamentable state of affairs are primitive methods of husbandry, the lack

of application of power and science to the land, insufficiency of irrigational facilities and the misuse of those that exist. Until improved methods of cultivation, stock rearing, harvesting and marketing, accompanied by a sound system of agricultural education both in the schools and at the adult level are applied, there can be little prospect of the land of Iraq being that rich source of wealth through which the people may live more abundantly. *These improvements, however, are not likely to materialize under the existing land tenure system.*[17]

The predominant form of tenure in the irrigation zone, in which the majority of the population live, is a hierarchy of landlords (many of them absentee), their foremen, and fellahin. Under existing institutional arrangements no one group has both the incentive and the ability to provide farm management. While it would benefit landlords materially to take a smaller share of a much larger crop, the typical landlord is not accustomed to thinking in this way. His main preoccupations are collecting his share of the crop, hoarding grain for speculative purposes, and, if he is also the pump owner, the moneylender, and the agricultural middleman, collecting interest and fees which are often exorbitant. Investment to him means controlling more land, as his status depends upon the number of villages from which he collects rent. Moreover, the typical landlord is incapable of agricultural leadership. If he lives in one of his villages, he may be as ignorant and tradition-bound as his fellahin; if he lives in the city, he may be literate but will have no practical knowledge of agriculture. The foremen are interested in rising to the landlord class, with its increased prestige. Higher productivity is even less likely to originate with the fellahin, for their incomes are so low that investment, or even sufficient consumption for health and vitality, is impossible. Passive acceptance of the will of persons of higher status is part of the tribal tradition, as is unquestioning continuation of old methods of working. Moreover, the fellah has almost no material incentive to seek higher productivity. His income is unrelated to the effort he puts forth, and he has no assurance of continuing tenure. In fact, if he invests effort in improving his hut or plot of land he may make eviction more likely, inducing the landlord to place one of his relatives on the improved property.

Differences in farming practices between southern and central Iraq, where peasant proprietors are almost unknown, and the rainfall zone of northern Iraq, where there are many peasant proprietors and where landlords take a smaller share, indicate the role of incentive in agricultural productivity. Better plows and stronger draft animals are found in the north than in the south. The roller, commonly used for threshing in the rainfall zone, has recently been improved by the blacksmiths of Arbil—evidence that indigenous improvements can take place if ingenuity is rewarded and a surplus is available for investment. Because institutions in the irrigation zone do not encourage innovation among the fellahin, the tendency has been, as land values have risen, to bypass this sector of the population, and to jump from traditional methods of cultivation to highly mechanized ones. The number of tractors in the country has increased from 54 in 1951 to 258 in 1954, the number of cultivators from 43 to 126, and combines from 108 to 152 in the same period.[18] Some of these implements are privately owned; others belong to the Ministry of Agriculture and are rented to farmers. Mechanization will be a costly answer to Iraq's agricultural problems during the foreseeable future.

[17] United Nations, *Compulsory Education in Iraq*, p. 34. (Italics mine.) Doreen Warriner eloquently argues the same point in *Land Reform and Development in the Middle East*, chap. iv.
[18] Iraq, *Statistical Abstract, 1954*, p. 89.

Depreciation on farm machinery is exceedingly rapid, parts are difficult to obtain, and skilled labor for service and operation will be in short supply for a long time to come. The more feasible project of helping those already farming to obtain and learn to use simple, improved tools, such as substituting the scythe and cradle for the sickle, in addition to using stronger draft animals, fertilizers, improved seeds, and insecticides, has scarcely begun.

Farm credit institutions presently in operation tend to accentuate the polarization of Iraq's rural society. The Agricultural Bank, the agency in charge of public lending to farmers, operates under conservative regulations in regard to the security required for loans, and has no facilities for supervision of credit. Consequently, since its creation in 1937 it has been limited almost entirely to making loans to large landholders. Private moneylenders, the only source of credit effectively available to fellahin, lend for short-run consumption purposes at interest rates which tend to keep the fellahin constantly in debt.

The development of the present structure of land tenure out of the earlier tribal system, under which both Bedouins and fellahin enjoyed paternalistic protection through their sheikhs, has been attributed to the Ottoman or Mandate powers, or to the sheikhs themselves, whose rising standards of consumption have caused their exactions to increase and their services to diminish. There is truth to both claims. The Ottoman and Mandate powers, in their attempts to clarify confused land titles and to settle nomadic tribes on agricultural land, gave legal recognition to many doubtful claims and tended to assign tenure of hitherto semicollective tribal holdings to the ruling families of the tribes. Members of the tribes, accustomed to supplying services to their sheikhs in return for protection and guidance, considered it only normal and fair to continue giving up a certain percentage of their produce. As higher standards of consumption spread through the wealthy classes, many sheikhs moved to the towns, thereby eliminating the services they formerly performed and adding to their material desires. Means were sought and found to increase their share of the fellahin's crops over the 50 per cent customary in the irrigation zone. Relatively small investments in pumping machinery or in short-term loans for consumption were found to pay off many times over. Urban wage earners also contributed to the rising level of living of the landed families through the prices paid for hoarded grain in times of shortage.

The power of these families has become so great that their dispossession without violent political upheaval seems almost an impossibility. One attempt at partial dispossession was made in Amara liwa, the poorest and most backward region of Iraq, and source of much of the rural-to-urban migration. Land tenure there is so highly concentrated that, according to the Agricultural Census of 1952–53, the 8,312 square kilometers of agricultural holdings were divided into only 483 holdings, the average size being 4,260 acres as compared to 126 for the country as a whole. The liwa next in size of holding, Kut, in which the average was 676 acres, possessed one-third of Iraq's tractor horsepower. Amara, on the other hand, had only 1 per cent of the power, an indication that mechanization is not the reason for the great size of the Amara estates. In 1952 the same powers which had sponsored the creation of the Development Board attempted land reform in this liwa: they passed a bill which abrogated government leases in Amara and divided the lands, giving half to the sheikhs and half to some of the fellahin. The sheikhs,

unable to block passage of the law, retaliated by turning off large numbers of fellahin who had not received government land. Many of these families went to Baghdad and Basra in search of employment and added to the slums of reed huts on the outskirts of these cities. This migration had been proceeding long before the 1952 law. In the Census of 1947 it appeared that one-fourth of the people born in Amara liwa were in that year living outside it.

It is unfair to blame the land tenure situation alone for the sizable and continuing rural-to-urban migration. Two other factors may contribute to the migration which is filling Baghdad's and Basra's slums with impoverished migrants from southern Iraq. First, the migrants probably represent in part the rapid increase in population of recent decades. It cannot be said whether there has been a net loss in rural population until the returns of the Census of 1957 have been analyzed. Second, while soil salination through the centuries has caused a decline in the productivity of irrigated land, recently, as population density has increased, migration to uncultivated land has become more difficult. In Amara, rice cultivation has been restricted as the layers of silt laid down by the rivers have raised the level of the land in many regions above the point where it can be flooded naturally; deprived of its yearly layer of silt, the land rapidly becomes salinated as it is planted to wheat and barley under pump irrigation without drainage.

Sheikhs in various parts of the country are already complaining of shortages of agricultural labor. As more land is brought under cultivation, this shortage will become more rather than less acute if the existing tenure structure and farming methods are extended onto the new land. The Miri Sirf land development program was designed to settle newly developed land with former fellahin, but, because of administrative and other difficulties, its total impact has remained small. Mechanized farming of large estates owned by wealthy urban interests may become the dominant means of rationalizing farming. One cannot help wondering what kind of political institutions would be built by a society lacking democratic traditions in which the majority of the population are rural proletariat.

An alternative method of raising agricultural productivity which would also build a healthy rural society would require four types of institutional change. First, the earnings of the fellahin must be related to the effort put forth. The system which tends to depress their incomes to just the point below which life would become impossible must be replaced by a system of remuneration which rewards ingenuity and efficiency. It is a corollary that the percentage taken by the landlords must at the outset be smaller, for ingenuity and efficiency cannot be expected from people who are on the verge of starvation. The landlords need not necessarily be dispossessed, but they must be made to realize that taking 10 per cent of a much larger crop can be more remunerative than taking 50 per cent or more of a crop produced without the aid of modern science. Second, the fellahin must have reasonable security of tenure in order that they may have confidence in regard to reaping the benefits of long-run improvements. Third, they must have credit sufficient to liquidate accumulated debts and to keep them free from moneylenders in the future. At the outset at least, the credit must be supervised because of their lack of experience in budgeting and planning. Fourth, a practical system of agricultural extension and rural education must be instituted throughout the country, to bring the scientific discoveries of recent centuries to Iraq's farmers.

The first two points would supply the incentive for improvement and the last two the means.

If agricultural productivity is to be raised by such a program, it must be on a scale commensurate with the irrigation works presently planned and under construction. It must reach land already under cultivation as well as newly irrigated lands. The vested interests in the *status quo* who for material or traditional reasons block the institution of such a program remain as Iraq's major development problem.

Population growth.—Iraq's population is small and sparsely distributed at present, but has a potential for rapid growth in its tenaciously high fertility and declining mortality. The beginnings of acceleration of natural increase are already visible and can be deduced a priori from the recent spread of improvements such as purified water, with their immediate and dramatic effect upon mortality. Iraq's planners need not fear the serious difficulties that such a "population explosion" brings in countries in which population is already dense when natural increase begins to accelerate through economic development, in which undeveloped natural resources are not abundant, and in which the amount of funds for capital formation is severely limited by consumption needs. However, a high rate of population growth places a certain burden upon an economy which is developing even under conditions as favorable as those found in Iraq. A much larger percentage of the population is below the productive ages than in countries in which growth is less rapid. These children must be supported, and, if they are to become useful to their countries, they must be educated. Moreover, because reduction of mortality does not reach all regions and social classes simultaneously, a large number of children are born who do not live through the productive years.

The validity of the argument that rapid population growth impedes economic development by reducing the amount of capital available per worker[19] depends upon the definition of capital. If capital is viewed as a subsistence fund and agricultural underemployment exists, capital formation can take place through organizational changes alone. The redundant workers can be employed in building roads, irrigation works, and similar external economies. The problem remains, however, of extracting the surplus—that is, of persuading or forcing the reduced agricultural labor force to consume no more per capita than it did formerly. Iraq's fellahin are so poorly nourished that it is doubtful whether they would have the stamina or the will to employ themselves more fully without being rewarded with improved housing, more and better food, purified water, medical care, education, and similar amenities.[20]

Those who have studied Iraq's economy agree that the resources, properly mobilized, could support any reasonable rate of natural increase at rising per capita income in the foreseeable future. The International Bank Mission reported: "There is little doubt that the country can ultimately maintain a much larger population on a considerably higher standard of living."[21] Lord Salter wrote:

[19] See Singer, "Capital Requirements for the Economic Development of the Middle East," *Middle Eastern Affairs*, III (Feb., 1952), 35; and Spengler, "The Population Obstacle to Economic Betterment," *American Economic Review: Papers and Proceedings*, XLI (May, 1951), 350–351.

[20] This general phenomenon is described by Nurkse as a leakage from the subsistence fund. *Op. cit.*, pp. 32–49.

[21] International Bank for Reconstruction and Development, *The Economic Development of Iraq*, p. 1.

"... there can be no doubt that the new water and irrigation schemes, together with the general economic activity which increased agricultural production will encourage, and the industrial development contemplated, will be enough not only to absorb the present labour force but any increase in it there is likely to be for many years to come."[22] However, to argue whether Iraq is at present underpopulated or overpopulated would be futile. In the first place, as the formulators of the optimum theory recognized,[23] whether any given population falls short of or exceeds its optimum is empirically undeterminable. Modern refinements have not changed the essentially static nature of the theory. The optimum size of any population is that which, given all the technical and institutional conditions affecting production, would produce a maximum real per capita income (or a maximum of any other value); by its very nature, it would shift with every slight change in any of these conditions. Neither poverty nor unemployment is a clear indication of the direction in which a population departs from the optimum. Low or falling real income may reflect a low or falling maximum possible income; unemployment can be caused by institutional or technical change which in itself will cause the optimum to shift. While one can say that a densely peopled country such as India, which has an exceedingly low per capita income and extensive underemployment, is probably overpopulated, rigorous empirical application of the theory is impossible.

A second and more serious flaw in the optimum theory is that it focuses attention on the wrong issues. The important variables—those requiring policy and action in underdeveloped countries—are included in the *ceteris paribus*. They include the low level of domestic savings in such countries and the tendency to withhold funds which are saved from productive uses, the dearth of technical and administrative skills among the labor force, the absence of external economies, and the lack of incentives for higher productivity, especially in agriculture as the most important sector of the economy. To hold constant crucial factors such as these and discuss the size of the population implies that it should be an object of policy. Yet the high level of mortality is one aspect of Iraq's underdeveloped nature which is receiving large-scale and effective action, because of the almost universal agreement that it should be lower. If similar purpose and energy were concentrated on removing the institutional barriers to increased productivity, per capita income might be permanently raised despite a high rate of natural increase. Fertility is not a matter of public policy in Iraq, as it is in other underdeveloped countries, but it does not constitute a barrier to rising per capita income as it does in countries in which population presses heavily on resources. The same passive acceptance of fate and the negative value placed on change which depress productivity help to maintain birth rates at high levels. An over-all program of economic development designed to teach the principle of cause and effect would have an immediate impact on the quantity and quality of output and, after a generation or two, would undoubtedly cause fertility to decline. So long as population growth continues to accelerate, it increases the rapidity with which institutional change is required, but it cannot be named as a major obstacle to the economic development of Iraq.

[22] Salter, *op. cit.*, p. 32.
[23] Robbins, "The Optimum Theory of Population," *London Essays in Economics.*

CHAPTER VIII

CONCLUDING OBSERVATIONS

THE MODERN SCIENCE of economics originated in early capitalism and has been modified as capitalism developed from workshops—which inspired Adam Smith to write about the benefits to be derived from the division of labor—to automated plants. As a science, economics consists of a set of deductions drawn from certain hypotheses, or postulates, which are presumably based upon empirical fact. Among these postulates, rational calculation for the purpose of maximizing profits or utility is the foundation stone. Economics can be used on various levels to understand the workings of an economy, to predict future phenomena by deductions from assumed conditions, or to formulate economic policy. But the validity of the complex theoretical structure which has evolved is limited to economies in which the basic postulates are descriptions of reality.

What does economics have to say about countries inhabited by two-thirds of the world's population in which a large portion of the national product never enters commercial channels, in which production and consumption are carried out in stereotyped ways without conscious calculation concerning maximization or any other end? As taught in universities in underdeveloped countries, economics is frequently an unholy union of Western economic theory—which the students learn by rote because they have little conception of the institutional framework which it presumes—and *ad hoc* policies, the theoretical bases of which are at best institutional analogies between the economies in question and those of Western nations. For countries in which the industrialization process is just beginning, sound policy requires a realistic theory of economies in transition. Is such a theory possible? Or is the combination of institutional conditions of each transitional economy so nearly unique as to defy generalization?

One possibility might be to derive a unified economic theory from a single set of basic postulates which all economies have in common.[1] For example, all people face scarcity of some resources necessary to human life and are forced to allocate them among competing demands. It can be argued—albeit tautologically—that the most primitive people maximize the satisfaction which they derive from their allocation of scarce resources, even if conscious calculation is absent, in that obedience to tradition constitutes satisfaction for them. However, the possibility of choice between alternative modes of action has led to a pace of technological advance in industrial economies which would be impossible elsewhere. Again, no one would deny that certain wants are culturally defined for all peoples, but the fact that wants among some peoples are constantly being modified in itself produces unique institutions. All people invest, in the sense of devoting some of their resources to the production of capital goods. A wooden plow is a capital good, as is an atomic reactor, but the institutions congruent with them are worlds apart. Specialization, with the consequent necessity to exchange, is present in all economies, but it ranges from the division of labor between the sexes among the most primitive people to complex markets in which a man can earn his living advertising ball bearings to be sold to manufacturers of machine tools. The differences in the

[1] See Herskovits, *Economic Anthropology*, especially chap. i, for a discussion of economic characteristics of primitive societies.

way in which these common characteristics apply in preindustrial and in industrial economies are so great that any theory based upon them would be too general to be useful. A theory which will serve as a useful guide to policy in preindustrial and transitional countries must take account of the institutions in which their special problems are rooted.

A second possible basis for an economic theory pertaining to such countries might be their striking social similarity to preindustrial Europe. Perhaps Adam Smith, Thomas Malthus, and David Ricardo, born on the eve of England's Industrial Revolution, unwittingly predicted the path along which countries now beginning to industrialize will travel. The "iron law of wages," which states that wages tend to be depressed to the subsistence level, is approximately true among Iraq's agricultural laborers. The social causes of this phenomenon are probably the same in Iraq as they were in eighteenth-century England: an illiterate labor force in a poor bargaining position and, among employers, an unquestioning acceptance of customary low productivity. Given these conditions, the pressure of population upon limited agricultural resources (which, according to Ricardo and Malthus, is the cause of poverty) would tend to depress wages to a subsistence level. The wages-fund doctrine may state an approximate truth with respect to workshops in underdeveloped areas which employ a number of laborers without highly mechanized methods of production and which do not have access to long-run capital. The number of laborers might then be roughly correlated with the wage rate. However, this observation cannot be generalized to an economy-wide inverse correlation between the wage rate and the supply of industrial labor, because many savings do not enter the wages fund, and because at least some entrepreneurs can effectively choose between increasing employment or capitalization in expanding their scale of production. Certain points in classical economic theory have relevance to transitional economies today largely because of the preindustrial characteristics persisting in these economies as they did into the nineteenth century in Europe. But if the all-endogenous systems of the classical economists did not embody all the necessary assumptions for theories relating to their own times, much less do they embody the assumptions relevant to a twentieth-century theory of development.[2]

Historical conditions render it impossible for countries now beginning industrialization to follow in the footsteps of those already industrialized. The fact that the society of most underdeveloped countries is dualistic—that prolonged contact with the West has brought elements of Western technology and ideas to some portions of their populations—has meant that, to the extent that these countries resemble the industrialized West, their resemblance is to the twentieth rather than the eighteenth century. One of the most troublesome consequences is the ease with which standards of consumption rise in developing economies. The consumption of workers can be depressed, as it was in the early decades of the Industrial Revolution, only by rigorous controls, which may range from regressive taxation to banning the Montgomery Ward catalogue as a subversive document. Fortunately, just as higher levels of living need not await the invention of a myriad of consumption goods, so techniques of more efficient production are also waiting to be

[2] For a discussion of the relevance of classical economic theory to economic growth, see Lowe, "The Classical Theory of Economic Growth," *Social Research*, XXI (Summer, 1954), 127–158.

adopted. As a result, developing economies tend to pass directly from the technology of the Middle Ages to that of high capitalism.

Modern technology is more easily adopted than are modern social institutions. In the absence of capital markets and external economies, governments must initiate large-scale ventures and they soon acquire the habit of administering even where private enterprise could operate. The strong moral tone of European medieval economic thought waned as classical and neoclassical theorists turned their attention to an explanation of the workings of a free competitive price system, but it has returned with the growth of large-scale industry and the extension of government controls in capitalist economies. Economies that have industrialized relatively recently have tended to bypass the period of *laissez faire* and pure competition, which existed to a degree in the West during the nineteenth century. Political dangers are inherent in the extension of the role of the state in economies where democratic traditions are lacking. If the government with its increased power remains in the hands of the old landed and merchant families, the polarization of society is perpetuated. The lower classes, desiring a better way of life but lacking the means of obtaining it for themselves, look to the government or to any other power that will promise what they wish. Restrictions on personal liberty are tolerated if they are accompanied by improvement in material welfare. It is apparent that the democratic institutions associated with capitalism in the West are not necessary or even probable consequences of industrialization today.[3]

The demographic results of the beginning of industrialization create further political dangers and preclude the possibility that a developing country will follow the path of the industrialized West. One of the immediate results of modernization is falling mortality—a consequence of a more rational view of life as well as of specific improvements in health and sanitation. The detailed studies of G. Talbot Griffith[4] have shown that the increasing population density which alarmed Malthus was the product of falling mortality in a period when the real incomes of workers were not rising rapidly, if at all. Later, as the benefits of industrialization spread through the population, death rates declined more rapidly. Fertility eventually adjusted to the changed conditions of mortality, but not until the descendants of Western Europeans had populated several hitherto almost empty continents.

Today there are no countries both willing and able to absorb millions of immigrants. The populations of some Asian countries have become so large that emigration on a scale that would appreciably affect domestic conditions of life could not be assimilated by the receiving countries. Fearing social modification by unassimilable immigrants who bring a folk culture with them, one industrialized country after another has erected barriers to immigration which discriminate against underdeveloped countries. As a result, rapidly increasing populations are bottled up within their boundaries. Unless national income can keep pace with population growth, per capita income must fall. Agricultural holdings become fragmented, underemployment increases, and slums inhabited by illiterate, unskilled, discontented people grow and fester on the outskirts of cities. The sense

[3] The political ramifications of economic development constitute the subject matter of Staley's *The Future of Underdeveloped Countries.*

[4] Griffith, *Population Problems of the Age of Malthus.*

of fatalism characteristic of tradition-minded people is given a rational basis, and those who hope for something better look to strong political powers to give it to them. The most difficult population problems are encountered in partially developed countries where indigenous or colonial ruling powers have instituted measures to reduce mortality while nurturing folk traditions—whether out of a sentimental concern with preserving the past or a selfish desire to maintain these countries as primary producers and markets for manufactured products.

In summary, countries undergoing economic development today face problems very different from those of Western Europe and North America during their industrialization. If neither economic truths nor historical analogies serve as the basis for a theory of development, is there any basis for such a theory? What is wanted is a formulation of the conditions under which real per capita income will rise, taking account of historical backgrounds and the special institutions found in transitional economies. Many of these variables are held constant—that is, eliminated—in modern economic theory. Because theorizing becomes impossible if every relevant factor is varied at the same time, empirical studies are necessary to indicate the appropriate assumptions upon which a theory of development can be based.

This work constitutes an empirical study of one economy just beginning the development process. The data upon which it is based contain many gaps and biases of unknown magnitude. As Professor Leibenstein has demonstrated,[5] rigorous empirical testing of theories of development is rendered difficult, if not impossible, by the absence of reliable quantitative information as a ubiquitous characteristic in the syndrome of the underdeveloped state. Any generalizations drawn from this study of Iraq must be regarded as tentative hypotheses that require testing. Further difficulties in generalizing arise because the very factors that allow Iraq's development to be rapid—the magnitude of unused resources relative to population size and of the funds available for investment—are atypical among underdeveloped countries.

One conclusion which may be reached from observation in Iraq is that any theory of development must be almost entirely on the level of policy. That is, it will have the form "If you wish *x*, *y*, and *z*, then you must do *a* and *b* and avoid *c*," rather than the form "If *a*, *b*, and *c*, then *x*, *y*, and *z*" typical of neoclassical economic theory. The reason is that the initiation and execution of rapid economic development cannot be automatic. Even if the majority in underdeveloped countries were willing to wait for the evolution of capitalist institutions and to tighten their belts during the first few decades of capital accumulation—and they are not willing to do this—underdeveloped countries, because of differences in technology and markets and the absence of geographic frontiers, could not follow in the path of countries which industrialized early. The political crisis requiring rapid alleviation of poverty is analogous to total war or cyclical unemployment in its proportions and its hazards; and both of these circumstances have forced Western countries to abandon the price system as the means of allocating resources and distributing income. A special problem exists for underdeveloped countries in that, although the need for planning is greater than in more highly developed

[5] Leibenstein, *A Theory of Economic-Demographic Development.*

countries, the administrative machinery is far weaker. Administrative reform must therefore be given priority in development plans.

Planning can operate for good or bad, depending upon the goals of the planners and the wisdom with which plans are made and carried out. Social philosophies enter in the evaluation of policy goals. We assume that the foremost aim is a rapid and self-sustaining increase in per capita real income, not because we believe it to be the only component of human welfare but because it is the expressed goal in most development plans, including those of Iraq.

What, then, are the conditions under which per capita real income will rise? Because the primary cause of poverty in underdeveloped countries is low productivity, the over-all aim must be to raise the levels of productivity throughout the economy. Simon Kuznets is correct in his assertion that differences in the degree to which science is applied to technology account in large part for international differences in productivity and real income.[6] Agriculture, as the largest sector of preindustrial economies, should receive the largest expenditure of effort, but marketing and processing of agricultural products, power, transport, communications, manufacture, repair and maintenance, commerce, and service trades all require rationalization. Administration cuts across all categories of economic activity, and failure to attend to its rationalization can block otherwise successful operations. Social as well as technical sciences must be included in the calculation of the techniques and processes to be adopted. It is not scientific to plan operations that require workers to use techniques which conflict with deeply held mores unless the deliberate changing of those mores is part of the plan. Economics is a science also, and the relative price structure must be considered in the calculation of factor proportions. It is seldom true that the most highly mechanized operation is the most efficient.

Low productivity is maintained in underdeveloped countries by a vicious circle: it causes the poverty which precludes a rate of investment that would raise productivity. A successful economic development might be viewed as turning a horizontal circle into an upward spiral. It requires self-sustaining sources of investment funds. Mere injection of money into a preindustrial economy is no better as a long-run solution to poverty than is emigration from a population held in check by mortality. The many remaining obstacles to economic development in Iraq, despite the availability of more foreign exchange than can currently be spent, indicate that shortage of capital is not the only major problem, although it is the immediate one for many countries. When it is removed, other problems come to the fore, in the absence of institutions necessary to initiate and support a cumulative process of economic expansion—or, to use Eugene Staley's word, to cause the development process to "take."[7] These institutions include a trustworthy banking system and a capital market; efficient accounting systems and impartial law enforcement, in order that individuals will be willing to invest in enterprises which they cannot personally control; an increase in governmental honesty and political stability, in order to reduce the risks of investment to the point that investors will not demand an immediate and excessive return; the teaching of new

[6] Kuznets, "International Differences in Income Levels," *Economic Development and Cultural Change*, II (April, 1953), 3–26.

[7] Staley, *op. cit.*, p. 203.

and improved techniques to workers and farmers and an increase in labor mobility; and rewards for efficiency and ingenuity throughout the economy, but especially in agriculture and public administration.

One of the major problems of rapid development is that governments neglect the creation of institutions which will harness the energies, intelligence, and integrity of their people. The assumption that anything the government does not do will not be done is an understandable outgrowth of the necessity to plan. In consequence, the civil service swells, and individuals fail to learn that they can control their own destinies. If the village clinic merely gives antibiotics and inoculations, its influence carries no farther than the boundaries of the village and ends if the clinic should be discontinued, but if a lecture on the causes of illness is given with each treatment, the efforts of the clinic are multiplied. If latrines and wells are dug in rural areas by machines sent out from the cities, villagers will continue their unsanitary practices while waiting for the government to come to their village. If earnings of agricultural and industrial laborers bear little relation to their skills and efforts, they do not acquire the habit of looking for better ways of working. If there are opportunities for dishonesty in government, if offenders are not punished, and if honesty goes unrewarded, numerous inspectors are necessary; but, because the inspectors are subject to the same temptations, the net effect is simply to make impossible the expeditious handling of any matter. As a result of the philosophy which uses treatment rather than prevention, paternalism rather than self-help and coöperation, and compulsion rather than incentives, human resources are wasted, and democratic forces are thwarted.

Experience in Iraq indicates that there can be no safety in turning back when the development process has started. Values from the West, particularly consumption demands, are not easily abandoned once adopted. The misery which fellahin have suffered uncomplainingly for millennia suddenly becomes intolerable when alternatives—even unrealistic ones—are sighted. Recently acquired aspirations of the general population are better health and longer life. Justice Douglas, in his travels through the Middle East, found medical care on the top of the list of peasants' desires, followed by education, land reform, and political democracy.[8] When the old equilibrium of high fertility balanced by high mortality is abandoned, a period of rapid natural increase begins. This "population explosion" can be ended either by the adoption of fertility patterns in harmony with longer average life or by the eventual rise of mortality as a dense population presses upon limited resources. Because the latter alternative is unacceptable today to people in developing countries, the only solution is to move as rapidly as possible toward a new equilibrium of low vital rates, through measures such as education for women and encouragement of the nuclear family as part of national policy. At the same time every effort must be made to increase labor productivity. Even so, the pressure of increasing numbers with no safety valve of emigration is great in countries in which population is relatively dense before economic development begins. At the outset of development the population of Iraq is so small that no excessive density need result. However, present methods of agricultural production in Iraq are legacies of a sparse population and are wasteful of both land and water. These resources, although abundant, are not unlimited. Therefore, as popu-

[8] Douglas, *Strange Lands and Friendly People*, p. 316.

lation becomes denser, new techniques of agricultural production must be adopted if even present levels of consumption are to be maintained.

Another factor in the development process that cuts off retreat is the decreasing importance of kinship systems. The social and emotional security formerly provided by the extended family and the tribe is weakening, and artificial forms must be provided in new institutions compatible with a different way of life. Landlords, although they may still be called sheikhs, are less concerned about the welfare of their fellahin. If injustice is not to increase, legislative protection must be provided for fellahin. If parents no longer have many sons to support them in their old age and the paternal household is broken into a number of nuclear families, pension systems and social insurance become necessary. Similarly, the discipline formerly provided by kinship ties, through a rigid patriarchy, is waning. It must be replaced by social responsibility and loyalty to some larger institution, such as the nation, if anarchy is not to ensue.

Given the material aspirations of Iraq's people, the planners have little choice but to move toward rationalization of all economic processes, attempting through wise planning to replace the institutions that now obstruct development by others that are compatible with a rising level of living. If the vested interests in the old society succeed in preventing such adaptation, the economy will not achieve the state of development which Iraq's people expect from their natural and human resources.

APPENDIX: ARABIC WORDS AND PLACE NAMES IN IRAQ

ARABIC words and place names have appeared in this work unitalicized and without accents or doubled vowels to indicate long vowels in the Arabic spelling. Alphabetical lists, together with the long vowels and meanings, appear below. The Arabic spelling was taken from Elias' dictionary,[1] or, for colloquial words, from their customary local pronunciation. The system of transliteration is my own simplified adaptation of that suggested by the Royal Institute of International Affairs.[2] Case endings have been omitted throughout. The *ta* of the feminine and the definite article have been omitted except in nouns in construction (Basra rather than al-Basrat, but 'Arasat al-'Asima), or, when the noun is modified by an adjective, the definite article has been used (al-Karrada ash-Sharqiya). When the common rather than the literary spelling has been used in the text (Iraq rather than 'Iraq, sheikh rather than shaikh), the common spelling appears in parentheses.

ARABIC WORDS

WORD	MEANING
Allāh	God
bāb	door, gate
bādiya	desert, wilderness
badwī	nomad
badwīn (Bedouins)	plural of badwī
burdāya (purdah)	a curtain; hence seclusion of women
(Caliph)	*see* Khalaf
dīnār	Iraq's unit of currency, equal to a pound sterling
fallāh (fellah)	peasant
fallāhīn (fellahin)	plural of fallāh
farrāsh	unskilled employee in office
fasl	compensation for injury according to tribal law
fils	one-thousandth of a dinār; a small coin
harīm	a forbidden thing; hence women's quarters of a house
Imām	Shi'ite leader
Islām	the Muslim religion
istihlāk	tax on sale of agricultural commodities
jinn	genii; evil spirits
Khalaf (Caliph)	successor, specifically to the Prophet; leader of Muslims
liwā	largest geographical subdivision in Iraq
Ma'dān	marsh dwellers in southern Iraq
mahalla	quarter of a town
(Miri Sirf lands)	lands owned by the government. Miri is from amirīya, "pertaining to the crown." Sirf means "pure."
Muharram	Shi'ite religious period of ten days each year
mukhtār	political chief of a mahalla or qarya
Muslim	Moslem, a person subscribing to Islam
mut'a	enjoyment; hence a temporary marriage
nāhiya	geographical subdivision smaller than a qadā
(purdah)	*see* burdāya
qadā	geographical subdivision smaller than a liwā
Qarīna	female devil
qarya	village
Qurān	Koran, sacred book of Muslims
Ramadān	Muslim month of fasting
sarīfa	hut of reeds and mud
shaikh (sheikh)	tribal leader; old man; landlord

[1] Elias A. Elias, *Elias' Modern Dictionary, Arabic-English* (6th ed., Cairo: Elias' Modern Press, 1953).

[2] Royal Institute of International Affairs, *Survey of International Affairs, 1925* (London: Oxford University Press, 1927), I, ix–xii.

Arabic Words (*Continued*)

WORD	MEANING
Sharī'a	Sacred Law of Islam
Shī'a	one of two major sects of Islam
Sunna	orthodox sect of Islam
wādī	dry riverbed, seasonally flooded
waqf	principle of entailment of property for a religious or charitable purpose

Place Names in Iraq

NAME	EXPLANATION
Abū Dibis	large natural depression west of Euphrates
'Amāra (Amara)	city, liwā on southern Tigris
'Arasāt al-'Āsima	area beyond Baghdad city's eastern dike
Arbīl	city, liwā in rainfall zone
A'zamīya	northern suburb of Baghdad city
Bāb al-Mu'azum	North Gate of old city of Baghdad
Bāb ash-Sharqi	South Gate of old city of Baghdad
Baghdād	capital city, liwā in central Iraq
Ba'qūba	city, center of Diyālā liwā
Basra	city, southernmost liwā, on Persian Gulf
Dijla (Tigris)	river
Diwānīya	city, liwā on southern Euphrates
Diyālā	liwā partially in rainfall zone, river entering Tigris below Baghdad
Dowra (Daura)	town south of Baghdad, site of new refinery
Dujaila	canal, land settlement project in Kūt liwā
Dulaim	liwā on upper Euphrates
Furāt (Euphrates)	river
Habbānīya	lake west of Euphrates
Hilla	city, liwā on central Euphrates
Hindīya	town on Euphrates, site of barrage
Hīt	town on upper Euphrates, Dulaim liwā
'Irāq (Iraq)	country
Jabal Sinjār	hilly region of Mosul liwā inhabited by Yezidis
Jazīra	desert between Tigris and Euphrates north of Baghdad
Karbalā	city, liwā west of central Euphrates
al-Karrāda ash-Sharqīya (Karrada)	southern suburb of Baghdad city
Kāzimain	city in Baghdād liwā
Khānaqīn	town in Diyālā liwā
Kirkūk	city, liwā in rainfall zone, containing major oilfields
Kūt	city, liwā on Tigris below Baghdad
Muntafiq	liwā on southern Euphrates
Mūsul (Mosul)	city, liwā on upper Tigris in rainfall zone
Nāsarīya	city, center of Muntafiq liwā
Najaf	city in Karbalā liwā
Qurna	town in Basra liwā at junction of Tigris and Euphrates
Ramādī	town, center of Dulaim liwā
Rutba	border station in Syrian desert
Sāmarrā	town in Baghdād liwā on upper Tigris
Samāwa	town in Diwānīya liwā
Shatt al-'Arab	river below junction of Tigris and Euphrates, entering Persian Gulf
Sulaimānīya	Kurdish city, liwā in rainfall zone
Sūq ash-Shuyūkh	town in Muntafiq liwā

Place Names in Iraq (*Continued*)

NAME	EXPLANATION
Wādī Thārthār	large natural depression in Jazīra
az-Zāb al-Kabīr (Greater Zab)	river tributary to Tigris
az-Zāb as-Saghīr (Lesser Zab)	river tributary to Tigris
Zubair	town in Basra liwā

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