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GEOGRAPHICAL ASPECTS OF RURAL MIGRATION FROM AMARA PROVINCE

IRAQ, 1955 - 1964.

BY

MAKKI MUHAMMAD AZEEZ

A Thesis Submitted for the Degree of Doctor of Philosophy
in the University of Durham, April 1968.

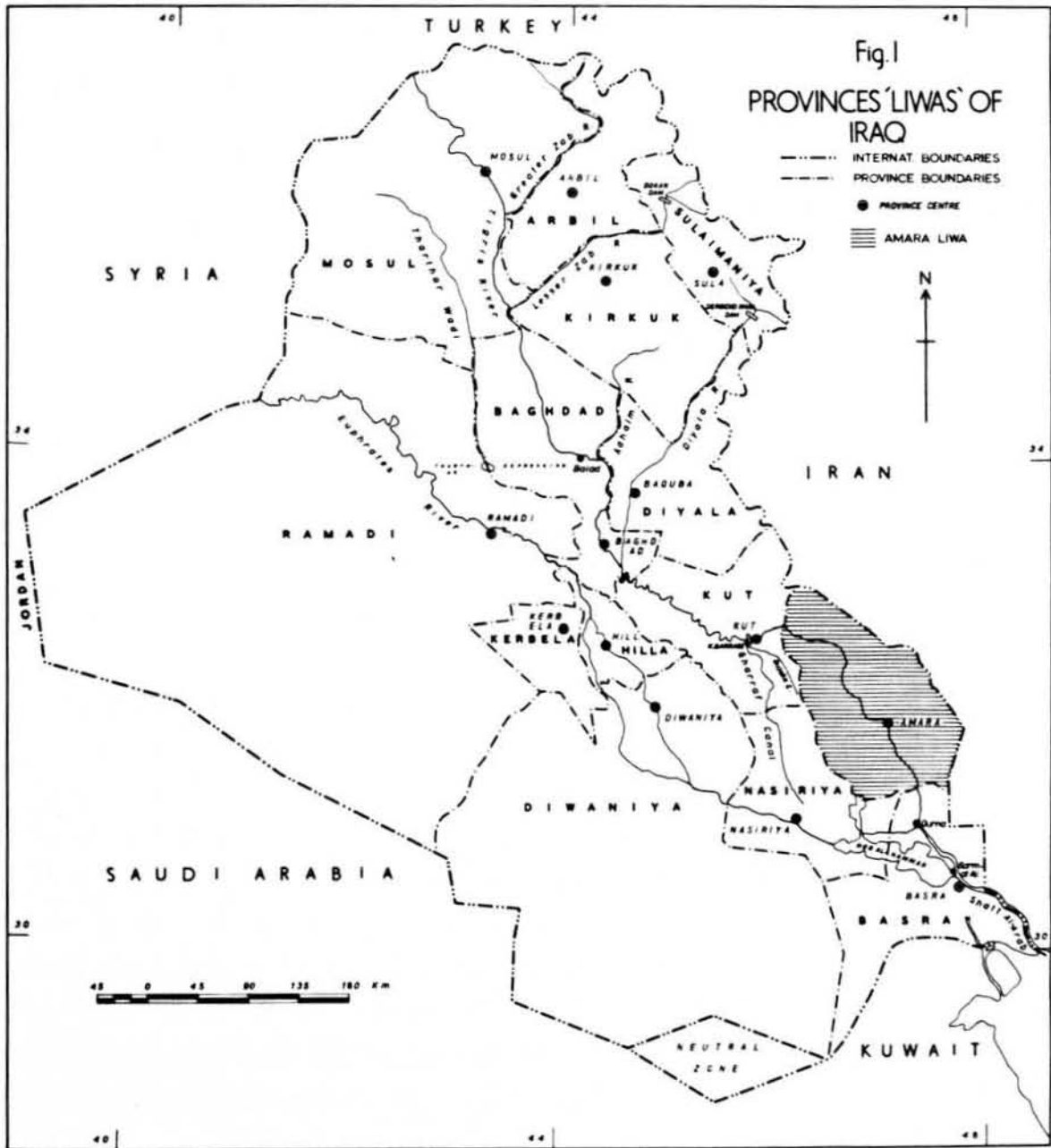
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PREFACE

Rural-urban migration is a world-wide phenomenon, particularly in developing countries where rapid economic and social transformation creates great opportunities for employment, usually in big towns and cities. In the African countries south of the Sahara, for instance, where the population pressure on the agricultural resources is high, labour migration is widespread. People from the country-side usually emigrate to the big industrial and commercial centres for a certain time to make money, then go back to their villages. Others leave their rural communities because of tribal troubles or because of the exhaustion of natural resources in traditional homelands. Though the total number of rural migrants in these countries is sometimes regarded as quite small, the consequences of the rural displacement on both the region of origin and the place of destination and on the migrant himself are obviously important.

The rural-urban movement of population both great and small over long and short distance is one of the most remarkable features of Iraq at the present time. Great economic changes have influenced the development of labour movement and attracted considerable numbers of people from rural areas. But rural inhabitants also move to urban centres to escape from poor conditions in their villages. Almost all the rural areas in Iraq have lost a number of their dwellers to the large urban areas. Nevertheless, the largest migration is normally from the southern provinces of Iraq and especially from Amara Province where the socio-economic standard of the cultivators is the lowest in the country.

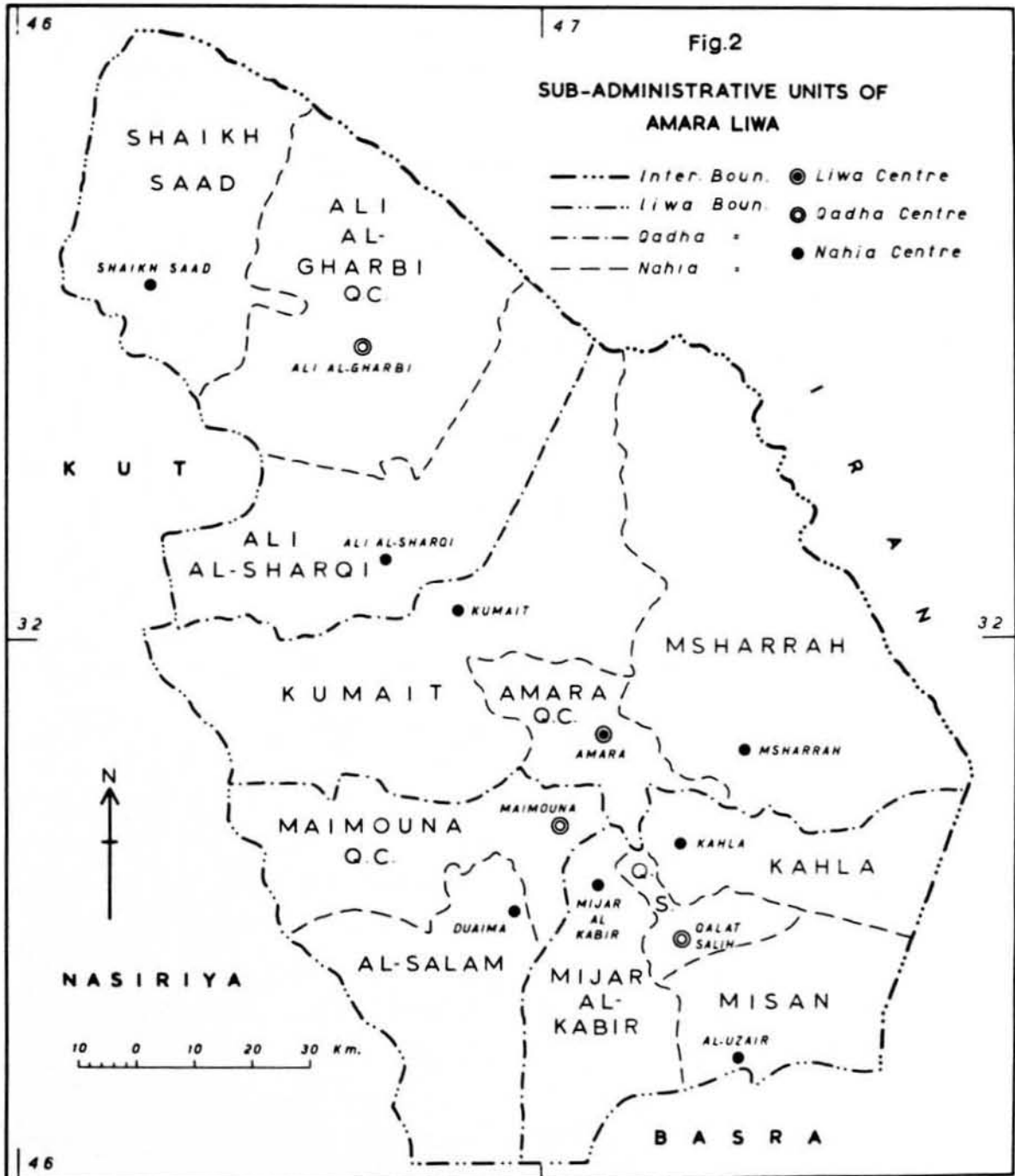
The two largest urban districts in Iraq (namely Baghdad in the centre and Basra in the south) are prominent foci



for the concentration of rural peoples. Baghdad, however, has been for a long time the real magnet to the majority of people from the rural communities. In 1957 there were about 190,000 persons living in Baghdad and born in the five southern provinces of Iraq. About 60 percent of them were born in Amara.

Amara is one of fourteen provinces which constitute modern Iraq (Fig.1). The province is divided into four major sub-administrative units or Qadhas. These Qadhas are sub-divided into eleven smaller units called Nahias (Fig.2). Amara occupies the south-eastern corner of the country in the lower basin of the Tigris river and extends between latitudes $31^{\circ}.15'$ and 33° N and between longitudes 46° and $47^{\circ}.15'E$. This region is bounded by Iran to the east and north. Kut province to the west and by Nasiriya and Basra provinces to the south. With an area of nearly 18,000 sq.km. Amara contains within its boundaries the largest seasonal and permanent marshes and swamps in Iraq, about 30 percent of the total area. The majority of the population, about 75 percent is rural engaged chiefly in agriculture, whereas the town dwellers constitute only a small proportion, concentrated in the provincial capital and the few other small towns. Towns in Amara are the small centres of the sub-administrative units with populations ranging between about 2,000 and 5,000 inhabitants. These centres can be regarded as big villages with some urban functions - a police post, one school or more, administrative offices and sometimes supplied with electricity. Apart from these centres there is the provincial capital, Amara, which with a population of over 50,000 people and more administrative, economic and educational activities can be regarded as a true urban centre.

This vast region is sparsely populated compared with the adjacent provinces. The absolute density of population in this region is the lowest in the flood plain of Iraq, about 18



persons per sq.km., which is equal to $\frac{1}{10}$ that of Basra province. At the same time the amount of arable land is five mesharas per capita. Moreover, the Amara region possesses other valuable natural potential, which could provide some basis for large scale social and economic advancement. Apart from the vast cultivable areas it has great quantities of water for irrigation and a climate which permits a big varied agricultural production. The permanent and seasonal marshes, for example, can be used as natural pastures for a large number of water-buffaloes. These marshes could also provide a habitat for fish which could be important both to improve the nutritional standards of the population and as a source of cash. Such natural wealth is rarely found in the surrounding provinces or even in many other parts of Iraq. Indeed Amara was, until recently, amongst the most important agricultural regions in Iraq and the chief producer of rice.

The rural migration from Amara is not for employment only, neither can it be attributed to periodic natural disasters or inadequate agricultural resources. It is due in fact, to both social and environmental factors. The cultivators in Amara move to Baghdad with their families and settle down permanently not only for better conditions of employment and higher incomes, but to seek better housing, educational and health facilities. It is not always a pleasant experience for them to leave their villages, but it is almost the only solution to their miserable life. Meanwhile the concentration of social and economic services in Baghdad has provided a strong attraction for the poor cultivators of Amara.

Rural migration from Amara was for a long time the result of many social, economic, psychological and environmental factors. Nevertheless, the mobility of rural population increased after 1950, particularly in the last decade when the conditions in

rural Amara deteriorated greatly and no effective measures were taken to deal with the causes of the movement while political confusion and dissension has disturbed many aspects of life in the country-side and forced a large number of the inhabitants to leave their homes.

The Aims of the Thesis :

This study has been prepared, therefore, to examine the movement of rural inhabitants from Amara during the ten year period 1955-1964, in which the maximum rural depopulation took place. An investigation will be made of the motives for this movement, both the physical and social environment. Another aim is to examine the effects of rural migration on the agricultural economy of Amara on one hand, and of Iraq as a whole on the other, during the period 1955-1964. The cultivators' movement from Amara caused continuous losses in the agricultural labour force, particularly in the rice-producing areas, since migration is a process of sex and age selection which reduced the number of productive males in the region. It is also necessary to remark that the rural emigration from Amara is, unfortunately, not a reverse movement and no counter-movement has happened to compensate for the departure of local cultivators.

Since the majority of the rural people emigrated to Baghdad this thesis will also attempt to show the big contrast between their previous socio-economic conditions in Amara and those in the town. This discussion will in turn help to indicate the actual motives behind this movement.

Previous Studies

Little attention has hitherto been given to rural migration from Amara. Most of the few previous studies were concerned with migration in Iraq as a whole. Furthermore, most

are no more than factual reports compiled by government authorities, mostly administrative personnel, with only little reference to the real causes and consequences of migration. Detailed investigation has been almost neglected or, as in other Middle Eastern Countries, has been carried out by either sociologists or economists. The available information on this problem is almost completely restricted to correspondence between different government departments and is mainly concerned with the impact of migration on social life in Baghdad.

Accordingly, the present research can be regarded as the first comprehensive geographical study of rural depopulation in Iraq in its largest source area, Amara.

Problems and Limitations:

It was not easy, to carry out this study, since present statistical information in Iraq is not only limited in quantity and unreliable in quality, but does not even touch on many important aspects. This is especially true of figures concerned with social behaviour. The most common deficiencies in the official materials are as follows. First there are neither detailed nor complete records of vital statistics in Iraq. Such data where they exist refer to the three big cities, Baghdad, Mosul and Basra and then not for a continuous period. Vital statistics concerning births and deaths are usually underestimated and highly defective. The same can be said about information concerning population movement. Only recently the Census Offices began to keep such data. However, this data clearly underestimate and the figures surely fall below the actual number of migrants. The migration figures, moreover, are usually based on the information concerning the place of birth and the place of present residence without mentioning the age or occupation of the migrants, or whether they are permanent settlers or temporary visitors.

The discrepancy in the data of population movement can be seen clearly from the available figures of migration from Amara. The total number of migrants from Amara, according to the unpublished sources in the Directorate General of Civil Status differs from the figures given by other authoritative people. A U.N. expert estimated the total number of migrants from this region during the period 1947-1957 to be about 85,000, whereas it was put at about 50,000 between 1955-1964 in the records of the above administration inspite of the undoubted increase of migration in the last decade.

Second, although there are more data available about agricultural production these data are also confined in most cases to a few major crops such as wheat, barley and rice, while they are very limited for vegetables, for instance, and livestock. Third, detailed surveys of social, and economic aspects of Iraq are very limited. Finally, although all the information is derived from official sources great discrepancies can be found between them from one government publication to another.

Field Study.

With the obvious limitations imposed by the official statistical material in Iraq, field observation became of the utmost importance. But, field work also presented numerous difficulties. Some of these obstacles are connected with the physical environment of Amara; others are influenced by the social attitudes of the people. Travel, for instance, is a serious difficulty since about a third of Amara, where the largest proportion of the population is concentrated is covered with marshes and swamps.

Field work was carried out between December, 1962 and August 1965. It involved the collection of data both in Amara and Baghdad. Interviews were arranged with the rural inhabitants in different parts of Amara. These interviews covered such different aspects as social welfare in rural areas, the cultivators income, systems of land exploitation, farming and irrigation practices, agrarian reform and diet. Other interviews were also held with local authorities in Amara, especially those of the agrarian reform, and administrative, medical and educational personnel. The assistance of school teachers in the remote rural and marshy areas was of great value.

In addition, between the beginning of April and the beginning of November, 1964, 576 migrants were interviewed in Baghdad, more than half from Amara province. Questions were prepared to deal with selected aspects of life both in Amara and Baghdad. Many difficulties were encountered during this work, which without the assistance of the authorities could not have been overcome. In the first place, the rural migrants do not usually trust urban people since they still preserve their tribal attitudes. Secondly, many of the migrant families had migrated secretly, particularly after the strong measures which were taken by the government to stop the rural movement from Amara after 1960 and were naturally suspicious of any kind of questions. A large number of the interviewees imagined that this study was being prepared to investigate the possibility of sending them back to their former villages in Amara, an idea which most of them deplored. Finally, because of their depressed social and economic conditions, both in Amara and during their earlier days in Baghdad, the rural migrants have little interest in any study or measure even if carried out by the government. These circumstances affected the co-operation

of the migrant families during the interviews and to a great extent influenced their replies.

Although this research has been built basically on raw materials obtained in the field, because it covers a period of ten years, field information was supplemented with official statistics. These supplementary data were from various sources. Some contained unpublished or confidential information, others were obtained by personal interviews with senior officials. Other sources, particularly those published by the United Nations and its sponsored departments, proved of great value in filling the gaps in the official data.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	xiv
LIST OF ILLUSTRATIONS	xix
UNITS OF MEASURE	xxiii
 Chapter	
I. PHYSICAL GEOGRAPHY	1
1.1. Marshes of Amara.	4
1.2. Climate	7
1.3. Water Resources of Amara.	11
1.4. Natural Vegetation and Soils.	24
1.5. Communications.	31
II. LAND TENURE	39
2.1. Land Tenure in Iraq.	40
2.2. Land Tenure in Amara.	48
2.3. Cultivator's Position and Income.	56
2.4. Agrarian Reform in Theory and Practice.	69
III. AGRICULTURAL PRODUCTION	81
3.1. Field Crops.	84
3.2. Fruit Production.	107
3.3. Livestock.	107
3.4. Fishing.	114
IV. SOCIAL WELFARE	117
4.1. Types of Dwelling.	118
4.2. Types of Settlement.	123

Chapter		Page
	4.3. Public Utilities.	128
	4.4. Social Composition of the Rural Population.	132
	4.5. Education.	136
V.	NUTRITION AND HEALTH	145
	5.1. Nutrition.	145
	5.2. Health	157
VI.	NATURE OF MIGRATION	182
	6.1. Historical Background.	182
	6.2. Migration During 1955-1964.	187
VII.	AGRICULTURAL PRODUCTION AND MIGRATION	231
	7.1. Farming in Amara Before and During 1955-1964.	232
	7.2. Physical and Social Factors and Agricultural Production.	235
	7.3. Agricultural Production and Water Resources.	241
	7.4. Case Study of the Relationships Between Migration and Farming in selected Sub-Administrative Units.	247
	7.5. Agricultural Economy of Iraq and Migration.	254
VIII.	RURAL MIGRANTS IN BAGHDAD	
	8.1. Areas of Residence, the Major Shanty Towns in Baghdad.	267
	8.2. Social Aspects.	278
	8.3. Economic Condition of Migrants in Baghdad.	284
	8.4. Dietary Balance of Migrants in Baghdad.	295

	Page
CONCLUSION	303
APPENDICES	328
BIBLIOGRAPHY	345

LIST OF TABLES

Table	Page
1.1 Mean Relative Humidity in Southern Iraq and Baghdad (percent).	12
1.2 Hydrology of Karkha, Dwairij and Teeb Rivers.	21
1.3 Permeability of Dujaila Soils at Different Depths.	26
1.4 Mechanical Composition of Soils in Selected Areas of the Flood Plain.	27
2.1 Distribution of Average Size of Cultivated Holdings and the Number of Tenants.	49
2.2 Allocation of Crops in Southern Iraq.	59
2.3 Allocated Crops in Amara (Before 1958).	61
2.4 Distribution of Crop According to the Agrarian Reform Law of 1958 (percent).	62
2.5 Average estimates of Major Winter and Summer Crop Prices in Iraq 1953-1961 and the Estimated Annual Income of Cultivators in Amara (I.D. per ton).	65
2.6 Annual Income of Interviewed Migrant Families in Amara (Prior to Migration).	66
3.1 Yields of Major Winter and Summer Crops in Amara 1955-1964 (Kg. per Meshara).	88
3.2 Average Ratio of Seed Sown to Yield Per Meshara in Selected Sub-Administrative Units of Amara Province. 1955-1964.	89
3.3 Average Yield of Major Winter and Summer Crops in Diwaniya and Nasiriya Provinces, 1955-1964.	90
3.4 Rice Production in the Amara and Diwaniya Province During 1949-1964 (tons).	98
3.5 Livestock and Poultry in Amara 1957/58.	109

4.1	Families in Amara by Size and Type of Dwelling, 1957 (percent).	122
4.2	Size of Family and Persons Per Room (percent).	124
4.3	Density of Settlement in Amara, Baghdad and Iraq, 1956.	126
4.4	Houses Provided with Piped Water and Electricity in Amara, Baghdad and Iraq, 1956. (percent of all the houses).	129
4.5	Electricity Units Consumed in Amara Between 1955-1964 (in 000 kilowatts).	130
4.6	Illiteracy Status of Rural Population in Selected Sub-Administrative Units of Amara, 1957.	138
5.1	Nutritional Level : Estimated National Food Supplies in Iraq (per capita per day).	146
5.2	Daily Intake of Total Protein and Animal Protein to Per Capita in Selected Countries.	154
5.3	Treated and Confirmed Cases of Ankylostomiasis and Bilharziasis in Amara During 1955-1964.	159
5.4	Reported Cases of Infectious Diseases in Amara, 1955-1964.	162
5.5	Hospitals and Dispensaries in Amara and Baghdad During 1958-1964, (percent of national total).	169
5.6	Number of Doctors Per Head of Population in Amara, Baghdad and Iraq, 1955-1964.	174
5.7	Number of Doctors to Total Beds in Amara, Baghdad and Iraq, 1958-1964.	176
5.8	Medical Staff, Excluding Doctors, in Amara, 1955-1964.	177
6.1	Population of Amara by Towns and Rural Areas, 1957, (percent).	190
6.2	Population of Amara and Number of Emigrants 1955-1964.	192

6.3	Density of Population in Amara by Sub-Administrative Units.	201
6.4	Interviewed Migrant Families from Amara by Type of Occupation of Head of Family (percent of total families).	204
6.5	Interviewed Migrant Families from Amara by Motives of Emigration (percent of total families).	206
6.6	Interviewed Migrant Families from Amara by State of Emigration (percent of total families).	209
6.7	Comparison of Sex-Balance in Amara, Baghdad and Iraq, 1957 (percent).	214
6.8	Comparison of Population Structures 1955-1964.	215
6.9	Population of Amara : Age, Sex and Sex-Ratio, 1957.	216
6.10	Motives of Emigration from Kahla Nahia (percent of interviewed families).	219
6.11	State of Movement from Kahla Nahia (percent of Interviewed families).	220
6.12	Motives of Migration in Maimouna Qadha (percent of interviewed families).	223
6.13	State of Movement from Maimouna Qadha (percent of interviewed families).	224
6.14	Motives of Migration in Ali Al-Gharbi Q.C. (percent of interviewed families).	226
6.15	State of Migration from Ali Al-Gharbi Q.C. (percent of interviewed families).	227
7.1	Types of Irrigation in Southern Iraq (percent).	237
7.2	Density of Population in Selected Provinces of Southern Iraq, 1957	238

7.3	Land Tenure Categories in Southern Iraq before Oct., 1958, by Provinces.	240
7.4	Kahla Nahia : Cultivated Area and Total Yield of Barley and Rice, and the Total Number of Migrants.	248
7.5	Maimouna Qadha : Cultivated Area and Total Yield of Barley and Rice, and Number of Migrants.	251
7.6	Ali Al-Gharbi Q.C. : Cultivated Area and Total Yield of Wheat, Barley and Rice, and Total Number of Migrants.	253
7.7	Iraq : Imports of Wheat 1956-1964.	258
7.8	Iraq : Imports of Rice 1956-1964.	260
8.1	Interviewed Migrant Families : Factors Affecting the Place of Residence in Baghdad.	264
8.2	Distribution of Interviewed Migrant Families by the Major Shanty Areas in Baghdad.	265
8.3	Fertility Rates and Percentage of Population Under Five and Under Ten Years of Age, 1957.	279
8.4	Size of Interviewed Migrant Families in Baghdad.	280
8.5	Employment Structure of the Interviewees (percent of total families).	285
8.6	Monthly Income of Interviewed Heads of Families in Baghdad.	289
8.7	Average Monthly Expenditure Per Household, 1954.	290
8.8	Average Monthly Expenditure per Household According to the Type of Expenditure 1961.	292
8.9	Average Monthly Expenditure Per Household of the Interviewed Migrant Families According to the Type of Expenditure in 1964.	293
8.10	Average Monthly Expenditure Per Household on Foodstuffs (in percent).	297

8.11	Average Monthly Expenditure per Household on Foodstuffs 1961.	298
8.12	Average Daily Consumption of Food Per Person (as purchased in grams).	300

LIST OF ILLUSTRATIONS

Figure

- 1 Provinces "Liwas" of Iraq.
- 2 Sub-Administrative Units of Amara Liwa.
- 3 Irrigation System in Amara.
- 4 Mean Monthly Rainfall and Temperature in Southern Iraq.
- 5 A. Water Free Surface Mean Monthly Evaporation in Southern Iraq.
- B. Average Annual Wind Direction Frequencies in Southern Iraq.
- 6 Maximum and Minimum Annual Gauge Readings of Tigris 1918-1960.
- 7 Methods of Irrigation Employed.
- 8 A. Mean Discharge of Tigris River Upstream of Butaira C. 1940-1960.
- B. Mean Discharge of Tigris River Downstream of Butaira C. 1940-1960.
- C. Mean Discharge of Kahla C. Downstream of the Head Regulator 1942-1960.
- D. Mean Discharge of Tigris River at Qalat Salih 1931-1960.
- 9 Communications.
- 10 Comparison of Land Tenure in Iraq and Amara.
- 11 Annual Income of Interviewed Migrant Families in Amara (Prior to Migration).
- 12 Total Amounts of Loans Granted By the Agricultural Bank in Iraq During the Fiscal Years 1954/55-1963/64.
- 13 Iraq, Miri Sirf Development Schemes.
- 14 Progress of Land Reform September, 1958 - June, 1964.
- 15 A. Irrigation by Pumps and Horse-Power in Amara as a Proportion of the Total in Iraq 1955-1964.
- B. Agricultural Machinery in Amara.
- 16 A. Annual Average of Winter Cultivated Area in Amara 1955-1964.
- B. Annual Average of Summer Cultivated Area in Amara 1955-1964.

- C. Annual Average of Production of Major Winter and Summer Crops in Amara 1955-1964.
- D. Annual Average of Winter and Summer Cultivated Areas in Amara 1955-1964.
- 17. Density of Population, 1957.
- 18. Land Utilization in Amara.
- 19. Annual Average Cultivated Areas of Major Winter and Summer Crops 1955-1964.
- 20. Annual Average Yield of Major Winter and Summer Crops 1955-1964.
- 21. Major Tribes in Amara.
- 22. Livestock and Poultry in Ali Al-Gharbi Q.C., Kahla Nahia, Maimouna Qadha and Kumait Nahia 1957/58.
- 23. A. Number of Primary Schools in Baghdad and Amara 1954/55 - 1963/64.
B. Secondary Schools in Baghdad and Amara 1954/55 - 1963/64.
- 24. A. Students in Primary Schools in Baghdad and Amara 1954/55 - 1963/64.
B. Students in Secondary Schools in Baghdad and Amara 1954/55-1963/64.
- 25. A. Teachers in Primary Schools in Baghdad and Amara 1954/55 - 1963/64.
B. Teachers in Secondary Schools in Baghdad and Amara 1954/55 - 1963/64.
- 26. Primary, Intermediate and Secondary Schools in Amara 1964.
- 27. Distribution of Hospitals and Dispensaries in Amara 1964.
- 28. Net Migration to Baghdad from the Provinces - 1957.
- 29. Population Change 1957-1965.
- 30. Number of Migrants from Amara 1955-1964.

31. Rural Population (percent of total population).
32. Population Distribution 1957.
33. Comparison of Age Composition : A. England and Wales 1961, B. India, 1961, C. Iraq 1957 and D. Amara 1957.
34. Comparison of Age Composition : A. Baghdad 1957, B. Maimouna Qadha 1957, C. Kahla 1957 and D. Ali Al-Gharbi 1957.
35. Arable Land 1957 (meshara per capita).
36. Number of Migrants 1955-1964 (Selected sub-administrative units).
37. Population Change 1955-1964 (selected sub-administrative units).
38. Cultivated Areas of Major Winter and Summer Crops in Amara 1954/55 - 1963/64.
39. Total Production of Major Winter and Summer Crops in Amara 1954/55 - 1963/64.
40. Value of Imported Wheat and Rice 1955-1964.
41. Distribution of Shanty Towns in Baghdad.
42. Annual Income of Interviewed Migrant Families in Baghdad. (Post Migration).
43. Proposed Rural Centres.
44. Crude Oil Production and Revenues in Iraq for the Years 1955-1964.

Plate

- I. Motorboat, the chief means of transport in major canals.
- II. Canoes (Mashoofs) on the Tigris near Ali Al-Gharbi.
- III. Sketches of reed dwellings (Serifa).
- IV. Guest house (Mudhif) in Kahla Area.
- V. Mud dwellings (Kukh).
- VI. Guest house in summer and reed building under construction.

Plate

- VII. Hair tents typical of semi-arid areas.
- VIII. A village school constructed of reeds near Al-Uzair.
- IX. A village (Salaf) on Kahla Canal.
- X. Reed island (Ishan) in the Eastern marshes.
- XI. Reed reef (Chibasha) in the Eastern marshes.
- XII. Water courses provide for the needs of animals and men.
- XIII. Fishing with tridents in Eastern marshes.
- XIV. Air photograph to show intrusion of shanty dwellings in built up areas and the main drainage canal in eastern Baghdad (North-west/South-east).
- XV. Water buffaloes in shanty town : Baghdad.
- XVI. A shanty town market in Baghdad.
- XVII. Air photograph showing pattern of shanty dwellings in part of Al-Asima.
- XVIII. A modern road in the new migrant settlement of Al-Rafidain : Eastern Baghdad.
- XIX. Bazaar in a shanty town, Baghdad.
- XX. Modern houses in Al-Rafidain Settlement, Baghdad.
- XXI. Shops, clinic and pharmacy in Al-Rafidain Settlement, Baghdad.

UNITS OF MEASURE.

cm (centimetre) = 10 millimetres = 0.4 inch.

cumec (cubic metre per second) = 35.3 cubic feet per second =
1000 litres per second.

gallon of water = 10 lb.

gm (gram) = 15.4 grains.

litre = 1000 cubic centimetres = 61 cubic inches.

I.D. (Iraqi Dinar) = 1000 fils (20 dirhams) = one pound sterling (£)

Kg (kilogram) = 2.2 lb. = 35.3 ounces.

km (kilometre) = 1000 metres = 1094 yards = 0.6 mile.

m (metre) = 100 centimetre = 39.4 inches = 3.3 feet.

meshara (donum) = 2500 sq.m. = 0.6 acre = 0.25 hectare.

mm (millimetre) = 0.04 inch.

ton = 1,016 kg. = 2,240 lb.

CHAPTER I

PHYSICAL GEOGRAPHY

A study of physical environment in Amara is essential for a full understanding of the region. The landscape itself is the visible environment which provides the setting for this thesis. Its physical diversity explains the marked contrasts in the social life of the region, particularly between the perennial and seasonal marshes which cover a large proportion of Amara and the semi-arid areas in which the way of life is so different. In the marshy areas, for example, people live in reed huts in large compact villages along the water courses or on floating islands inside the marshes, while people in semi-arid areas live in mud huts and hair tents. The high temperature and humidity of the marshes produce many endemic and infectious diseases. Above all, the study of the environment reveals that Amara is not a poor region as far as natural resources are concerned. It contains vast arable areas together with great cultivation of a variety of crops.

The Amara region is a part of the Tigris-Euphrates plain which occupies a large proportion of southern and central Iraq. The plain stretches for about 565 km. from about Balad on the Tigris river and Ramadi on the Euphrates river to the mouth of Shatt-Al-Arab. It stretches some 130 km. from the Zagros foothills on its eastern flanks to the Arabian massif on the west. The total area of the plain is about 93,000 sq.km. or about one-fifth the area of Iraq.⁽¹⁾ It contains, moreover, two-thirds of the arable land of the country and about 63 percent of the total population.

This broad plain is a depression filled with deposits brought down continuously from the surrounding highlands. Deposition is effected not only by the main twin rivers but also by their tributaries and the numerous water courses from the Iranian and

Arabian plateaux. Every year winds and dust storms also bring huge amounts of sediments from the surrounding areas to the plain. Dust storms occur frequently in Amara throughout the year. In winter they prevail from November to May and come in front of the Mediterranean depressions but on a smaller scale than in summer, because the land surface is generally wet. Also, the plant cover may reduce the source materials of these storms. Summer dust storms which occur between January and October are caused by the north-north-westerly prevailing winds, which blow strongly and steadily during this season. Both the water born and wind born sediments are important to the human geography of Amara. The dust storms, particularly in summer, are severe and harmful to men, animals and plants in the region, to which they bring much alluvial material, while the water deposits in particular lead to the silting up of irrigation canals. Nevertheless, they are also important in improving the soil productivity throughout the region and on the outskirts of marshes sediments constitute the most suitable areas for paddy rice cultivation.

Flatness of the land is one of the major characteristics of the alluvial plain of southern Iraq. The Tigris and the Euphrates rivers, for example, fall from about 34 metres at Baghdad and about 47 metres at Ramadi to the mouth of Shatt-Al-Arab, a distance of about 800 km.⁽²⁾ The Tigris river flows between Kut and Qurna, a distance of about 332 km., on an average slope of about 3.3 centimetres per kilometre. Basra is located only about two metres above sea-level, Qurna about three metres and Amara about nine metres. Within the Amara region the gradient decreases more; between Kut and Amara it is less than half the gradient upstream of Kut. But it reaches the lowest level after Kassara stream mouth some ten kilometres downstream of Qalat Salih.

The comparatively high slope between Amara and Qalat Salih is probably due to the remarkable decrease in volume of the Tigris river after it has been distributed into the many irrigation canals and the natural flood breaches within and upstream of Amara. Thus as the carrying capacity of the river diminishes it starts to lay down its load of sediments in this part. But after Qalat Salih some of the water which has entered the marshes, particularly Al-Huwaiza, returns to the main channel of Tigris again through the Kassara stream, so that water volume in the river increases and it becomes active again to some extent. The river gradient in this part is about two centimetres per kilometre.

Elevations in the Amara plain are, therefore, very rare and consist of three main kinds: first are the levees of ancient or abandoned canals and rivers. Some of these are so great that they probably represent some old beds of the Tigris or some other great rivers. In addition, because of the differential deposition throughout the plain many alluvial hills are found throughout the region. Second, the mounds or hills which represent ancient sites of settlements on ruined channels of the river and its tributaries. Finally, the sand dunes which are built up usually during the hot season when the north-west prevailing winds and the south-east winds drift sands and small gravels. The most notable dune-zone in Amara stretches along the left bank of the Tigris from around Ali Al-Gharbi southward to about Butaira canal intake a little north of the provincial capital.

On the other hand deposition in the Mesopotamian basin has been variable since it depends on the strength of water courses and the amount of deposits they could carry. Low troughs within the plain were filled continuously with flood water of the Tigris, the Euphrates and other water courses, so that they formed the great marshes and lakes throughout the southern part of Iraq.

The general flatness of land in Amara, is significant since it influences water use in two different ways. It facilitates on one hand, the water diversion from the main water sources to the adjacent cultivated areas, but on the other, it offers few opportunities for natural drainage and thus encourages the concentration of salts in soils. Absence or inadequate water control devices in the region has led to a great loss of water every year. In addition, one finds it difficult to underestimate the economic and social importance of marshes within the Amara province, which cover about one third of the region.

1.1. MARSHES OF AMARA.

Amara is not the only province in southern Iraq in which the marshes and swamps are extensive. This fact becomes clear when the role of the physical environment in the development of migration is considered. For, inspite of an almost identical environment, migration occurs on a limited scale from provinces of the flood plain other than Amara.

Marshes and depressions in the alluvial plain fall into three distinct groups: The first, are the western marshes which include those on the right bank of the Euphrates river valley such as the Al-Habbaniya depression near Ramadi, the Abu-Debis depression in the southern desert and the Al-Hammar Lake in the lower reaches of the Euphrates river. Second, are the central marshes which consist of those lying between the Tigris and Euphrates rivers. The largest of these marshes are those in the middle Euphrates valley such as Ibin Najim and those on the western bank of the Tigris river in Amara such as Al-Saniya, Al-Saygal and Sukhairi. Third, are the eastern marshes nearly all of which are within Amara province, the largest marsh in this group, however, being Al-Huwaiza which covers about 1,110 sq.km. in Iraq and extends across the border into Iran.

Other important marshes in this group are Al-Hushiya and As-Sinaf.

Marshes in southern Iraq are of two kinds; perennial marshes provided with water by the Tigris, the Euphrates and their tributaries, and seasonal marshes caused by flood water during winter and spring. Most of the southern part of Iraq, in fact, becomes a large continuous water surface during the high water period. Sometimes these areas are estimated at about 30,000 sq.km. or about seven percent of the total area of the country.⁽³⁾

Marshes in Amara are found on both sides of the Tigris river, along and at the end of all the Tigris distributaries, the flood openings and the irrigation canals within the region (Fig.3). At about 18 km. from Shaikh Saad town series of connected marshes and swamps extend on the right bank of the Tigris south, south-east and join these of the Lower Euphrates river, such as Al-Hammar, in Nasiriya province. On the left bank of the Tigris another large belt of marshes extends eastward to Iran and southward to the outskirts of Basra and even further.

1.1.1. Western Marshes.

These are a part of the central marshes of the Mesopotamian plain. The largest is Al-Saniya which usually is fed by a great flood opening, Al-Musandaq between Shaikh Saad and Ali Al-Gharbi, and the numerous smaller flood outlets on the right bank of the Tigris between Ali Al-Gharbi and Kumait such as Al-Fahadiya. The Al-Saniya marsh covers about 1,100 sq.km. during the maximum flood of the Tigris, but its area decreases during the low water season to less than 200 sq.km.⁽⁴⁾

The Musandaq outlet which feeds this marsh with most water is the largest flood opening in the lower valley of the Tigris

between Kut and Qurna. It is about six metres lower than the flood embankment. At first the water flows through a well-defined course sometimes 1,200 metres wide⁽⁵⁾. This outlet is operative for a period between five and six months every year. The amount of water lost through the Musandaq and other flood outlets during 1954 was about 19 milliard cubic metres. Musandaq is also a serious danger when its water inundates large cultivated areas every year.

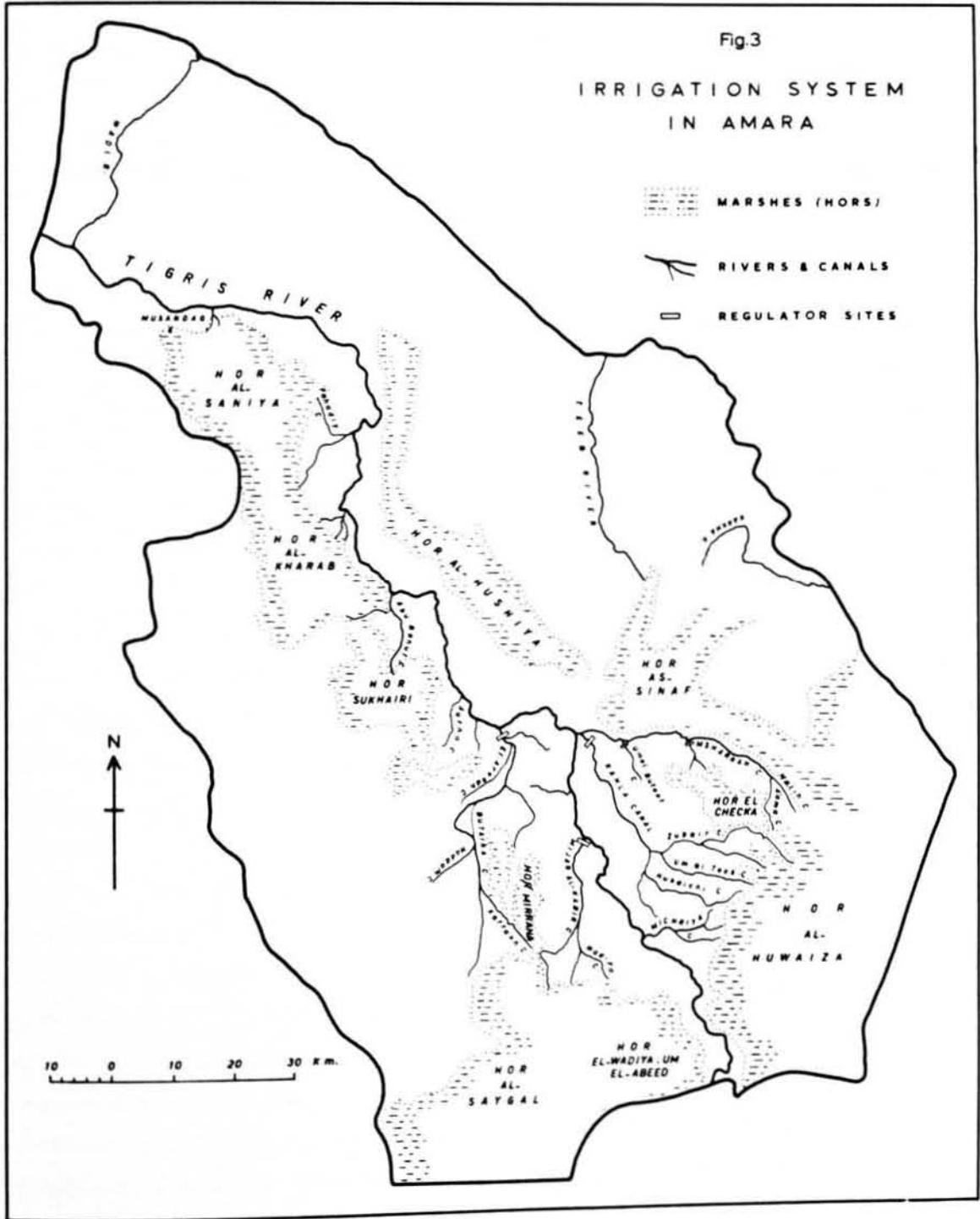
There are many other marshes on the right bank of the Tigris connected with Al-Saniya such as, Al-Kharaba, Al-Sukhairi and Al-Saygal (Fig.3). These marshes, which are connected also with the marshes of the lower Euphrates valley, are supplied with water usually from the canals which branch from the Tigris below the Musandaq intake.

1.1.2. Eastern Marshes :

On the left bank of the Tigris river stretch more marshes which cover a very large area within the southern parts of Iraq and Iran. These depressions are supplied with water not only by the tributaries of the Tigris but also by other rivers such as the Teeb, Dwairij and Karkha which flow from the Iranian plateau. The largest marsh on the left bank of the Tigris is Al-Huwaiza which is named after Huwaiza the Iranian town. It is so large that it covers a part of the adjacent depression between Al-Ahwaz and Khorramshahr in Iran. During the flood season the Al-Huwaiza marsh inundates an area of about 2,500 sq.km. or a million mesharas , which equals about 14 percent of the total area of Amara. The total storage capacity of the marsh and other marshes which are connected with it may reach seven milliard cubic metres.⁽⁶⁾ Some of this water returns to the Tigris river by the Kassara stream, and to Shatt-Al-Arab by the Suwaib river about ten kilometres downstream of Qurna.

Fig.3

IRRIGATION SYSTEM
IN AMARA



The most important marshes which are connected with the Al-Huwaiza are As-Sinaf in the north which extends almost to the capital town of Amara, and Al-Checka which occupies the area between the Msharrah and Kahla canals (Fig.3). They continue as Al-Jazra, Al-Hushiya and Sarot till around Al-Gharbi in the north. But some of these marshes are fed with water only during the high water season.

1.2. CLIMATE.

The climate of Amara is a semi-arid or steppe type. It is characterised by a large daily and annual range of temperature, low relative humidity and scant and irregular rainfall. These climatic features prevail in almost all parts of the region since it is confined within two degrees latitude and varies slightly in relief. Maritime influences are slight because of the remoteness from large water bodies, the nearest of which are the Mediterranean sea and the Persian Gulf. The first is the major source of precipitation through the depressions which pass over it to Iraq, while the latter is a minor source of some thunder storms which advance in front of the depression but it also is the main cause of the high relative humidity in southern Iraq particularly in summer.

Two major seasons and two short transitional seasons can be distinguished. The longest season which lasts about five months from May to October is the hot dry summer. Winter is shorter than summer and lasts from December until the end of February. Spring and Autumn are the transitional seasons and last only a few months. Spring includes March and April and then merges suddenly into summer; autumn occurs during October and November. Thus, the opportunities are available for the cultivator to grow different types of crops in different seasons. However, two major types of

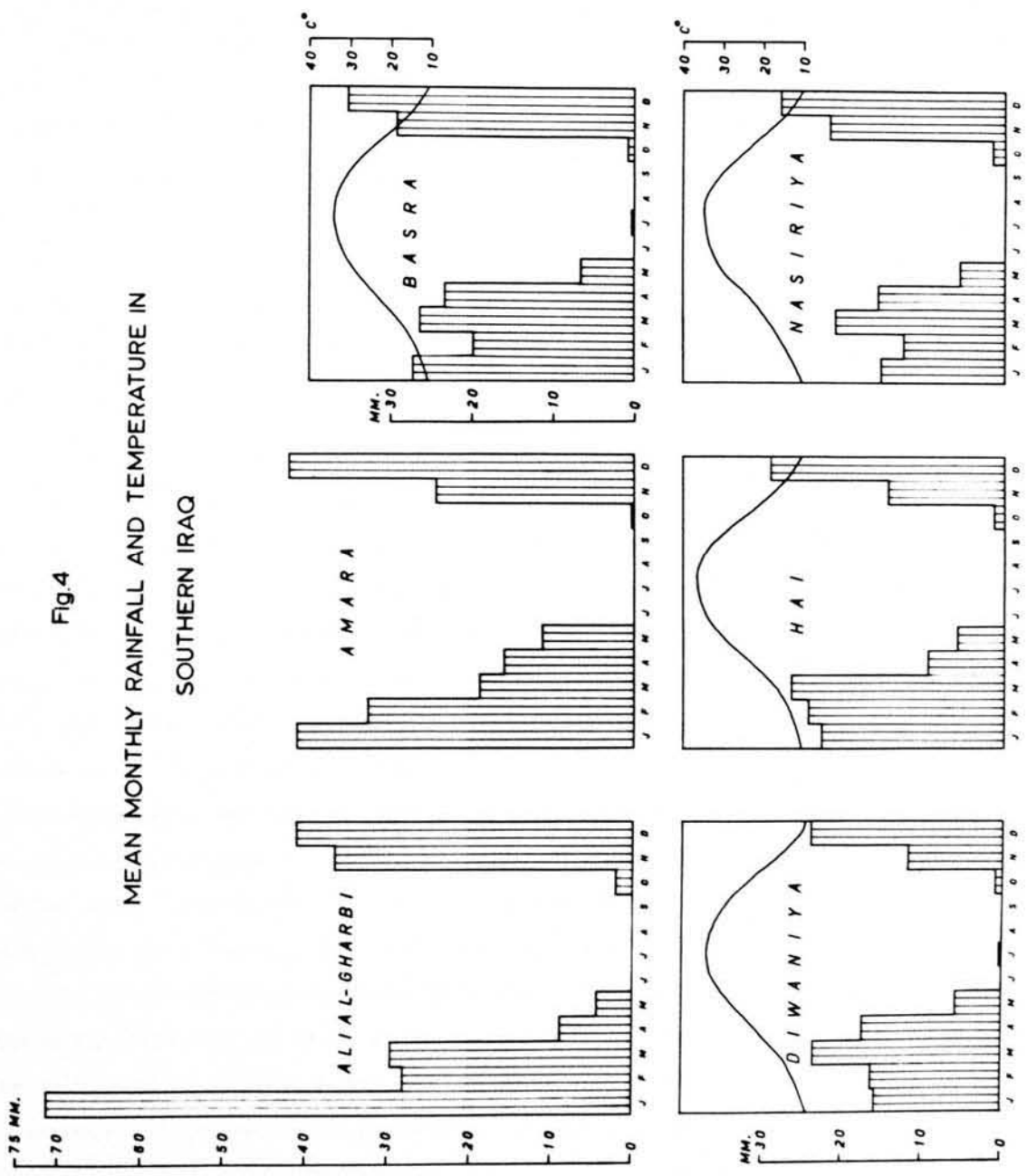
crops are common in Amara, the winter shitwi cultivation during the cold wet season and the summer Saifi cultivation during the hot dry season.

Complete climatic data for long periods are available for only four climatic stations out of twenty two stations in southern Iraq, namely, Basra, Nasiriya, Hai and Diwaniya, while only rainfall records are available for the other stations including those within Amara province. Nevertheless, climatic features at these four stations are almost the same as those in Amara since there is only slight differences in the location and altitude.

1.2.1. Temperature :

The hottest month of the year in Amara as in all southern Iraq is July, whereas January is the coldest. Air temperatures are homogenous throughout the region where the difference of average temperature between the four stations, in both July and January, does not exceed one degree centigrade (Fig.4). The average monthly July temperature, nevertheless, decreases to the south and south-east from 35°C at Baghdad to 33.9°C at Basra. Mean maximum temperature at the four stations ranges between 50.5°C at Basra to 48.9°C at Nasiriya. At the same time the average minimum temperature in July ranges between 18.3°C at Diwaniya to 22.2°C at Basra. The July range of temperature is from 28.3°C at Basra to 28.9°C at Nasiriya.

In January, the coldest month, the average temperature decreases to the west and north-west. The average minimum temperature is below freezing point at all the four stations. It ranges from - 8.3°C at Diwaniya to - 4.4°C at Basra; while the mean maximum temperature ranges from 27.2°C at Basra and 24.4°C at Hai. Thus, the range of temperature in winter is 15.8°C at Basra and 16.6°C at Diwaniya. The large daily and annual range of temperature, the possibility of exposure to severe cold in winter and hot winds and



intense sunshine in summer, lead to frequent hardship when associated with poor housing.

The relatively small monthly average range of temperature in January is probably due to the lack of vegetation cover during the long hot summer and the continuously clear skies or to the fact that in winter when most of southern Iraq is covered with flood water there is less difference between land and water temperatures than in summer. Furthermore, the annual mean of temperature shows a general increase southwards, as it is 22.8°C at Baghdad in the north, 23°C at Diwaniya, 23.8°C at Nisiniya, 24.2°C at Hai and 24°C at Basra. This is probably due to the increase of latitude, the decrease of altitude or the remoteness from the cold air masses of the north.

1.2.2. Pressure and Winds :

During summer Amara and the southern part of Iraq as a whole is located between the high pressure systems of Asia Minor and Central Asia in the north and north east, and the low pressure system over the Persian Gulf which is, in fact, an extension of the low pressure belt over north-west India. Accordingly, the prevailing winds are the north-west and the westerly, called Al-Shamal. The pressure gradient between these two systems is usually steep. The mean July pressure during the period 1937-41 at Basra station reached 997.6 mlb., so that winds blow at great speed over the dead plain of southern Iraq, particularly during the day time.

Between May and October the north-westerly wind, which blows on nine days out of ten, is usually warm and dry since it descends from the highlands and originates over a land-mass. Dust storms are frequently associated with this wind and contribute in creating very unpleasant living conditions in the region. The average annual frequency and velocity of this wind in the four stations are shown in Fig. 5B.

In winter the Anatolian and Central Asian high pressure saddles concentrate and extend south and west, over Iraq and Iran, towards the Arabian massif. At the same time the low pressure system remains over the Persian Gulf and the adjacent lowlands, so that, winds move from the highlands of Asia Minor to the Mesopotamian trough. The north westerly wind prevails during this season also, but becomes less regular than in summer, owing to the advance of cyclonic depressions from the Mediterranean with the westerly winds across Syria or Anatolia. Furthermore, the Al-Shamal, becomes a cold wind in winter and brings frost spells together with clear sky and rainless weather to southern parts of Iraq. But in front of the Mediterranean depressions which occur during December, January and February, the wind direction in southern Iraq becomes usually either easterly or south-easterly accompanied with high temperatures, cloudy skies and rainy periods. Consequently, the easterly, or Sharqi, and south-easterly winds are more frequent in winter. At Basra the frequency of easterly and south-easterly winds increases in January to eight percent and ten percent respectively, while at Hai the frequency of these winds increases to seventeen percent and six percent respectively (Fig. 5B). The cold spells in this season adversely affect the health of rural dwellers who usually live in simple dwellings not at all suitable for such a severe weather. In some years a considerable loss are also caused to fruit trees and livestock.

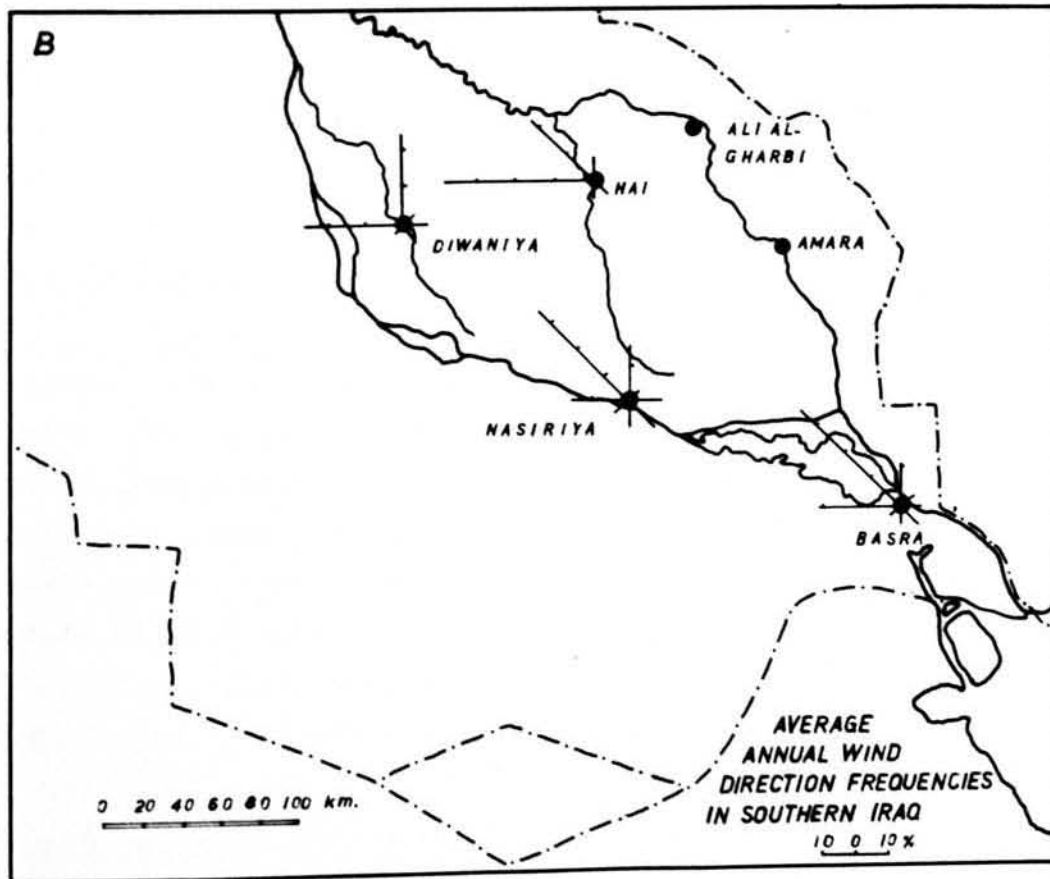
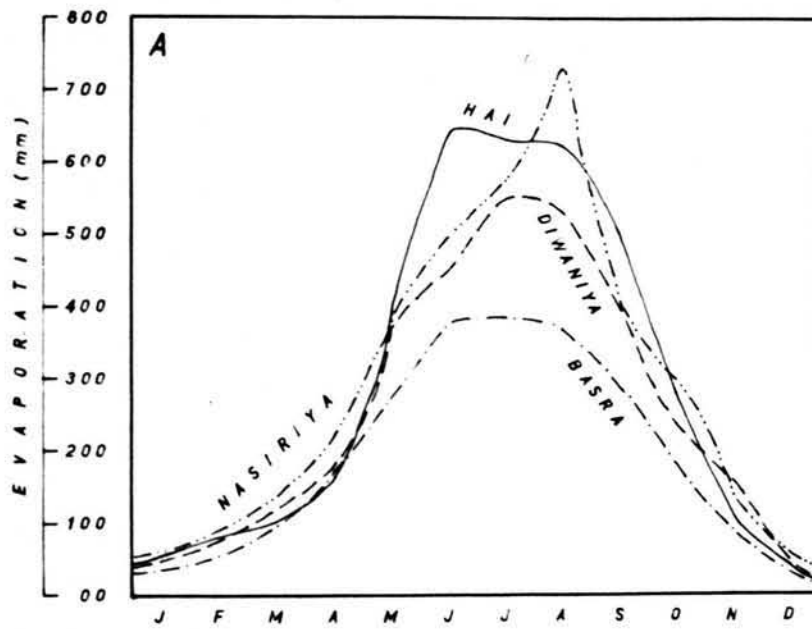
The pressure and prevailing wind systems of both summer and winter do not change much during the short transitional seasons, which can be considered as parts of the two main seasons.

1.2.3. Humidity :

Humidity is an important factor affecting human comfort in Amara where marshes and swamps compose a considerable proportion of the total area and where the majority of population live in

Fig. 5

WATER FREE SURFACE MEAN MONTHLY
EVAPORATION IN SOUTHERN IRAQ



settlements surrounded by water surfaces. In summer, the high proportion of water vapour in the air associated with high temperature, makes large sections of Amara a suitable home for various insects and diseases (p.164). Relative humidity varies, however, greatly in southern Iraq as a whole both daily and annually and from one part to another. It is higher in morning and winter than in late afternoon or summer. In January, the coldest month, the mean relative humidity decreases to the south since the north, north-westerly winds are the major source of atmospheric humidity. At Baghdad, for example, the mean relative humidity is 72 percent in January, while it is 67 percent at Nasiriya further to the south.

By contrast, the relative humidity in July increases southward, as the mean relative humidity of this hottest month is 34 percent at Baghdad. This is due to the frequency of the easterly and south-easterly winds from the Persian Gulf and the decrease in depression. Basra has exceptionally high relative humidity for southern Iraq in both seasons, since it is very close to the Persian Gulf and surrounded by large water bodies (Table 1.1).

1.3. WATER RESOURCES OF AMARA.

Rainfall is the only kind of precipitation in Amara, occurring almost entirely during winter and spring with the Mediterranean depressions. These depressions, which are frequent during winter months, become fewer in spring and autumn, and diminish in summer. The little rainfall usually comes quickly in thunder storms. Sometimes the south-easterly wind causes some showers in south and central Iraq.

TABLE 1.1

MEAN RELATIVE HUMIDITY IN SOUTHERN IRAQ AND BAGHDAD

(IN PERCENT)

STATION	JANUARY	JULY	YEAR
BASRA	80	49	60
NASIRIYA	67	34	46
HAI	69	24	44
DIWANIYA	70	30	47
BAGHDAD	72	23	44

SOURCE :
M. Allahwerdi & Assoc. and Cekop : Irrigation Improvements in the Amara Area, Directorate General of Irrigation, 11, Appendix A, Baghdad (1963), Table 34.

As the depressions from the Mediterranean follow the general trend of the northern and eastern mountains of Iraq, which is from north-west to south-east, the amount of rainfall decreases to the south and south-west of the country. The annual rainfall is about 222 mm. at Ali Al-Gharbi and about 187 mm. at Amara in the north, decreasing westward to 116 mm. at Diwaniya and southward to about 169 mm. at Basra (Fig.4).

The rainfall in Amara is characterised not only by its rarity but also by its uncertainty even during the rainy season. In some years it comes early in November and in such great amount that it causes high floods, while in others it comes in December and even later. Hence, the contribution of rainfall which coincides with the

maximum flow of the Tigris and its tributaries, to the water budget of Amara is of minor importance and irrigation becomes the most important source of water in this region. Another factor which affects the water resources in Amara is the high rate of evaporation, maximum evaporation being either in June (one station), July (two stations) or August (one station) (Fig. 5A), while minimum totals are recorded at all four stations in December.

Since agriculture, which is the major source of income for the majority of people in Amara, depends primarily upon irrigation, evaporation affects the economy of the region especially during the hot season. The high evaporation rate also plays a major role in the bringing about soil salinity by drawing the saline ground water up to the surface and root zone.

Water is vital not only for irrigation in Amara, but for other purposes. Firstly, water courses in this region are the major means of transport along which most of the local agricultural products are sent to market to the nearby towns or even to Baghdad and Basra. By these means the rural areas also are supplied with necessary goods. Thus sufficient depth of water is necessary to ensure continuous movement. Secondly, marshes covered with reeds, bulrushes thickets provide a suitable habitat for large numbers of water-buffaloes, fish and wild fowl, which provide the rural inhabitants with food and money. Finally, water is needed for many municipal and domestic uses in all parts of Amara.

1.3.1. Regime of the Lower Tigris River Basin

The lower Tigris basin is a part of the flood plain of southern Iraq. The Tigris enters the plain near Balad and runs southward following the general gradient of the plain till its confluence with the Euphrates near Garmat Ali, some 12 km. north of

Basra. Here the river tends to change its course or meander, and the width and depth of the river channel differs greatly. These features are due chiefly to the changes of water volume in the river and to the land characteristics of the plain itself.

The northern Tigris ranges from 350 to 1300 metres in width because of the great amounts of water supplied by its major tributaries, Al-Khabour, Greater Zab, Lesser Zab, Al-E'dhaim and Diyala, while it decreases to about 50 to 80 metres in Qalat Salih, where the river has no important tributary downstream of the mouth of Diyala (Fig.1). At the same time its depth varies greatly between three and fifteen metres.

Two of the five major tributaries of the Tigris join the river in its lower basin, namely, Al-E'dhaim at about 15 km. downstream of Balad, and Diyala at about 31 km. downstream of Baghdad. The river gradient decreases from about 50 centimetres per kilometre between Al-E'dhaim mouth and Samarra about 30 km. upstream to 6 centimetres per kilometre between Al-E'dhaim mouth and the confluence with the Diyala river. The gradient remains almost the same until the Kut about 269 km. downstream of the Diyala mouth, after which it reaches the lowest level of two centimetres per kilometre beyond Qalat Salih and Kassara stream.

Between Diyala mouth and Kut no important tributaries join the Tigris, but the Chabbab and the Wadi, which flow only during the wet season, descend from the Iranian hills and join it upstream of Shaikh Saad. Many streams or, Galals, rise in the border highlands but fail to reach the Tigris and disappear either in the eastern marshes or in the salty ponds near the border zones. The Karkha river, the greatest of this group, is the major supplier of water to the Al-Huwaiza marsh. The other two important rivers are the Teeb and Dwairij (Fig. 3).

Although the Tigris between Kut and Qurna constitutes the chief source of water in this area, its flows are irregular and depend on climatic factors in the catchment areas (Fig.6). The mean annual discharge of the river downstream of Kut Barrage * during the thirty water years, 1930/1931 - 1959/1960, varied from 481 cumecs in 1951 to 1880 cumecs in 1946 **. However, the mean water supply of the Tigris river and its tributaries has been estimated at 42 milliard cubic metres annually. But this also varies greatly from one year to another. In 1930, for example, the total run off of the river was only 19 milliard cubic metres, while it reached 63 milliard cubic metres in 1948. (7)

1.3.2. Flood Period :

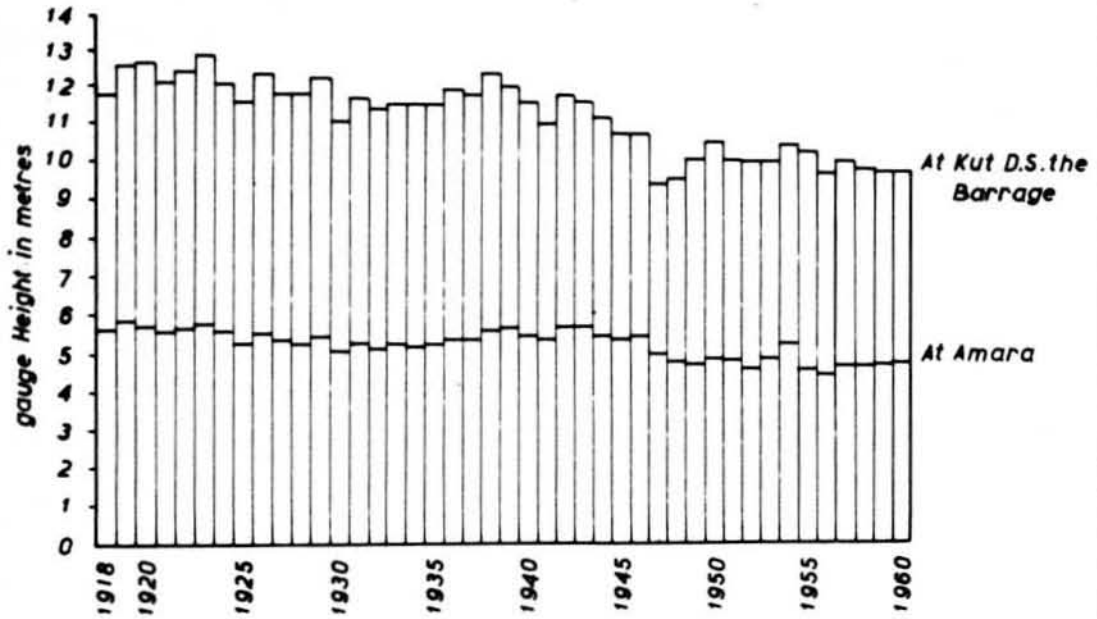
The river Tigris discharge has two distinct high water peaks. The first which occurs between November and April is due to the winter and spring rainfall in the upper parts of the river basin. The water level in this period is characterised by its irregularity resulting from irregular rainfall. The other peak which occurs between March and May is caused by melting snow on the Anatolian and Iranian highlands. The maximum discharge during the period 1919-1960 was recorded seventeen times in April, fourteen times in May, eight times in March, three times in February and only once in January. The flood usually lasts between three and four months. The daily range of water discharge also varies considerably during the high water season. In only four days from the seventh to the tenth of January 1952 the water level rose eight metres and the discharge increased by 5000 cumecs.

* Kut Barrage is the largest water control devices in the lower Tigris basin. It was built at Kut between 1934 and 1939 to divert water to the Al-Gharraf and Al-Dujaila canals.

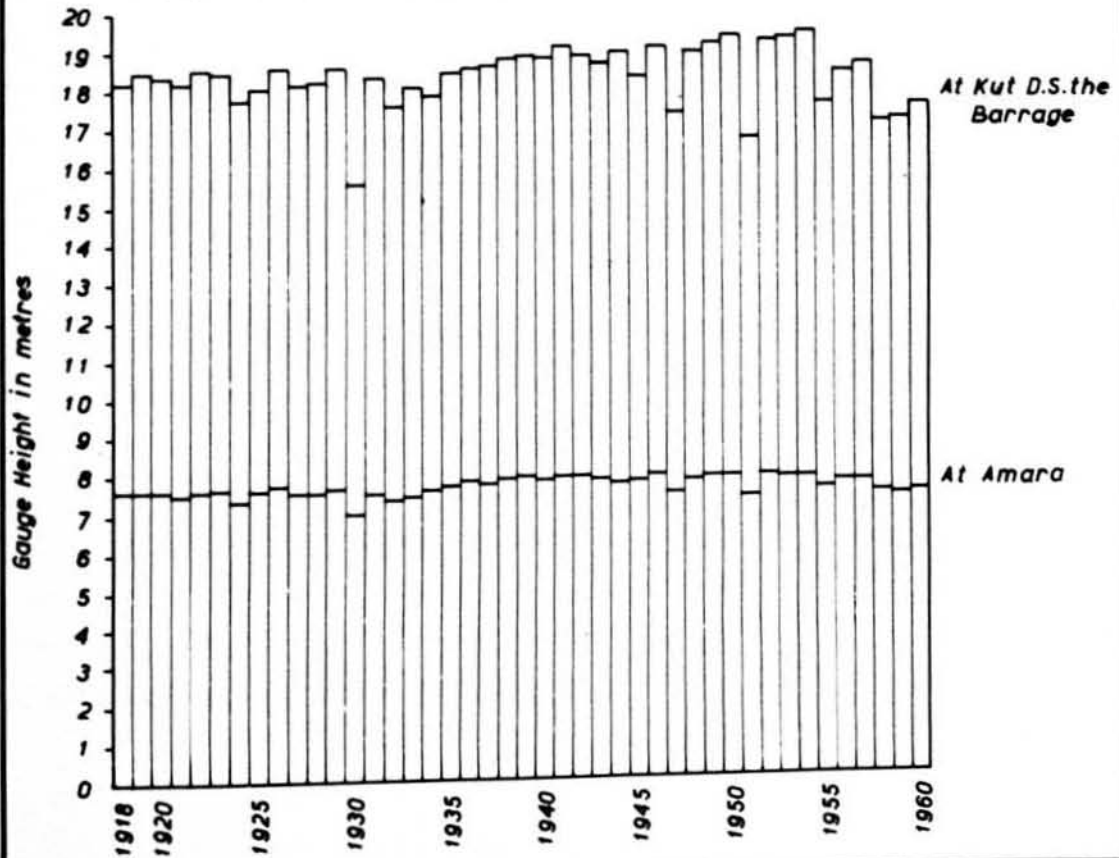
** The water year begins in October of the calendar year.

Fig.6

MINIMUM ANNUAL GAUGE READINGS OF TIGRIS 1918-1960



MAXIMUM ANNUAL GAUGE READINGS OF TIGRIS 1918-1960



The largest flood in the lower Tigris valley since 1941 which caused great damage in Amara, was in 1954 when the maximum discharge of the river reached 12,000 cumecs in the Kut profile. In this year also the highest daily discharge (of 12,400 cumecs) since 1930 was recorded. The flood was due to the exceptionally heavy precipitation on the catchment areas of the Tigris and its tributaries. The absence of any water storage or flood control devices in the upper Tigris basin increased the danger of this flood since almost all the discharge of the river and its four major tributaries flowed into the main channels. The flood was disastrous particularly in the flood plain of southern Iraq where water level rose much higher than the adjacent land. The maximum flow at Baghdad was estimated at 11,000 cumecs, 7,100 of which were in the river channel whilst the remaining amount was diverted to the neighbouring areas through the breaches in the flood embankments.

After 1954 considerable efforts were devoted to water storage projects, especially in the Tigris basin, where at present there are three reservoirs. One is the Dokan on the Lesser Zab tributary in the Sulaimaniya province (Fig.1). This dam with an effective storage capacity of 6.6 milliard cubic metres was completed in 1959. Another is the Derbend Khan reservoir on the Diyala river in the Sulaimaniya province with an effective capacity of 3.2 milliard cubic metres. This large rock-filled dam was finished in 1961. Finally, there is one in the Tharthar depression between the Tigris and the Euphrates in Al-Jezira desert which started to function in 1956. The drainage capacity of the diversion canal at Samarra embankment is between 7,000 and 9,000 cumecs, and the total capacity of the reservoirs is 63 milliard cubic metres. These reservoirs were built after 1956 not only to control the floods of the Tigris and its tributaries but also to provide more water for

irrigation in summer and to increase the amount of arable land in the country. Nevertheless, the Tharthar reservoir is less important for irrigation purposes than the two others since the high evaporation rate from its surface may raise the salt content of the water.

In the Amara region, however, the water discharge of the Tigris river decreases remarkably not only because the river does not receive any important tributary in this part, but because of the diversion of considerable amounts of water both above and below the Kut Barrage. Great amounts of water are diverted through the Musandaq breach and other openings from the right bank of the Tigris to the Al-Saniya marsh and other marshes on the western side of the river. Further water, although in small amount, is normally diverted to the Al-Gharraf and Al-Dujaila canals upstream of the Kut Barrage. Thus, the river discharge decreases from 1,179 cumecs at Kut to only about 78 cumecs, or about seven percent of the discharge, at Qalat Salih.




The low water period lasts about six months between July and January or sometimes more, this being the period of lowest precipitation in the upper parts of the river. This is also the driest period in southern Iraq particularly where the maximum water requirements occur.

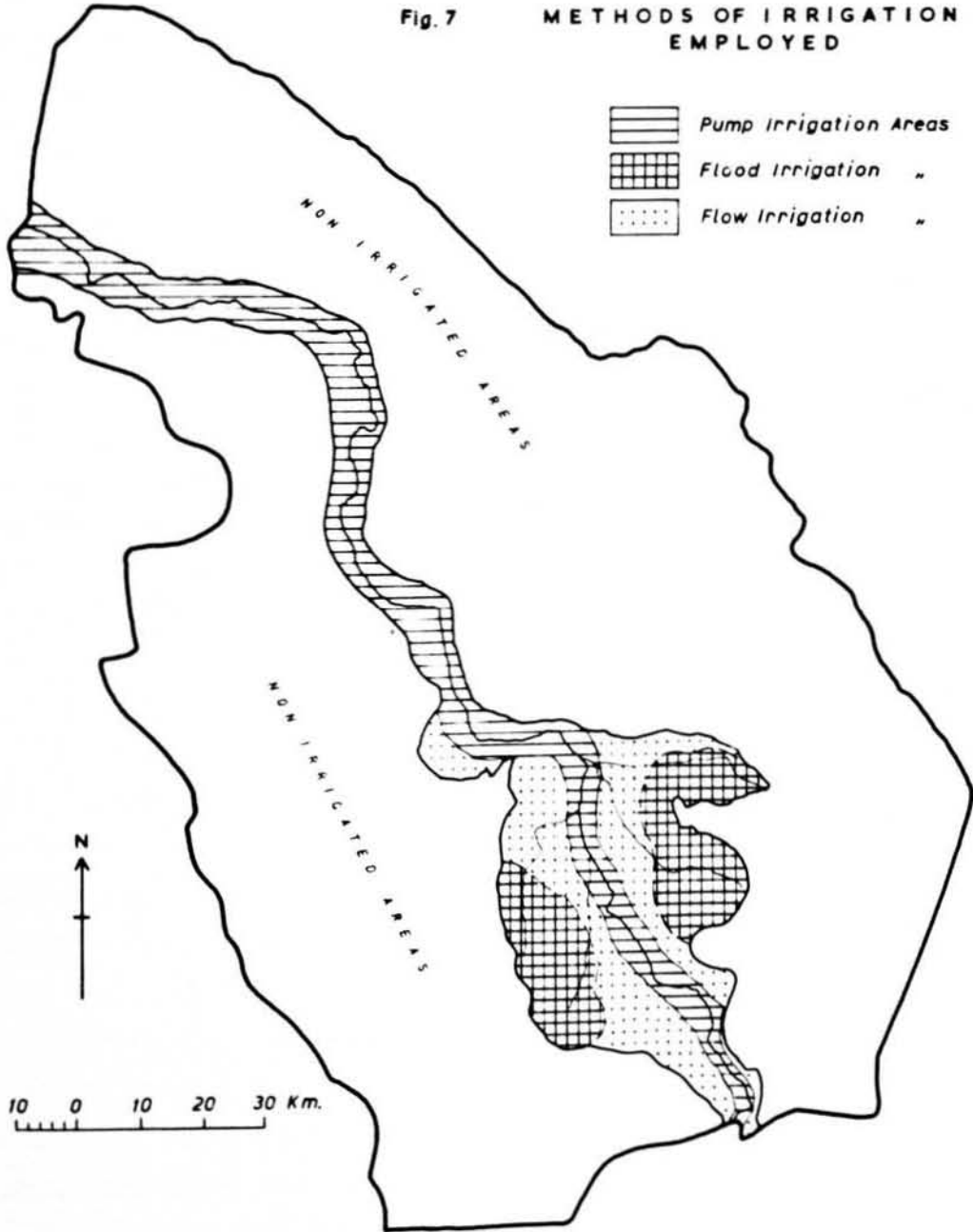
1.3.3. Irrigation System of Amara :

Since the annual rainfall in Amara is scant and irregular agricultural production largely depends upon irrigation. There are three major means of irrigation within this region, namely gravity flow, irrigation by flooding and lift irrigation (Fig. 7).

Fig. 7

METHODS OF IRRIGATION
EMPLOYED

-  Pump Irrigation Areas
-  Flood Irrigation "
-  Flow Irrigation "



(i) Flow Irrigation :

This is a common method in the whole of the Tigris and Enphrates plain, where the river water level is generally higher than the surrounding lands. Thus, breaching the river bank is enough to divert the water into a network of canals, but it is difficult to control the withdrawal of water by this method particularly if water control devices are non-existent as in most part of Amara. In such conditions it is almost impossible to distribute the water evenly where required, and a water surplus or deficit is produced. In addition to the many tribal disputes about the distribution of water, the uncontrolled diversion of water has affected the land itself in some areas, where excess irrigation has raised the ground water table even to the surface and has led in turn to the concentration of salts in the upper layer of soil.

The Tigris river from which five great canals bifurcate is the main source of flow irrigation in Amara. These canals constitute, in fact, the backbone of the irrigation system in the lower Tigris basin as a whole.

Butaira Canal :

The largest canal of this group is the Butaira which branches from the right bank of the Tigris downstream of the Musandaq outlet about eighteen kilometres upstream of Amara. The average width of the canal is 200 metres and its average depth is five metres while its capacity at its intake is about a half that of the Tigris (Fig. 8A,B and Fig. 3).

At the head of the canal a wooden regulator was erected in 1922 with 51 openings of about five metres each. Some distance from the intake Al-A'reedh canal flows from the Butaira into the western marshes. Other smaller branches, particularly the Kaffakh canal, consumes more of the Butaira's water (Fig.3). Remarkable

increase in the Tigris discharge in this part has happened because of the silting of many smaller canals between the Butaira intake and Kut Barrage during 1949-1954, but for the large amounts of water flowing into the Butaira, large parts of Amara downstream would enjoy an abundance of water for irrigation.

Kahla Canal :

The second largest canal is the Kahla which flows from the left bank of the Tigris at Amara. On average it is 100 metres wide and four metres deep, taking about 60 percent of the Tigris' discharge at this point (Fig.8C).

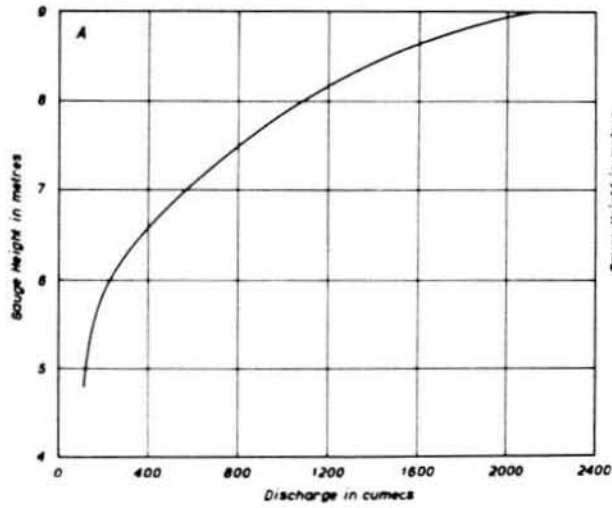
A short distance from the head of the canal, the main channel divides into three big branches namely, Al-Zubair, Al-Husaichi and Um-el-Toos (Fig.3). In turn each one of these canals splits into many other smaller streams all of which drain to the Al-Huwaiza marsh. An old wooden weir which has been at the head of the Kahla canal since 1918 was replaced by an iron one in 1942 about five kilometres downstream of Amara, with four openings each four metres wide. The Kahla is very important to Amara's agriculture since it irrigates vast cultivated areas in Kahla Nahia, which is the leading paddy rice producing area. The maximum discharge of the canal downstream of the weir on 19th March, 1946, for example, was 515 cumecs.

Msharrah Canal :

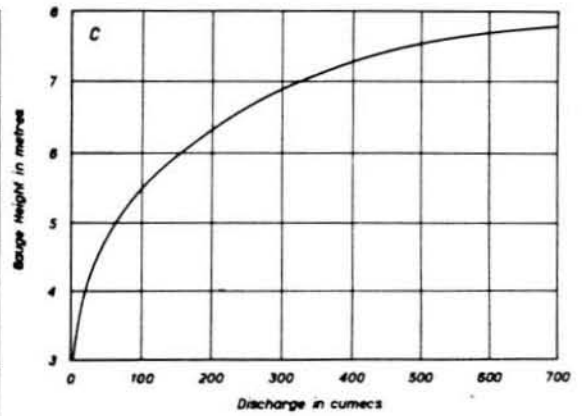
Msharrah Canal also important in the Amara irrigation regime. It starts from the left bank of the Kahla and terminates in the As-Sinaf and Al-Huwaiza marshes. On average it is 45 metres wide and four metres deep. Many smaller canals flow from the right bank and carry the water to adjacent areas then to the Al-Checka and Al-Huwaiza marshes (Fig.3). Before the canal reaches Al-Msharrah town,

Fig 8

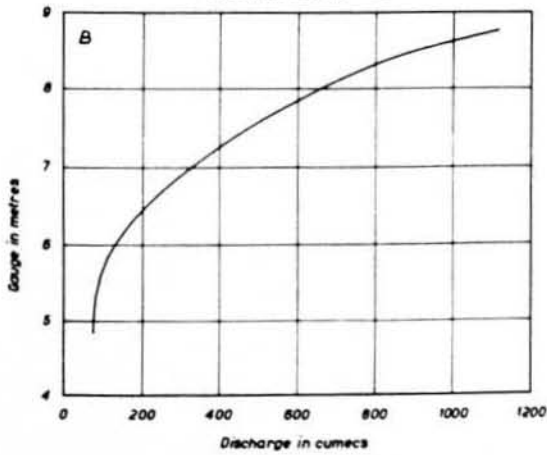
MEAN DISCHARGE OF TIGRIS RIVER UPSTREAM OF BUTAIRA C.1940-'60



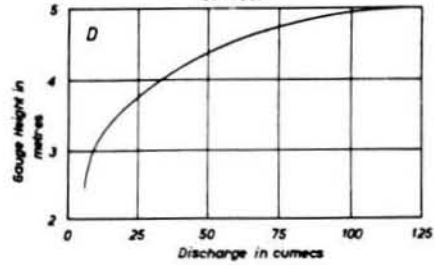
MEAN DISCHARGE OF KAHLA CANAL DOWNSTREAM OF THE HEAD REGULATOR 1942-'60



MEAN DISCHARGE OF TIGRIS RIVER DOWNSTREAM OF BUTAIRA C.1940-'60



MEAN DISCHARGE OF TIGRIS RIVER AT QALAT SALIH 1931-1960



the centre of Msharrah Nahia, three main branches split from it, namely Um-el-Btoot, Al-Judaiyid and Al-Kharaba. After Al-Msharrah, it flows into the Al-Huwaiza marsh as two well defined canals called Al-A'ma and Al-Malih. Nevertheless, there are only four regulators on the whole of this canal system; three of them being on the first two branches, one on each of the main canal intakes from Kahla and on Al-Kharaba canal.

The maximum annual discharge of Msharrah downstream of its intake during the period 1946-1960 was 56 cumecs in 1945/1946; while the mean annual discharge during the same period was 40 cumecs.

Mijar Al-Kabir Canal :

Mijar Al-Kabir is the third largest canal in the Amara region. The canal leaves the right bank of the Tigris downstream of Amara, with an average width and depth of 60 metres and four metres respectively. After fourteen kilometres from the intake it divides into two major canals called Al-A'del and Al-Wadiya which terminate in the western marshes (Fig.3). At the head of Mijar Al-Kabir canal a regulator of seven gates each with a width of about three metres, was erected in 1919 to reduce the discharge during the dry season and to ensure a navigable water level in the Tigris river.

The maximum annual discharge of the canal during the period 1946-1960 was 107 cumecs recorded in 1945/46; and the mean annual discharge during the same period was 71 cumecs. This canal resembles the Kahla in supplying another important rice producing area in Amara.

Machriya Canal :

Machriya is the last and the smallest canal in Amara and in the lower Tigris basin. The Machriya canal takes its water from the left bank of the Tigris about four kilometres upstream of Qalat Salih. It is about 23 metres wide and one metre deep. Discharge of the canal with its two main branches, Um-el-Batat and Um Raibi, is

not sufficient to irrigate the area even during the flood season, because the channel bed is higher than that of the Tigris. The maximum annual discharge during 1945-1960 was 17 cumecs recorded in 1945/46, while the mean annual discharge during the same years was about nine cumecs. Machriya and its tributaries terminate in the Al-Huwaiza marsh.

In this part of the Tigris river basin, there are three rivers but they make little contribution to the irrigation system of Amara. These rivers are, the Teeb, Dwairij and Karkha, flowing from Iran to the Al-Huwaiza and adjacent marshes. Some of the available data about them are shown in Table 1.2.

TABLE 1.2

HYDROLOGY OF KARKHA, DWAIRIJ and TEEB RIVERS

RIVER	CATCHMENT AREA (Sq.km.)	MEAN ANNUAL RAINFALL 1936-55(mm)	ESTIMATED PEAK DISCHARGE (cumecs)	MEASURED FLOOD DISCHARGE (cumecs)
KARKHA	48000	700	2500	1430
DWAIRIJ	3500	700	1000	-
TEEB	3000	650	500	-

SOURCE:
M. Allahwerdi and Assoc. and Cekop: Irrigation
Improvements in the Amara Area, p.104

(ii) Flood Irrigation :

The gradient becomes very small on the lower reaches of canals and their tributaries where great silt deposits are brought down every year. These parts are most suitable for paddy rice cultivation which is the major summer crop and the staple food. In flood irrigation the rice cultivators make breaches in the water course bank, during the high water season, and let the water which is usually loaded with huge amount of silts and other sediments inundate land on both sides. As a result, a thick layer of alluvium covers the land which is prepared for rice cultivation. But in the dry season when the water level in the major canals falls below the level of the rice fields and when irrigation need increases, the cultivators start building earth dams called Hamool to raise the water level to the rice plantations on both sides. These dams are very common at the lower reaches of the canals, where cultivators in each village erect their own. The water course is, therefore, divided into many sections and transport becomes almost impossible in these parts. The earth dams, however, are usually removed after the beginning of the flood season to facilitate water drainage to the marshes.

Flood irrigation is consequently, restricted to the southern sub-administrative units of Amara province, Kahla, Mijar Al-Kabir and Maimouna (Fig.7). Along the lower reaches of the Kahla, Mijar Al-Kabir and Butaira canals and on the outskirts of marshes are concentrated the bulk of rice fields depending on flood irrigation.

Nevertheless, this method of irrigation has many defects. It reduces the rice producing areas on the outskirts of marshes by the annual addition of sediments which raise the land higher than water sources. The over-diversion of water brings the ground water table

up to the root-zone, and increases the possibility of salt accumulation in the upper layer of soil. This method of irrigation also, causes considerable damage to areas used to other crops and sometimes makes agricultural operations on the land difficult. At the same time the flood water creates transport difficulties by destroying roads or making them muddy and impassible particularly those connecting rural settlements with towns.

(iii) Lift Irrigation :

In other parts of Amara where the cultivated areas are higher than the level of water courses lift irrigation, which is more economical and easier to control than other methods, is applied. Thus, salinity and water wastage, are not so serious in these areas.

Three methods of lift irrigation are employed in the Amara region. Two of them are ancient and operated by animals called Karid and Na'oor. These methods, at present, on a limited scale and restricted to vegetable gardens or fruit orchards. By contrast, the third method which uses water pumps is predominant in Amara, where the installation of such pumps began a long time ago. About 16 percent of all the pumps in the lower Tigris basin are in Amara. (8) The northern and central parts, upstream of Amara to Kut Barrage, can be considered the largest pump-irrigated area in the Amara region (Fig.7).

Any economic and social transformation in Amara cannot be executed before removing the many serious faults in the irrigation system which have contributed to the deterioration of socio-economic conditions for a long time. An adequate system of water control and regulation is essential to prevent the loss of

great amounts of water every year through flood breaches such as Al-Musandaq, or irrigation canals such as Butaira. Effective measures, such as using pump-irrigation on a larger scale, should also be taken to deal with the losses of water through flow and flood irrigation. The introduction of water control and drainage projects might require a great amount of capital, but the future of Amara will certainly depend on the development in this direction.

1.4. NATURAL VEGETATION AND SOILS.

1.4.1. Natural Vegetation :

The natural vegetation in Amara, especially in the northern and north eastern parts, is very poor and most of the plants are drought-resisting species. Thorn Prosopis fareta is the most common perennial weed in the flats and on river banks. It is important to soil formation because it extracts the nitrate compounds in the soil through its deep roots. Thorn is also a valuable source of livestock fodder particularly during the dry season. Some other annual plants flourish during the wet season in these semi-arid parts, the most important of which is the Camel thorn Alhagimanrorum which is the favourite food of camels. Bermuda grass Cynadon dactylon grows usually near water sources and is characterised by its quick growing quality. Along the water courses the poplar thickets Populus Euphratica Oliv predominate and are used by the rural inhabitants for fuel. Undergrowth in the riverine areas is composed of the annual grasses, Tamarisk Tamarix articulata and Suspania Prosopis stephaniana. The latter sometimes is used as a wind break.

Plant life becomes abundant in the southern parts with the permanent and seasonal marshes and an intensive network of irrigation.

The prevalent plants in these areas are the hydrophytic species. The Giant reed Phragmite communis is the most important plant in the permanent marshes where it reaches great heights, sometimes more than four metres. Its young stems are the best food for buffaloes and cattles, while its long and strong stems are usually used as poles to punt the canoe boats and in making tridents for fishing. Above all the inhabitants build their dwellings almost completely from the giant reed, and use it for fuel.

Bulrush Typha angustata the plant of next importance in these marshy areas, is found usually in the shallow water of the permanent and seasonal marshes. It also is used as food for livestock as well as for mat making. In addition to the giant reed and the bulrush there are numerous species of wild floating plants and weeds such as Duck weed Salvinia natans in the marshes particularly during the high water season⁽⁹⁾.

As a result of the poor and sparse plant cover, particularly in the northern parts with high temperature, the content of organic matter in soils becomes very low, sometimes less than one percent. This reduces the water-holding capacity of the soil.⁽¹⁰⁾ Because of the large daily and annual range of temperature some parts of the region have a Gilgai topography where wide cracks or small mounds occur in the dry season ~~and~~ account of the repeated shrinkage of the soil.

1.4.2. Soils :

(i) Soil Structure :

The prevailing semi-arid conditions have considerably affected soil building in Amara. Since rainfall occurs only during winter and spring, the soils dry during summer to a depth of about a metre,⁽¹¹⁾ and the main source of soil moisture is the irrigation water supplied by the Tigris and its tributaries.

The soils of Amara are built up mainly of Miocene and early Pleistocene deposits and more recent deposits laid down as river levees and basins. These sediments were brought down by the numerous rivers and water courses from adjacent catchment areas. The soils of the Amara region, therefore, vary greatly in depth, from one to four metres, and in structure from one part to another. In the riverine patches, for example, the pinkish or greyish soil is usually friable silty loam or sandy loam on the surface layers, while the subsoil, to a depth of more than a metre is silty loam and loam or silty clayey loam. Permeability of the surface horizon and the sub-soil varies from slow to moderate. The lower strata is made of silty clay or silt layers with some sand content, also with slow or moderate permeability. As a whole the permeability of soils in Amara as in other parts of the Mesopotamian trough increases with the depth as in the soils of the Dujaila area (Table 1.3). At the same time the dark soils in marshy areas and depressions are composed of heavy clay and silty clay with very low permeability.

TABLE 1.3.
PERMEABILITY OF DUJAILA SOILS AT DIFFERENT DEPTHS

DEPTH (Cm.)	PERMEABILITY (Centimetre/ 24 Hours)		
	MINIMUM	AVERAGE	MAXIMUM
60 - 200	15	30	80
230 - 350	20	70	150

SOURCE :
International Institute for Land Reclamation and Improvement : Reclamation of Salt Affected Soils in Iraq,
H. Veenman and Zonen N.V, Wageningen, Publication 11 (1963), p.28

Although it is difficult to show the texture distribution of the Amara plain, since detailed studies of the physiographic and geomorphic features are unavailable, the following figures show the soil composition in selected areas in Amara and adjacent areas (Table 1.4).

TABLE 1.4.

MECHANICAL COMPOSITION OF SOILS IN SELECTED AREAS OF THE
FLOOD PLAIN

AREA	DEPTH (Cm.)	SAND (percent)	SILT (percent)	CLAY (percent)
DIYALA	0-60	17	62	21 (a)
MIDDLE TIGRIS (EAST BANK)	0-60	16.3	50.6	33.1 (b)
EAST GHARRAF	0-60	11.0	37.9	51.1
ALI AL-GHARBI	0-60	11.6	59.3	29.1
<p><u>SOURCE :</u></p> <p>(a) International Institute for Land Reclamation and Improvement : p.27</p> <p>(b) I.P.Delver: <u>Saline Soils in the Lower Mesopotamian Plain</u>, Ministry of Agriculture, Tech.Bull.No.7, Government Press, Baghdad (1962), p.31.</p>				

The high proportion of silt in the soils of the flood plain is due to the great amounts of these deposits brought down by the rivers every year, particularly during the flood season. The Tigris at Baghdad during April 1954, for example, carried about 35 million tons of silt, an average of about 795 gm./cubic metres.⁽¹²⁾ However,

the suspended materials in the Tigris downstream of Kut Barrage ranges from 100 parts per million parts during the dry season to more than 4,500 parts per million parts during the flood season, and shows a direct relationship between the silt content in the river and the amount of run off.

The lime content too is high in almost all the soils of Amara as in other parts of the flood plain, owing to the erosion of limestone formations in the upper parts of the Tigris, Euphrates and their tributaries. Lime content in this plain has been estimated between 20 and 30 percent,⁽¹³⁾ but this ~~proportion~~ varies, considerably from one part of it to another. The Tigris river deposits, for example, contain between two and two and a half percent more lime content than those of the Euphrates. Fair amounts of gypsum are sometimes found at depths of more than a metre. Soluble magnesium and calcium constitute about 30 percent of the total soluble salts in the soil.

Soil reaction (pH) of the lower Mesopotamian plain ranges between 7.2 and 8.5 or an average of 7.8, the difference being due to the salt content in different parts of the plain. Fluctuating pH is also related to the soil texture and the existence of the exchangeable Na, which is higher in the sandy soils than in the silty clay, ranging between 8.08 percent and 7.80 percent respectively.⁽¹⁴⁾

(ii) Soil Salinity :

Soil salinity in Amara is a problem as in other arid and semi-arid regions. The lack of rainfall reduces the possibility of salt leaching from the earth's crust. There is a strong relationship, moreover, between soil salinity and land relief. The flatness of Amara offers only slight opportunities for water movement and produces a raised water table.

Salt concentration in the soil is caused also by the long irrigation period in the Mesopotamian plain. The Tigris, the Euphrates and their tributaries have brought through the centuries great amounts of salt from the adjacent areas to the plain. Irrigation water adds about three million tons of salt to the soil of Iraq every year. The salt content ranges seasonally between 0.2 and 0.4 gram per litre and the ground water probably contains about five percent of salt. The monthly average of soluble salts in the Tigris at Amara in September, 1952 was about 776 milligram per litre of water, or 776 gram per cubic metre. Since the run off of the Tigris above the provincial capital of Amara, or upstream of the Kahla river intake, in 1951/52 was 10.5 milliard cubic metres the amount of salt deposited in Amara can be easily estimated. But, the salt content of the Tigris varies, in fact, throughout the year, as it rises when the water discharge increases and vice versa. The average values for the Tigris at Baghdad during the period 1924-1952 show that the salt content is higher in the flood period than in the dry season, ranging from 370 gm.per cubic metre in December to only 190 gm.per cubic metre in June and July. ⁽¹⁵⁾

The salt concentration in the upper layer of soil, however, depends upon soil structure and the salt concentration of the underground water. The depth of the saline underground water depends on the rate of evaporation because with high rate of evaporation salinity will be concentrated on the upper soil layers.

The underground water in Amara starts rising in December to between a half and one and a half metre in March and April, due to the great amounts of flood and irrigation water. In addition, the cultivator inundates his land to wash away the salts or to reduce the level of salty underground water. This flooding by the cultivator not only raises the water table but also leaches the plant nutrients far beyond the root zone.

The most common salts in the soils of the region are the NaCl, CaCl₂, MgCl₂, CaSO₄, Na₂SO₄ and MgSO₄. The highly soluble salts such as CaCl₂ and MgCl₂ are concentrated in the upper soil layer. The well known Sabakh soils are made chiefly of these salts, which constitute 50-60 percent of the total weight, while the thickness of these salt layers ranges between three centimetres and more than a metre.⁽¹⁶⁾ These soils which are widespread in Amara as in the whole of southern Iraq are usually impermeable and make root penetration and ploughing difficult. Other saline soils are found in Amara; some of them occur as a white crust along water courses and small elevations with a high sodium sulphate content.

(iii) Salinity and Plant Ecology :

Soil salinity affects plant life in many ways. First, salt accumulation in the upper layers of the soil subjects the seeds during germination to high salinity. Apparently, salt tolerancy of seeds differs in different plants; barley and corn, for example, are the most salinity tolerant crops allowing 100 percent germination even in the highest salinity. The upper limit of salinity for barley and corn is 1.5 percent. Wheat could germinate at 0.9 percent of salinity and the upper limit of salts is 0.8 percent in the field.⁽¹⁷⁾ The germination of date seeds decreases when the sodium chloride concentration solution increases from 0.1 percent to 1.0 percent.

Moreover, salinity limits, considerably, the kinds and cultivated areas of the field crops and vegetables. Consequently, barley occupies the largest proportion of cultivated areas in Amara, where salt contents in the soil reduces the possibilities of cultivating other crops. The salinity tolerance of rice, which is the major summer crop in Amara, in the saline soils is not critical

because salts are usually removed from the root zone when the paddy fields are flooded continuously. Thus, if the water table is near the surface, rice cultivation may be hindered. It has been noted that the water quality in the rice field is an important factor in the crop growing, and found that rice can survive up to 1.5 gram per litre of salts, but it becomes impossible at three grams per litre.⁽¹⁸⁾ Thus, the water of the Tigris in Amara is quite suitable for rice cultivation since its salt content is only about 0.8 milligram per litre.

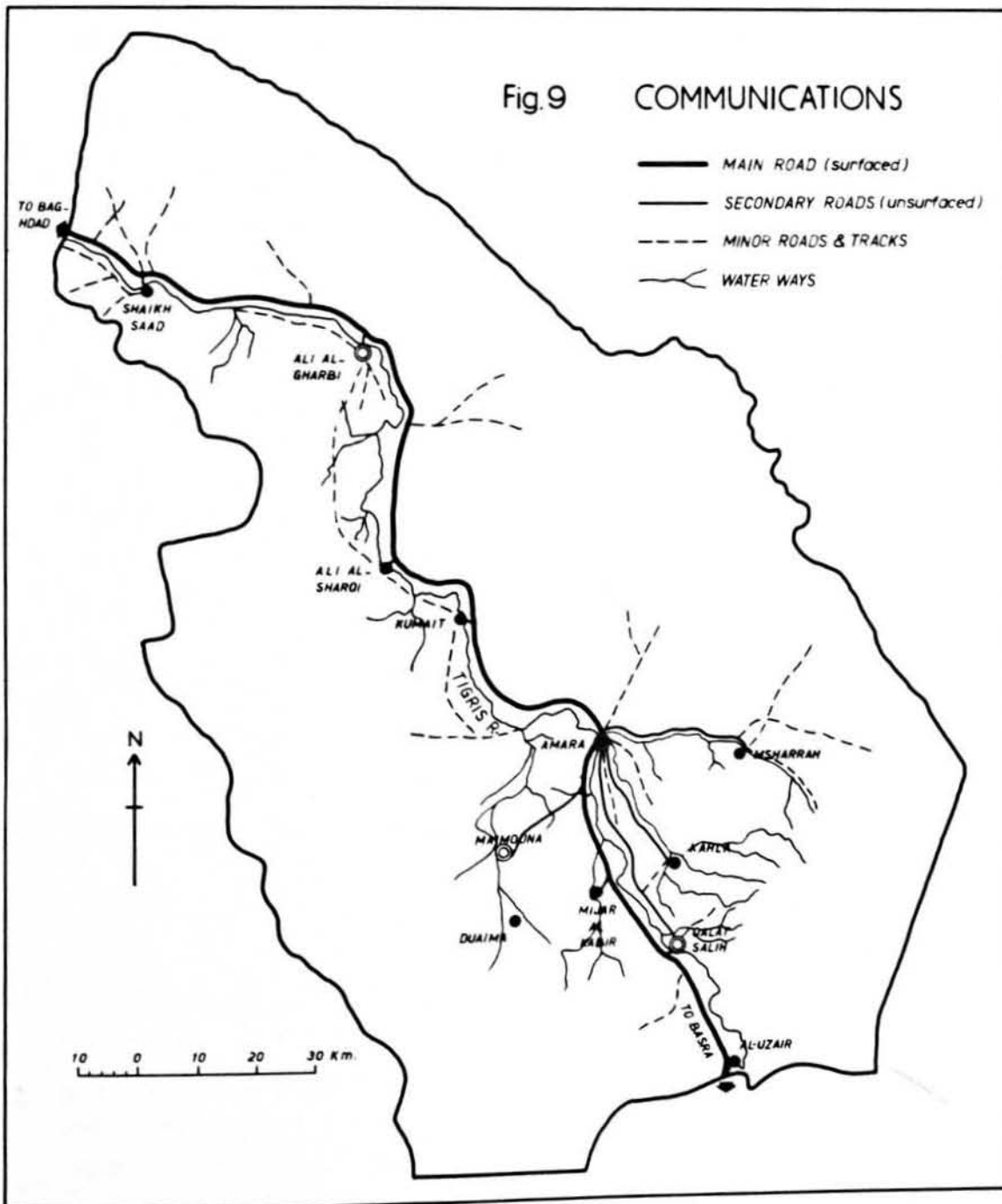
Vegetables such as spinach, tomatoes, radish and green beans are of high to moderate sensitivity to salinity. Grains (barley and wheat) are more tolerant to salinity than the legumes (beans, peas, alfalfa, clover), by an increase of the NaCl₂ content up to 0.25 percent. One of the most tolerant grasses in Amara is the Bermuda grass Cynodon dactylon.

Nevertheless, the Tigris water in Amara is suitable for irrigation purposes, since the amount of soluble salts does not create a serious danger to the cultivation of major field crops. Furthermore, the reflooding the rice fields greatly reduces the salt accumulation by continuous washing of salts in such areas. It can be concluded, therefore, that soil salinity particularly in rice producing areas, has contributed only slightly to the decline of agricultural production in Amara and in turn has had little effect on the economic conditions of the cultivators. Nevertheless, the majority of migrants from this region are from rice cultivating areas and one must look to other factors to explain this.

1.5. COMMUNICATIONS.

A study of Amara's communications, as shown in Fig.9, suggests why the region is undeveloped and why both economic and social advancement is difficult. The backward communication system

Fig.9 COMMUNICATIONS



is largely a result of the physical environment, the widespread extent of marshes and swamps, and the dispersed population.

1.5.1 Roads:

There is a remarkable lack of roads for wheeled traffic throughout Amara. However, roads in this region can be classified into three categories:

(i) First class which includes the only major road running between Baghdad and Basra. Until 1965 it was only a rough earth route becoming impassible for a long period in winter and spring every year. It runs on the left bank of the Tigris between Shaikh Saad and Amara and on the right bank after the latter centre (Fig.9). It is a very good asphalted road and carries one of the heaviest traffic densities in Iraq since it is the only major road linking Baghdad with Basra via important agricultural regions such as Amara and Kut provinces. It connects some important centres of sub-administrative units such as Ali Al-Gharbi, Amara and Qalat Salih, and receives feeders from both sides.

Before 1965 the normal way to go from Amara to Baghdad was via Basra by train. This involved a long journey of more than 700 km. instead of following the poor, direct road of less than 400 km. between Amara and Baghdad. Thus the linking of the region with the rest of Iraq came late and still is poorly developed. The late construction of the Baghdad-Basra highway was due to the nature of the flood plain in this region which becomes a marass after rain, with large areas liable to inundation in winter and spring and with numerous

irrigation canals. The only other surfaced road is the one which runs from this major road, for less than 20 km. to Mijar Al-Kabir town.

(ii) The second category is composed of poor sections of unmetalled roads, fit, however, for a limited amount of motor traffic except after heavy rains which makes them impassible. They usually cross numerous irrigation canals traverse the region in an east-west direction, and join the main north-south trunk road. The most important second class roads in the region are those which radiate from the provincial capital to Msharrah, Kahla and Maimouna towns.

(iii) The third type comprises the lesser roads and paths which connect the rural settlements and villages with the second class roads. They are rough and narrow used chiefly by animals and sometimes by cars.

Bus services in the region are found only in the capital town of Amara, while there are private bus companies which operate the route between Amara and Baghdad, a five hour journey, and Amara and Basra, a three hour journey. In addition there are taxi services between Amara and both Baghdad and Basra. Between Amara and other towns throughout the regions there are inadequate bus and taxi services.

1.5.2 River Transport:

River transport is the most common, the easiest and the cheapest in Amara. The Tigris river, which constitutes

the trunk of this system, is the main route which links central and northern Iraq with the south and world trade sea routes through Shatt-Al-Arab. The bulk of Iraq trade passed until recently along this route, which was more important than the Euphrates because it was the outlet of Baghdad the economic and political capital of the country for a long time. The Tigris river does not flow directly in marshy or vast arid areas as the Euphrates does in its lower part, so that it became favourable for navigation.

Apart from the few roads already discussed almost all parts of Amara depend upon river communications. In the sub-administrative units of Qalat Salih, Mijar Al-Kabir, Misan, Maimouna, Ali Al-Gharbi, water transport is the only means of communication, and in most parts of the remaining units water ways are preferable and dominant (Fig.9). The main advantage of this transport system over roads is that the water ways usually penetrate deep into almost all parts of the region, especially in the central and southern parts, and are generally less subject to changeable climatic conditions than are the second and third class roads.

Rivers are used by the rural areas for the export of agricultural products and imports of manufactured articles. They provide also major sources of fish and movement in these areas. Nevertheless, rivers cannot be navigated with equal facility all the year around : in the dry season, for example, the water level in the water courses is insufficient for big craft due to the great losses of water through the natural flood escapes and irrigation canals. As a result narrows are usually developed in the main channel of the Tigris in its lower parts, particularly after Qalat Salih.

Different kinds of craft are used in these water ways. The most important are the motor boats and sail boats which only are common in the Tigris and in some of its big tributaries (Plate I). In the secondary canals, smaller rivers and marshes where the water level is not so high or because of dense natural vegetation, rural dwellers use the high punted canoe boats called Mashoofs. These boats vary in shape and size from one part of the region to another; some of them are so large and strong that they are used in the big rivers or the Tigris and can go as far as Basra. Others are small but constitute almost the only means of communication from one settlement to another or even from one house to another within the settlement (Plates II and IX).

The lack of good communications has seriously retarded both economic development and social advancement. It reduced the possibility of introducing more advanced techniques of farming and prevented in turn further agricultural expansion or more adequate utilization of natural resources in such a rich, cultivable region. This can be seen in the low productivity of the region, the low incomes of cultivators and the subsistence type of economy.

The low economic development, the low standard of living, poor social advancement, marketing problems and the surviving social traditions in Amara, which are discussed in many parts of this thesis, can be attributed either collectively or partially to the poor development of communications. The communication problems, in fact, are related to both the physical environment and inadequate capital

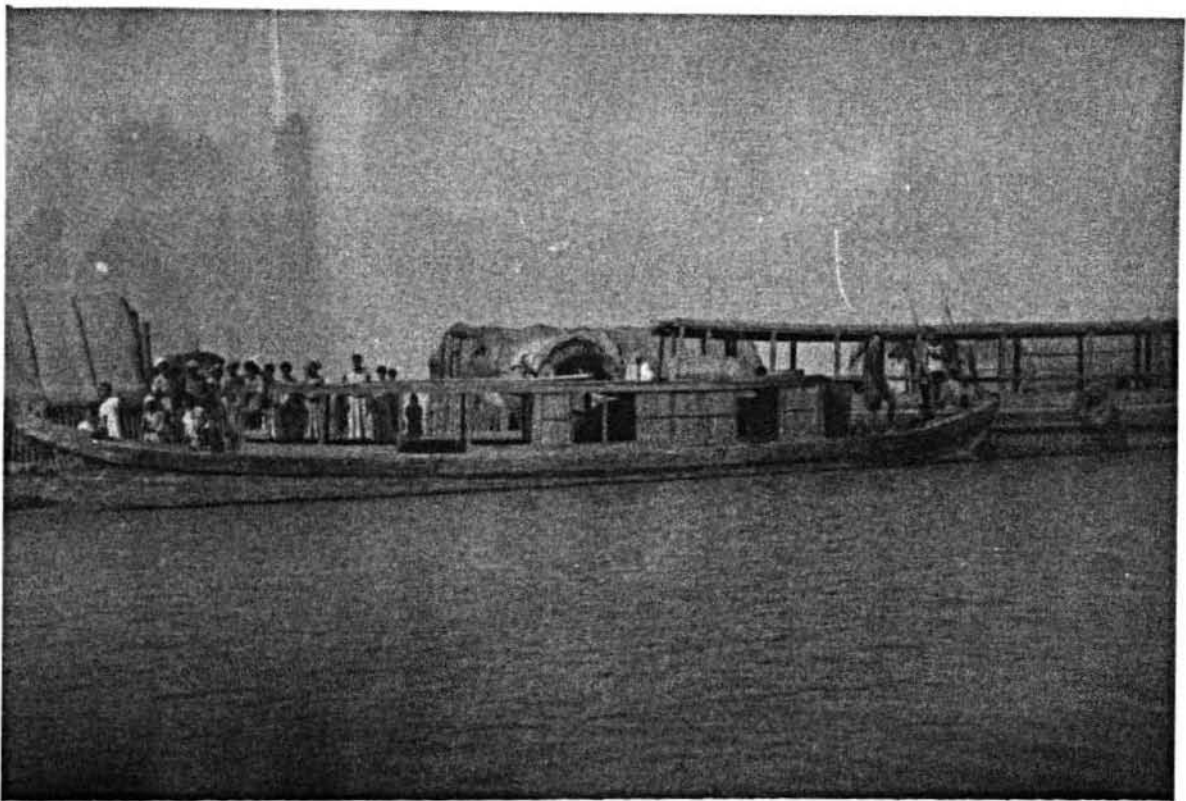
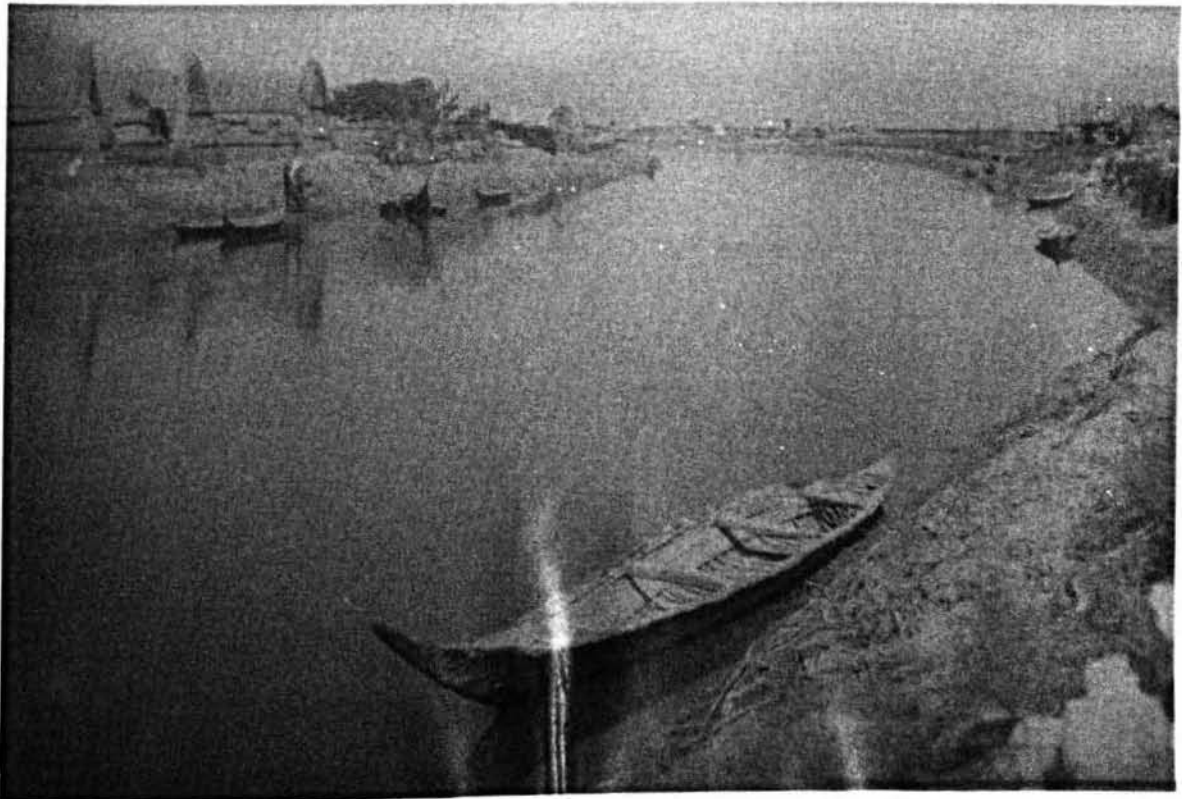


Plate I. Motorboat, the chief means of transport in major canals.

Plate II. Canoes (Mashoofs) on the Tigris near Ali Al-Gharbi.



investment. Nevertheless, by more investments and adequate planning the physical obstacles could be easily overcome. For, although the marshes inhibit the construction of roads the large network of canals can be one of the basis of the development and progress of the region, since this will be confined mostly to agricultural production, rather than to other sectors.

Chapter I. References :

1. I. Sherif : The Geographical Location of Iraq, Shafiq Press, I, Baghdad (1961), p.14 (Arabic).
2. H.H. Boesch, "El-Iraq", Economic Geography, XV (1939), p.329.
3. W.H. Al-Khashab : Water Budget of the Tigris and Euphrates Basin, University of Chicago : Department of Geography, Chicago (1958), p.62.
4. Tippetts Abbott McCarthy Straton, Engineers : Tigris River : Kut to Qurna, Development Board and Ministry of Development, Baghdad (1958), p.47.
5. M. Allahwerdi and Assoc. and Cekop : Irrigation Improvements in the Amara Area, Directorate General of Irrigation, 11, Baghdad (1963), p.40.
6. Ibid, p.101.
7. F. Al-Khooli : "Irrigation Development of Iraq", Association of the Iraqi Engineers Bull., The Sixth Arab Engineering Conference, Al-Rabita Press, Baghdad (1955), p.4 (Arabic).
8. Lord, Salter : The Reconstruction of Iraq. A Plan of Action, Development Board, Al-Ani Press, Baghdad (1956), p.202. (Arabic).
9. W. Thesiger : "The Ma'dan or Marsh Dwellers of Southern Iraq", Journal of the Royal Central Asian Society, XLI (1954), p.6.
10. U.N., F.A.O. : Mediterranean Development Project, Rome (1961) p.9.
11. C.W. Mitchell : "Investigations into the Soil and Agriculture of the Lower Diyala Area of Eastern Iraq", Geographical Journal, CXXV (1959), p.393.

12. N. Majeed : "Soil Characteristics of the Iraqi Delta", Association of the Iraqi Engineers Bull., The Sixth Arab Conference of Engineering Al-Rabita Press, Baghdad (1955), p.9 (Arabic).
13. I.P. Delver : Saline Soils in the Lower Mesopotamian Plain, Ministry of Agriculture, Tech.Bull.No.7, Government Press, Baghdad (1962), p.35.
14. Ibid, p.46.
15. Ibid, p.52.
16. V.A. Kovda : "Principles of the Theory and Practice of Reclamation and Utilization of Saline Soils in the Arid Zones", Salinity Problems in the Arid Zones, Proceedings of Tehran Symposium, U.N.E.S.C.O. (1961), p.203.
17. L. Bernstein : "Salt Affected Soils and Plants", The Problems of the Arid Zones, Proceedings of Paris Symposium, U.N.E.S.C.O. (1962), p.156.
18. Ibid, p.159.

CHAPTER II

LAND TENURE

Iraq is one of the most fortunate of the developing countries having plenty of untouched land resources. The total area of Iraq is about 438,500 sq.km. or 178 million mesharas. Cultivable land has been estimated at about 90,000 sq.km. or about 37 million mesharas. These figures constitute about 21 percent of Iraq's total area. At the same time, compared with its great potential, the total population of Iraq is small being in 1965 about 8,262,000 about 56 percent of which were rural.

It is interesting to compare the cultivable land in Iraq with that of some other countries in the Middle East where agriculture plays a similar part in the economy. In Egypt, for instance, the cultivable land constitutes only about ten million mesharas. It has been suggested that after the completion of the Aswan High Dam this area will increase to 12.5 million mesharas;⁽¹⁾ it will then cover only three percent of Egypt's total area. The ratio of cultivable land to the total population in Iraq is more than ten times that of Egypt's or between six and seven times the average in Asia as a whole.⁽²⁾ In Syria the total of cultivable land is about 26 million mesharas and the ratio of cultivable land to the total population is about 5.2 mesharas per person.⁽³⁾ But, the total of cultivated area in Iraq usually does not exceed 11 or 13 million mesharas annually or about one third of the cultivable land. This is due to the fallow system.

Furthermore, Iraq contains within its borders a great amount of water quite suitable for irrigation purposes, supplied by the Tigris, the Euphrates and their tributaries. The average annual water budget for Iraq is about 73 milliard cubic metres.⁽⁴⁾ The climate of Iraq is, also, so diversified that it is suitable for

different kinds of crops. Thus, Iraq was well known historically as a grain and food producer and exporter. Farming was and still is the main occupation of its people, and land is still the major basis of the country's economy, apart from the oil resources. The farmer is still the exploiter of this natural resource, and on his efforts the prosperity of the country depends to a great extent. Agricultural production is not only the main food source for people but is important to industry and commerce.

Unfortunately, this fertile and wealthy land suffers poverty and many related problems. Iraq now depends on imported grain and many other food stuffs. Farmers who should be some of the richest people in such a wealthy country, endure a wretched life of poverty, disease and ignorance. The land itself through an inherited system of tenure lies behind these evils. It is important therefore, to discuss briefly the problem of land tenure in Iraq and Amara to highlight the affect of this system upon the different socio-economic conditions of the majority of inhabitants.

2.1. LAND TENURE IN IRAQ.

After the decline of the Abbasyid State in 1258, Iraq entered what can be described as a dark period when, under the new rulers all aspects of the country's life was destroyed. The irrigation system was damaged, rivers changed their channels, cultivated areas were flooded continuously, irrigation canals silted up, salts accumulated in the soils and security was disturbed. In a very short time Iraq lost what had been built up by the continuous struggle of the inhabitants over hundreds of years. After this tragic period of Mongol occupation, Iraq entered another dark era under the Ottomans. The new conquerors did not differ much from their

predecessors; they reduced, particularly at their earlier days, the few remaining resources of the country. Moreover, their weak administration during their final periods caused a great deal of damage to this part of their empire.

Under these unstable conditions people, especially in rural areas, were forced to group themselves into some sort of social organization in order to maintain their security and existence. These organizations led afterwards to the emergence of the tribal system under the leadership of an outstanding person as a tribal chief or shaikh. Each tribe occupied a piece of land and used it either for cultivation or as pasture. The common use of the land, or Musha, by all members of a certain rural group, called Dira, was in fact a kind of self-sufficient economy where each local community produced most of the essential goods. This resulted from isolation, lack of agricultural facilities and knowledge and the absence of security in these regions.

The chief or shaikh was like any other member of his tribesmen, but he had the responsibility of defending them and managing all tribal affairs in the Dira. Meanwhile the central authorities in the country could not change the unstable situation, or to take over the responsibilities from the tribal chiefs. Thus, tribes in the rural areas became definite organizations or as small political units, called Imaras. At this stage these political organizations became stronger and of great influence in the life of the country.

The Ottoman government granted the tribal chiefs, notables and big military leaders vast areas of land in exchange for collecting taxes and supplying the government authorities with soldiers in war time. This process gave rise to a semi-feudal system in the country. The economic status of the country changed from the self-contained economy to a commercial economy mainly due to the development of

communications, secondly, the increase of foreign demand for Iraqi produce and the use of pumping irrigation method which led in turn to more agricultural production and greatly increased the value of land. Landholders or chiefs were no more tax-collector, but secured large estates for themselves. They were also no longer ordinary members within their tribes working for their subjects, but primarily for themselves. Farmers or the members of the tribes became merely tenants and land slaves. Therefore, during the first half of the Nineteenth Century, the government abolished all the former laws and regulations and gave the rights of tax-collection to official tax-collectors.

In 1857 the government passed the Ottoman Code. This act sought to categorize lands and to define rights and limits of the state land. The code classified land into five categories: First, Mulk, El-Arazi el mamlouka, these lands include those held with full ownership. The owner has complete rights to benefit from land incomes and at the same time land can be sold, mortgaged, inherited and converted into Waqf, or land for pious purposes. Second, Miri, El-Arazi el amiriya, or state land. This kind of land can be exploited directly or indirectly. Rights of ownership can be granted by the government to individuals under certain considerations. Third, Waqf, El-Arazi el mauqufa, or those lands dedicated to religious or cultural purposes. Fourth, Matrouka, El-Arazi el matrouka, which consist of those lands kept for public uses. Finally, Mawat, El-Arazi el-mawat, or wast land.

This Ottoman Code and then the Land Registration Law, or Tapu, which was introduced by Medhat Pasha who served as Governor of Baghdad in 1869-71, were steps towards land reform. The latter law declared that all state land held and used by the public who could prove that they had cultivated it for ten consecutive years should be acquired and possessed in Tapu tenure. But, unfortunately the land registration failed in Iraq as in other parts of the empire. Because

the Ottoman administration was too weak and inexperienced to carry out such a big project, and since it was introduced in a primitive and undeveloped society, reform was rarely carried out. The tribesmen feared that registration was a prelude to conscription.

Instead of being granted to the cultivators, those who really till the land, the land was granted to the notables and big tribal shaikhs who took advantage of this and registered the tribal land in their own name, or those of close relatives. This case is very clear in Nasiriya province where most of the land was granted to the Al-Sa'don family. A large amount of tribal land was similarly acquired by townsmen, especially in Baghdad, Diyala, Kut and Hilla. However, most of the boundaries of the granted land were indefinite and vague, while assessed values of land which had been paid by the landholders were unreasonable and were not proportionate to the size or the quality of the land. This may be due to the fact that the Ottoman government tried chiefly to encourage the landless cultivators to possess land.

The total area which was granted in tapu tenure in the Nasiriya region was 6,260 sq.km. or about one sixth of the province's total area, and this area was much larger than those granted in Basra and Amara provinces, where it covered only about one ninth and one eighteenth of these two provinces.⁽⁵⁾

Thus, tapu tenure or land registration not only failed to fulfil its major purposes but it added more complexity to the land tenure system. The Ottoman government in 1880, therefore, suspended the granting of title to occupants and tried to give it a better basis, but nothing effective was achieved during the remaining period of the Ottoman administration in Iraq.

* Although the first registration in Iraq was in 1880, it was not really effective until 1885 when the Ottoman government decided to register the land.

During the British administration after the First World War, the situation of land tenure in Iraq continued as before with confusion and chaos in all aspects.

No changes took place after the establishment of the national government in Iraq after 1921. Most of the land belonged legally to the state, miri land, while in practice being held by tribal chiefs and land holders. The Iraqi government trying to solve the problem called in 1929 on Sir Ernest Dowson, the British expert in land tenure. After extensive investigations he introduced a report issued in January 1931. On the basis of his suggestions the government issued the law of Settlement of Land Rights No.50 of 1932 to settle the confusion and solve the many questions related to land ownership except, of course, those about government land. This law again helped the tribal shaikhs, landholders and town merchants to keep most of the agricultural land because they constituted the most influential group in the country at that time. On the other hand the land settlement did not apply in Amara because most of the land was considered true government land. In 1938 the former law of 1932 was replaced by the Land Settlement Law No.29. This new law did not make any noticeable change in the land disputes over the country. Changes and modifications of land settlement laws continued until very recently.

The land settlement laws of 1932 and 1938 classified lands in Iraq into four categories:*

1. Mulk
2. Matrouka
3. Waqf
4. Miri, which includes three sub-categories :

* Although all kinds of land except Waqf have been subjected to the first agrarian reform in Iraq (1958) this classification is still valid and will continue for a long time until all the land is completely redistributed.

- (a). Miri Tapu
- (b). Miri Lazma
- (c). Miri Sirf

1. Mulk, includes all the private land which is registered in land registration books. The owner of such land should have documents proving his ownership, nor should he leave the land idle, except for legal reasons, during the last 15 years before its settlement. Mulk land also constitutes only a minor proportion of the total cultivable land in Iraq and is restricted to buildings and fruit gardens, it is almost negligible in Amara (Fig.10). Most mulk land in Amara is in Amara ~~Qadha~~ Centre sub-administrative unit which contains the provincial capital.

2. Matrouka : This category includes lands devoted to or kept for public purposes, such as roads, public buildings and parks or any Waqf or Mulk land which has been used for these purposes for 15 years. It also includes the miri land which has been devoted to the above purposes for ten years.

Matrouka land is usually registered in the name of the Ministry of Finance, indicating the purpose to which it was devoted. It constitutes only small proportions of the total cultivable area in Iraq. It is difficult to differentiate this kind of land from miri land since both are run by the state, so that, matrouka land is unknown as a separate category but is intermixed with the miri land.

3. Waqf : Waqf is a particular tenure restricted to Islamic states. In this system a person can convert whole or a part of his property for religious purposes. Then the land will not be subject to sale, mortgage or any other kind of usufruction.

Waqf land resembles mulk tenure, constituting a small proportion of the arable land in Iraq, being confined to urban properties and orchards. It has many disadvantages. In the first place it is an obstacle to agrarian reform since waqf land is not subject to sale, mortgage or any kind of transaction. Moreover, it leads to large holdings in the hands of a few proprietors. Finally, it is a method used by wealthy people to avoid land taxes.

This land is also found on a very limited scale in Amara where it covers only 104 mesharas. Thus, it is unimportant and almost completely composed of fruit orchards and town estates.

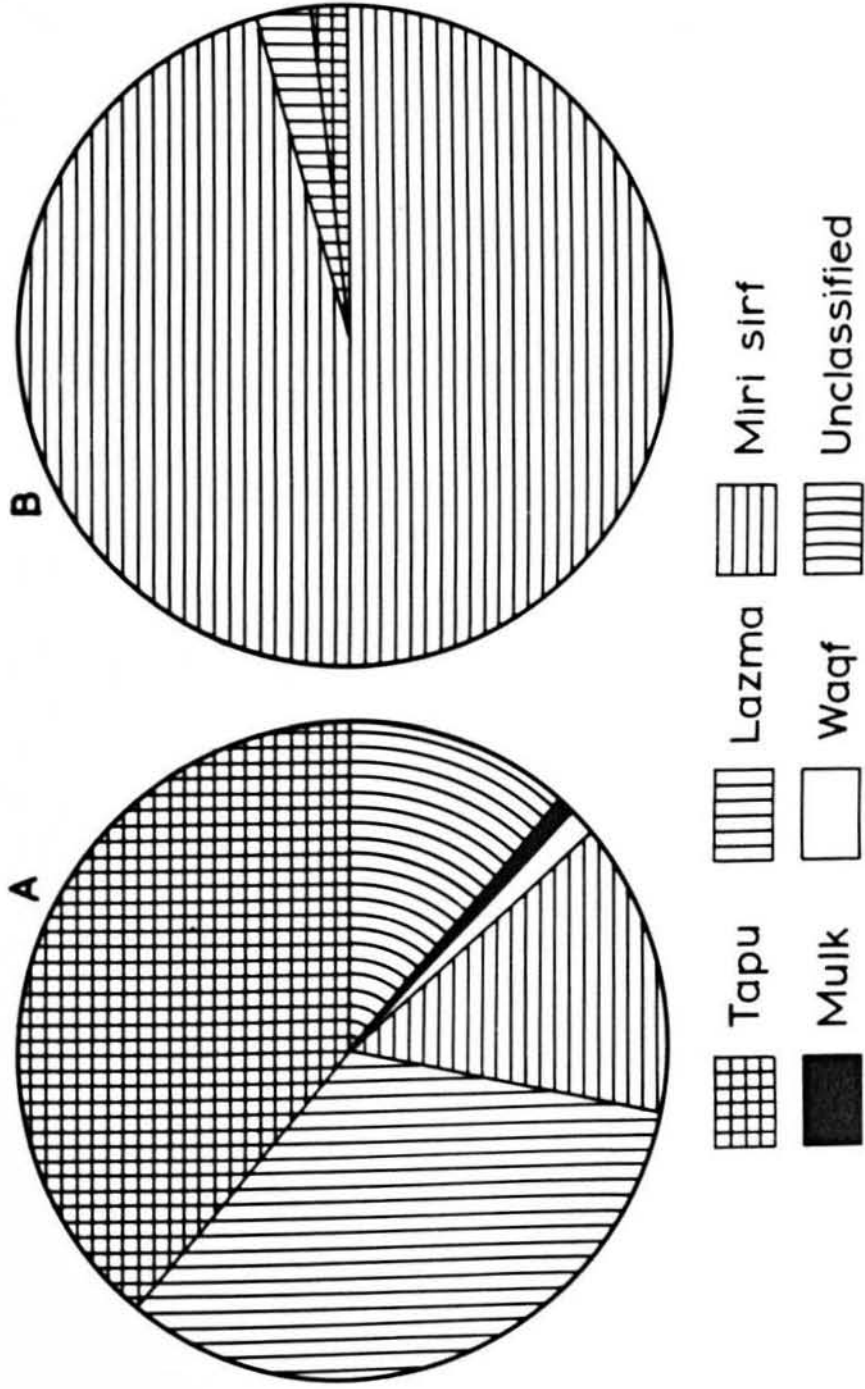
4. Miri : Miri land covers all areas except those mentioned above. Miri land belongs legally to the state and falls into three sub-classes :

(a). Miri Tapu : This includes those miri land granted in perpetuity from the state. The holder has complete authority to sell, mortgage and bequeath land to his descendents. It must be proved officially and should be registered at a land registry office with a document to certify this registration. Otherwise the holder must prove that the land concerned was planted with trees, usually date palms or grapes, for at least ten years before its settlement. In this case the average number of trees must not be less than 40 per meshara, and the number of fruitful trees not less than 20 per meshara. Tapu land is granted to Iraqi nationals and to foreigners under certain conditions.

This type of tenure covers about 39 percent of arable land in Iraq, the highest proportion in the country (Fig. 10A). Tapu land is concentrated mainly in centres of sub-administrative units of Amara, but is almost negligible in rural areas. According to the Ottoman Code all state land used by the people should be held in tapu tenure but, in spite of that, such tenure remained quite limited because it was not based on a real and detailed

Fig.10

COMPARISON OF LAND TENURE IN IRAQ&AMARA



investigation of land claims or a full survey of land and such a progress measure could not be applied properly in a backward country.

(b). Miri Lazma: This category contains those lands which are granted, like tapu lands, to Iraqi citizens who cultivated or planted these lands, for at least five consecutive years, during the 15 years before the settlement. In lazma land there must be no fewer than 40 trees per meshara. At the end of ten years the cultivator of the trees has the right to register the land free in his name as tapu land.

In the case of the land irrigated by water pumps the cultivator will be granted the land if he proved that he was cultivating it for 15 years before the pump installation. Ownership rights of lazma are not transferable as in the case of tapu. Originally lazma meant the right of occupation and cultivation, where the land was usually distributed to the tribesmen by the shaikhs.

Lazma land is common in most of the provinces of Iraq except Amara. It constitutes about 33 percent of all land categories in Iraq, but it covers only 2.7 percent of Amara (Fig.10). Lazma tenure in Amara is concentrated in those sub-administrative units where barley and wheat cultivation is more important than that of rice. This may be due to the fact that more pump irrigation is used in these units.

(c). Miri Sirf: This includes any land which is not designated tapu and lazma, and which is registered in the name of the Ministry of Finance as a miri land. It is important to realise that while this type of land covers only about 15 percent of the total area of land categories in Iraq, it constitutes about 96 percent of these categories in Amara.

2.2. LAND TENURE IN AMARA.

Until the 30th of September 1958 when the agrarian reform law was issued, Amara's land ownership system was unique in Iraq, in the high percentage belonging to the state, with the result that the Land Settlement Law No.29 of 1938 was not applicable. In Amara the rights of usufruction were usually based on direct lease contracts between the government and the land proprietors, whereby the shaikh undertook against the lease of the land to pay to the legal owner a share of the produce, or a fixed amount of rent in kind or in money, every year.

The miri land was allocated in cultivated holdings and units of different size in Amara. The cultivated holding included the total area of the miri sirf land outside the municipal boundaries in Amara province as indicated in the leasing agreements between the government and the landholder. The cultivated units meant any piece of cultivated land in Amara province of an area between seven and twenty mesharas of rice land or its equivalent. Thus, one meshara of flow-irrigated rice land equaled to two mesharas of irrigated summer crops land, four mesharas of winter irrigated land or eight mesharas of pump-irrigated land. The number of these holdings was the lowest in the country. There were only 297 holdings on an average of about 319 mesharas per holding, whereas the average size of cultivated holdings in Basra and Kerbela provinces was about 15 mesharas and 46 mesharas per holding respectively.

The total area of cultivated units and holdings in Amara, 2,154,377 mesharas, was allocated into 11,116 holdings and units. Thus the average size was about 194 mesharas (see Appendix B). But the average size varied greatly from one sub-administrative unit of Amara to another. It ranged, for instance, from about 17,500

mesharas in Shaikh Saad to about 63 mesharas in Maimouna Qadha.⁽⁶⁾ The average area of cultivated holdings and units meant little in Amara since the bulk of the cultivated areas were concentrated in few large holdings. There were, for instance, 1,582 cultivated units and holdings of 120 mesharas and more. At the same time 289 holdings out of 1000 mesharas and over covered about 1,674,000 mesharas. In other words 79 percent of the total area was held by only 2.6 percent of the miri sirf land proprietors in Amara.

Of 181 holders of miri sirf land in Amara, 33 of them were town tenants and the rest tribal chiefs. The average size of cultivated holding was about 20,000 mesharas per tenant. But this average was unevenly distributed among them (Table 2.1). The table shows clearly that about 75 percent of the tenants held most of the land which ranged in area between 1,000 and 400,000 mesharas, whilst those who held less than 100 mesharas constituted about only five percent.

TABLE 2.1.

DISTRIBUTION OF AVERAGE SIZE OF CULTIVATED HOLDINGS AND THE
NUMBER OF TENANTS.

Area (meshara)	Number of tenants
From 12 - 100	9
" 100 - 1000	29
" 1000 - 10000	93
" 10000 - 100000	43
" 100000 - 400000	7
Total	181
<p><u>SOURCE :</u> S.Salih : <u>The system of direct contracts and its bad impact on the Amara province,</u> Governorate of Amara province. (Mimeographed) No.18457 (1944), (Arabic)</p>	

The irregularity of land holdings distribution in Amara before 1958 can be clarified by the following examples of selected administrative sub-divisions, from different parts of the region (Fig.2).

1. Mijar Al-Kabir Nahia: The total area of cultivated units and holding in this region was about 107,500 mesharas, allocated in 964 holdings with an average of 1,115 mesharas per holding, but the size differed greatly from one holding to another. Three holdings of the 964 covered about 45,454 mesharas or 42 percent of the total area. The size of twelve holdings constituted about 60 percent of the total area, varied between 1,500 and 50,000 mesharas. On the other hand there were 783 holdings covering between them only nine percent of the total cultivated area. The size of these holdings varied between one meshara and less than 40 mesharas. The remaining holdings were between 40 and 1500 mesharas.

2. Kahla Nahia : The total number of cultivated holdings in this unit was about 1,290. These holdings occupied about 130,300 mesharas. Nevertheless, only 27 holdings covered about 54 percent of the total area; their sizes ranging between 1000 and 100,000 mesharas. Furthermore, there were four holdings in Kahla covering about 35,000 mesharas, whilst 752 holdings covered among them only about 5,000 mesharas ranging between one and 20 mesharas.

3. Shaikh Sa'ad Nahia: The inequalities in the sizes of holdings were also quite clear in this sub-administrative unit. Only five tenants held all the cultivated holdings. Three of them were tribal chiefs and the rest were town dwellers. In this region there were only 32 holdings and cultivated units; the lowest number in the whole of Amara province but at the same time they covered about 560,000 mesharas. However, a large proportion of this area is either of a semi-arid, marshy or salty nature.

Those holdings which were between one meshara and less than 800 mesharas numbered only four, and their total area was not more than about 1,700 mesharas. Ten of the remaining twenty eight holdings covered about 421,000 mesharas or more than three quarters of the total land area of this sub-administrative unit.

Other examples of the land tenure problem in Amara can be cited. All the water of the Kahla canal was under the control of only two tribal families. The Butaira canal whose drainage capacity is twice that of Kahla, was used by only two shaikhs. The water of the Mijar Al-Kabir canal, moreover, was used by only one family. Such cases illustrate the problem of uneven distribution of water and the influence of the landholders together with inadequate water control projects which result in great losses of water in the region every year.

Consequently, most of the land and water rights were collected into the hands of a few individuals. This must be related to the fact that although most land in Amara belonged to the state, the government was leasing it in vast areas to only a few lessees, who in turn were usually sub-letting the land against a fixed sum to the sub-tribal chiefs Sarkals and to landless cultivators. This pattern of ownership resembles that of the feudal system since it gives large areas to one person, but in the latter system the land belongs to the land-lord. This means that the large landholders or the primary tenants in Amara were landlords as far as the size of holdings is concerned, but they were just lessees from the legal viewpoint, and the relationships between them and the land was negligible. The same is true of the cultivator who spends the whole of his life on land that does not belong to him. The original owner of the land, the state, has not played the necessary part of looking after the land ~~and~~ the conditions of the cultivators.

The state, instead of giving attention to land in Amara, gave it to those areas where the proprietor has full legal control over the land and government assistance is not so urgently needed as in Amara. Moreover, because of the large amount of the rented land in Amara, the landholders with existing farming techniques and knowledge can not look after these vast areas belonging to the state.

Under such conditions the land itself and the cultivator fall the main victim, and little attention has been given to land reform and improvement projects.

2.2.1. Measures Before 1958:

Before the declaration of the agrarian reform in Iraq in 1958, the authorities tried ~~on different~~ occasions to solve the problem of land ownership, or at least to reduce its intensity. But, unfortunately most if not all of these attempts failed, either because the measures introduced were not well planned or because of the opposition of the landholders and shaikhs, who had great political and economic power in the country and could influence government policy on land reform. As a result almost all the government attempts either failed in their first stages in parliament or remained ineffective. The failure of these attempts greatly affected agricultural production in Amara, thus increasing the migration of cultivators from the region. The most important attempts to solve the land problem in Amara can be discussed briefly as follows:

(i) The law for Granting Lazma Rights in Miri Sirf Land in Amara No.42 of 1952.⁽⁷⁾ Since most of the cultivated units and holdings in Amara were wholly state land and not, therefore, subject to the Land Settlement Law No.29 of 1938, the government enacted this law. According to the law all the miri land, which was not already leased or whose lease expired before the action of this law, would be subject to the Miri Sirf Land Development Law No.43 of 1951 (p.69).

But as most of the miri land in Amara province was leased to a few landholders and almost nothing else remained, the areas which were affected by this law were very limited and the beneficiaries were a very few; thus emigration from this province which had been continuing slowly was now greatly accelerated because the land tenure system which was a chief "push factor", was reinforced by this law of 1952.

(ii). The previous law, however, was superceded by another, the Law for the Distribution of State Lands in Amara Liwa No.53 of 1955.⁽⁸⁾ The title of the new law was quite attractive and seemed to offer a solution to the acute problems of both land and cultivators in the region. The law distinguished three classes of claimants. First was the Primary tenant Multazim who leased a holding according to the lazma granting law of 1952. The son of the primary tenant, his brother, his uncle or sons of these relatives were considered as primary tenants also. Second was the Secondary tenant who was any person who leased a part of a holding from the primary tenant, or any individual who owned a water-pump which was installed before the promulgation of the Law 42 of 1952. The latter should also prove utilization of the land beside his ownership of the pump.

In addition the law of 1955 included other important provisions. First it declared that each meshara of flow-irrigated rice land equals two mesharas of flow-irrigated land for winter crops and eight mesharas of pump-irrigated land. Secondly, according to article four of the law each holding must be divided into two equal halves, each half having a river front, canals and drainage equivalent to the other half. One half is to be granted to the primary and secondary tenants, the other to the cultivators. The primary tenant has the right to choose either half and the cultivator's section should be considered as miri sirf land and granted to them by lazma. If the size of the holding is less than 200 mesharas of rice

land or its equivalent then 100 mesharas should be given to the primary tenants and the surplus to the cultivators. Thirdly, the distribution of the cultivators part is based on certain considerations. Each household should have between seven and twenty mesharas of flow-irrigated rice land or the equivalent. If the number of cultivators exceeds the available land, preference should be given to the cultivators who either belong to the tribe of the primary tenant or who are working the holding concerned, or who have worked longest on the holding, or who are married or of larger families.

It is clear that the law did not identify the cultivators claims and interests, for the landholders and their agents or the primary and secondary tenants were still the main beneficiaries. The weaknesses in this law were many. The law gave the landholder, who constitute only a very small proportion of the rural population, half of the cultivated land. Moreover, it is difficult to divide the land into two halves similar in their agricultural capabilities, and even if this were possible, the primary and the secondary tenants would select the best, since they had this right. Secondly, since most of the secondary tenants were members of the landholders families, under this law most of the land would be kept by himself and his relatives. Thirdly, the law also favoured the primary and the secondary tenants in giving them a hundred mesharas of the nominated land even when there were less than 200 mesharas. Fourthly, since the primary and the secondary tenants had been on the land for the longest period, they had first claim on the land. Finally, the water-pumps were usually owned and used by the land holders, who would also benefit from this aspect of the law.

Consequently, the law No.53 of 1955 made almost no improvement in the land tenure problem in the region, because the majority of the rural population were still without land. Like the

previous law of 1952, it was a temporary measure to reduce tension between the landholders and the cultivators particularly after the failure of the 1952 acts, for in 1954 the cultivators in Amara staged demonstrations demanding equal shares for themselves and the landholders. However, the failure of the measures in 1952 and 1955 accelerated emigration and was, in fact, the beginning of the largest exodus from this region.

2.2.2. Measures After 1958:

A brief discussion of local problems will be given here and they will be discussed on a national level later on in this chapter. In September, 1958 the law of Land distribution in Amara No.53 of 1955 was replaced by a new Law of Agrarian Reform. This law is discussed on p.73 . According to this law all the land in Amara province now became subject to the Land Settlement Law No.29 of 1938 giving the government actual power in all matters of land tenure. But, in 1959 this was amended by Law No.42, which also dealt with the problem of miri sirf tenants in Amara, who were leased the land for long periods. Most of their rights were approved and they were granted very large holdings by the land settlement committees, but the remainder were not accorded these rights because of the agrarian reform law of 1958. Consequently, the 1959 law dealt with their rights by assigning a maximum, of 200 mesharas of flow-irrigated land or 400 mesharas of rain-fed land, to the primary tenant. This land was to be registered in his name as a true mulk or true property.⁽⁹⁾ According to this law also, any person who leased a miri land in Amara and whose contract terminated before the end of March, 1958 was identified as a primary tenant. The secondary tenant was assigned not more than 100 mesharas of flow or pump-irrigated land and 200 mesharas of rain-fed land of former leasehold land. A secondary tenant could also be a person who had leased land from the primary tenant on a

contract lasting until 31.3.1958, or any person who had a water-pump installed whose usufruction of miri land was confirmed by the Ministry of Finance.

The period which followed the agrarian reform law of 1958 saw many changes in laws and regulations concerning land ownership. In 1961, for example, another law, No.61, was issued. As usual it amended the land settlement law of 1938 and the law of 1959. The principal changes introduced by this law were: first, the primary tenant in Amara should be granted a piece of land from that which he has leased, which should be registered in his name as his own true property. The limits were increased from 200 to 300 mesharas provided that the flow-irrigated land granted to him should not exceed 150 mesharas. Second, the secondary tenant should also be granted a piece of land, not exceeding 200 mesharas or 100 mesharas of flow-irrigated land, from that which he has rented. Finally, if the amount of leased land was greater than the maximum prescribed by the agrarian reform law of 1958, tenants had the right to choose their plots without affecting the agricultural productivity of the remaining area. After that, the rest would be registered as miri sirf.

The effects of the land ownership system in Amara on the cultivator incomes will be seen in the following section.

2.3. CULTIVATOR'S POSITION AND INCOME.

Until the end of 1958 when the agrarian reform law was declared, the cultivators who constitute the majority of Amara's population had no land and few possessions. They had no incentives, under these conditions to serve the land since there was no guarantee that they would till the same land next season. The cultivator who tilled the land did not own it nor did the owners cultivate. All he could do was to work the land to yield as much as

possible in any year. Moreover, the cultivator was responsible to the shaikh even in case of crop failure after natural disasters. The cultivator and his family were used by the shaikh or landholder as a part of his estate. It was common for the landholder to eject the cultivator from the land although he had spent most of his life on it.

Landholders, on the other hand, did not give the land the necessary attention since their sole purpose was to achieve as much profit as possible. The future of the land and its productivity meant little, because it did not belong to them. Having contracts with the government, they were using any means to collect the rents from cultivators, and cultivators had to pay the landholder or their possessions would be sold or they would be put in the shaikhs private prison. At the same time because of the large size of holdings, little improvement could be made, such as clearing the irrigation canals of silt, cutting new canals and putting larger areas under the plough.

At first glance one expects to find the shaikhs and the landholders in Amara among the wealthiest in Iraq before the seizure of all lands by the government in 1958. But in fact they were not compared with those in other provinces. This may be due to the heavy expenses in this region such as the high government taxation, the expenses of the shaikh followers and agents and the expenses of guests religious men, relatives and clerks. It is interesting to give an example of the high expenditure of shaikhs in Amara. The total agricultural income of one of these shaikhs in Kahla Nahia was 738 tons, while the expenses were as follows:

	177 tons for 80 followers
	85 tons for agents, religious men, clerks etc.
	<u>90</u> tons for the government taxes.
Total	352 tons

Nevertheless, the remaining amount was usually devoted for other purposes such as guests and shaikhdom formalities.

The size of cultivated areas per household per annum varies from one part of Amara to another. It depends on the type of crop, the season of cultivation, the means of irrigation, the productivity of land and the agreement between the landholder and the cultivator. However, the interviewed cultivator's families in Amara pointed out that the amount of land devoted to winter crops ranges usually between 25 and 35 mesharas in different parts of the region (see Appendix A. No.1). Those of summer crops, particularly rice cultivation, is usually smaller mainly because of the insufficient amount of water and the lack of manual labour.

According to the agricultural practices in the region, the cultivator leaves half of his land fallow for a certain period usually one year, so that half the cultivated land is left idle each year. The cultivator believes that this is important to restore fertility and to lower the water table below the root zone, while ploughing the fallow land enriches the soil by exposing it to the sunlight and destroying the weeds which assist the accumulation of organic matter.

Up to 1959 when, according to the agrarian reform law of 1958 new regulations concerning the distribution of agricultural produce were introduced. Sharecropping was the most common system in almost all parts of Iraq except Amara. The share of the cultivator varied greatly, being lower, for instance, in areas which depend on one major crop such as grain or cotton than in those growing vegetables or fruit. This was mainly because of the great need for manual labour in the latter areas. The cultivators' share in the flow-irrigated land was between 40 and 45 percent of the total yield (Table 2.2). This proportion usually drops to about one-third if the

TABLE 2.2

ALLOCATION OF CROPS IN SOUTHERN IRAQ
(BEFORE 1958).

Share	Percent
Government	10.0
Primary tenant	7.5
Land owner	40.0
Shaikh's baillif	2.5
Cultivator	40.0
Total	100.0
<u>SOURCE:</u> F.I. Qubain: <u>The Reconstruction of Iraq. 1950-1957</u> , Praeger, N.Y. (1958), p.87.	

landholder supplied the seeds, draught animals and other implements. (10)
In the case of pump-irrigation the share of the cultivator was either two-sevenths or three-sevenths of the total product.

In Amara the share distribution before 1959 was, in fact, also unique in Iraq. From the replies of interviewed cultivators in different parts of the region it can be concluded that the distribution of crops was obviously determined by the nature of the agreement between the landholder and the cultivator (see Appendix A, No.1). The landholder leased a piece of land to the cultivator in return for a certain amount of the crop. The cultivator, however, gained only a quarter of the yield, and in the rice producing areas his share was sometimes between only 15 and 20 percent of the total production with the rest going to the shaikh. This method was the predominant one in Amara province and is called Dhaman.

The cultivator, moreover, must give the shaikh or the land holder his share whatever the yield obtained. Usually the landholder and his agents made the rents much higher than the normal productivity of land under the traditional farming techniques. In addition, if the yield was good the shaikh might try to add to his share, but the reverse was not the case if the yield was low. Sometimes the cultivator usually was forced to sell his animals or even the family possessions to pay the landholder.

As mentioned above, land which was put under winter crops, chiefly wheat and barley, by the cultivator ranged in size between 25 and 35 mesharas, or on an average of 30 mesharas. This means the cultivator utilized only about 15 mesharas each season, leaving the rest fallow. Yields of wheat and barley in Amara are remarkably low varying between about 161 kg. per meshara for wheat and about 194 kg. per meshara of barley (1955-1964). Wheat occupied during the same period 30 percent of the total cultivated area of winter crops or 4.5 mesharas each season. Barley occupied about 68 percent of the total winter cultivated area or 10.2 mesharas. Other winter crops were of only minor importance in this region. Consequently, the total annual production of wheat and barley in 1955-1964 was 725 kg. and 1,979 kg. per family respectively. The total production of both wheat and barley was about 2,700 kg. It can be concluded from the replies of interviewed cultivators that the annual yields of wheat and barley in different parts of Amara is about two Idghar, or about 2,660 kg, which coincides approximately with the above amounts.* At present the agrarian reform administration rents the land in Amara to the cultivators temporarily at about three quarters of Iraqi Dinar

* The local weight measurements in rural areas of Amara are:

1. Idghar which equals 1.33 tons, or each ton equals 0.75 Idghar.
2. Cheala which equals 1/400 of Idghar, or one ton equals 300 Cheala.
3. Higga which equals one third of Cheala.

per meshara annually. The minimum size of each piece is not less than five mesharas per household.

Until the end of 1958, 70 percent of the total yield was going normally to the landholder, his agent and the cultivator. Many other shares (about 30 percent) were usually taken as shown in Table 2.3. Thus the 70 percent of the total production of wheat and barley was about 508 kg. and 1,385 kg. respectively. The landholder's share as mentioned by the interviewers, was usually 50 percent of these totals or 254 kg. of wheat and 693 kg. of barley. The share of the shaikh's agent or Sirkal, was about 25 percent or 127 kg. of wheat and 346 kg. of barley. The remaining 25 percent or 127 kg. of wheat and 346 kg. of barley, or less than half a ton of grain in all, was the cultivator's share.

TABLE 2.3

ALLOCATED CROPS IN AMARA (BEFORE 1958)

SHARE	PERCENT
LANDHOLDER	35.0
LANDHOLDER'S AGENT	17.5
CULTIVATOR	17.5
<u>OTHERS:</u>	
Government Taxes of Agricultural Produce, <u>Istihlak</u>	10.0
Government Water-Right Tax	5.0
Shaikh, <u>Mashikhiya</u>	3.0
Shaikh's Agent, <u>Sarkala</u>	1.0
Religious man, Coffee man, Barber and Others	1.0
Transport of Crop from the Farm	6.5
Threshing Expenses	3.5
Total	100.0
<u>SOURCE:</u>	
<u>Interviews with Cultivators in Amara (1963).</u>	

Since the declaration of the agrarian reform law in 1958 the distribution of shares has changed, of course, since the state is now sole owner of all the cultivable land in Iraq. According to article forty one of the 1958 law and regulation No.20 of 1959 the distribution of crops among the factors of production is as in Table 2.4. Moreover, the government or the Ministry of Agrarian Reform is managing, temporarily, all confiscated land in the country and providing the cultivators with seeds, fertilizers, supervision etc., for only 15 percent of the total yield. The distribution of the management share is shown in Appendix C.

TABLE 2.4

DISTRIBUTION OF CROP ACCORDING TO THE AGRARIAN REFORM LAW OF 1958
(per cent)

FACTOR OF PRODUCTION	FLOW IRRIGATION	LIFT IRRIGATION	RAINFALL IRRIGATION
CULTIVATOR	50	40	50
<u>TO THE STATE FOR PRODUCTION</u>			
<u>COSTS:</u>			
Land	10	10	10
Water	10	20	-
Ploughing	5	5	10
Harvesting & Picking	10	10	13
Management	15	15	15
Total	100	100	100
<u>SOURCE:</u> Directorate of Agrarian Reform of Amara Province: <u>Regulation No.3 of the Agrarian Reform High Committee,</u> (Mimeographed) (1965).			

Nevertheless, it should be remembered that the annual share of the cultivator is for all his dependants. The average number in the interviewed cultivators' families in Amara was about five. Thus the amount of wheat and barley per head per annum will be only 25.4 kg. and 69.2 kg. respectively. Meanwhile, the total cereal consumption in other rural areas of Iraq may amount to about 120 kg. per capita per year, wheat representing about two thirds or 80 kg. of that total.⁽¹¹⁾

The situation is much worse in the rice producing areas of Amara. The area devoted to rice, the major summer crop, is much less than that of the major winter crops. The annual average of rice cultivated area in Amara, for instance, constituted 18.6 per cent of combined wheat and barley cultivated areas in 1955-1964. The size of rice farms, moreover, differs from one part of the region to another depending upon many factors such as water supply, the amount of silt deposited during the flood seasons and the availability of sufficient labour. Nevertheless, the interviewed cultivators in Amara put the size of rice land at about five mesharas per household. Almost the same figure can be calculated from the proportion of rice cultivated areas to those of wheat and barley during 1955-1964. Other summer crops covered only smaller areas.

Unlike wheat and barley, rice is usually planted continuously on the same land, provided other conditions are favourable. The yield of rice in Amara was about 312 kg. per meshara during the ten year period 1955-1964. Thus, the gross total of rice will be 1,560 kg. Under the traditional distribution of net crop production, the cultivators share was 273 kg. annually, with each member of the cultivator's family having only 54.6 kg. per annum.

Such was the cultivator's share from the three major cereal crops which supply more than 70 percent of the total calorie intake in normal years, which, in practice, were very rare.⁽¹²⁾ The cultivator's share was necessary for the direct consumption of his family and

insufficient for marketing. It is not easy to convert this approximate quantitative income into cash income. Nevertheless it is important to estimate the equivalent cash income of cultivators in Amara to make a meaningful comparison between their incomes here and the incomes of migrants in Baghdad. There are three main methods for estimating cash income: first, on the prices at which the cultivator sells his product. Second, on prices at which the cultivator could buy the same product in the market. Third, by using the prices of other producers of the same products in the same locality or in the adjacent areas. ⁽¹³⁾

By applying the estimates for the average prices of the major winter and summer crops in Iraq during the period 1953-1961, the equivalent cash income of the cultivator in Amara can be estimated (Table 2.5). It is clear that the annual income of the cultivator's family was just over I.D. 16 or about I.D. 3.2 per capita. But, some of the interviewed cultivators pointed out that a third or even a half of their share of the product was going for debts.

Furthermore, the annual income of the interviewed migrant families in Baghdad confirms the depressed economic status of rural inhabitants in Amara (Table 2.6). The annual income of about 62 percent of the interviewees was less than I.D. 24. Meanwhile, the unskilled labourer in Baghdad could earn at least I.D. 10 and 12 per month. The interviewees whose incomes were more than I.D. 120 per annum were composed of livestock merchants, landholders, shaikhs, sub-tribal shaikhs and fish traders. Moreover, the annual income of the interviewed migrant families differed from one part of Amara to another. Those whose incomes were less than I.D. 12 in Shaikh Sa'ad Nahia and Kumait Nahia constituted about one third of the interviewed migrant families from these regions, while those in Mijar Al-Kabir Nahia and Kahla Nahia whose incomes were less than I.D. 12 constituted about half the interviewed migrants (Fig.11).

TABLE 2.5

AVERAGE ESTIMATES OF MAJOR WINTER AND SUMMER CROP PRICES IN IRAQ
1953-1961 AND THE ESTIMATED ANNUAL INCOME OF CULTIVATORS IN AMARA.

(I.D. PER TON)

Crop	Average of current prices	Average of current prices (1956)	Average of estimated income of cultivator	
			Current prices	Constant prices
Major winter crops				
Wheat	31.718*	33.749*	4.028	4.286
Barley	14.230	12.783	4.924	4.423
Total			8.952	8.709
Major summer crops				
Rice	29.360	29.771	8.015	8.127
Total	-	-	-	-
Grand Total			16.967	16.836
<p><u>SOURCE:</u></p> <p>* Calculated from :</p> <p>K. Haseeb: <u>Estimate of the National Income of Iraq. 1953-1961.</u></p> <p>Dar Al-Taleea Press, Beirut (1963), pp. 105-113.</p>				

Because of his low income, the cultivator may be forced to sell his animals or even family possessions for the cash. Being permanently in debt to the landholder and his agent normally he turned to the money lenders, the town merchants and the landholders themselves. Normally the cultivator sold his share of the agricultural product in

Fig.11

ANNUAL INCOME OF INTERVIEWED
MIGRANT FAMILIES IN AMARA
(PRIOR TO MIGRATION)
(in percent.)

(IRAQI DINAR)

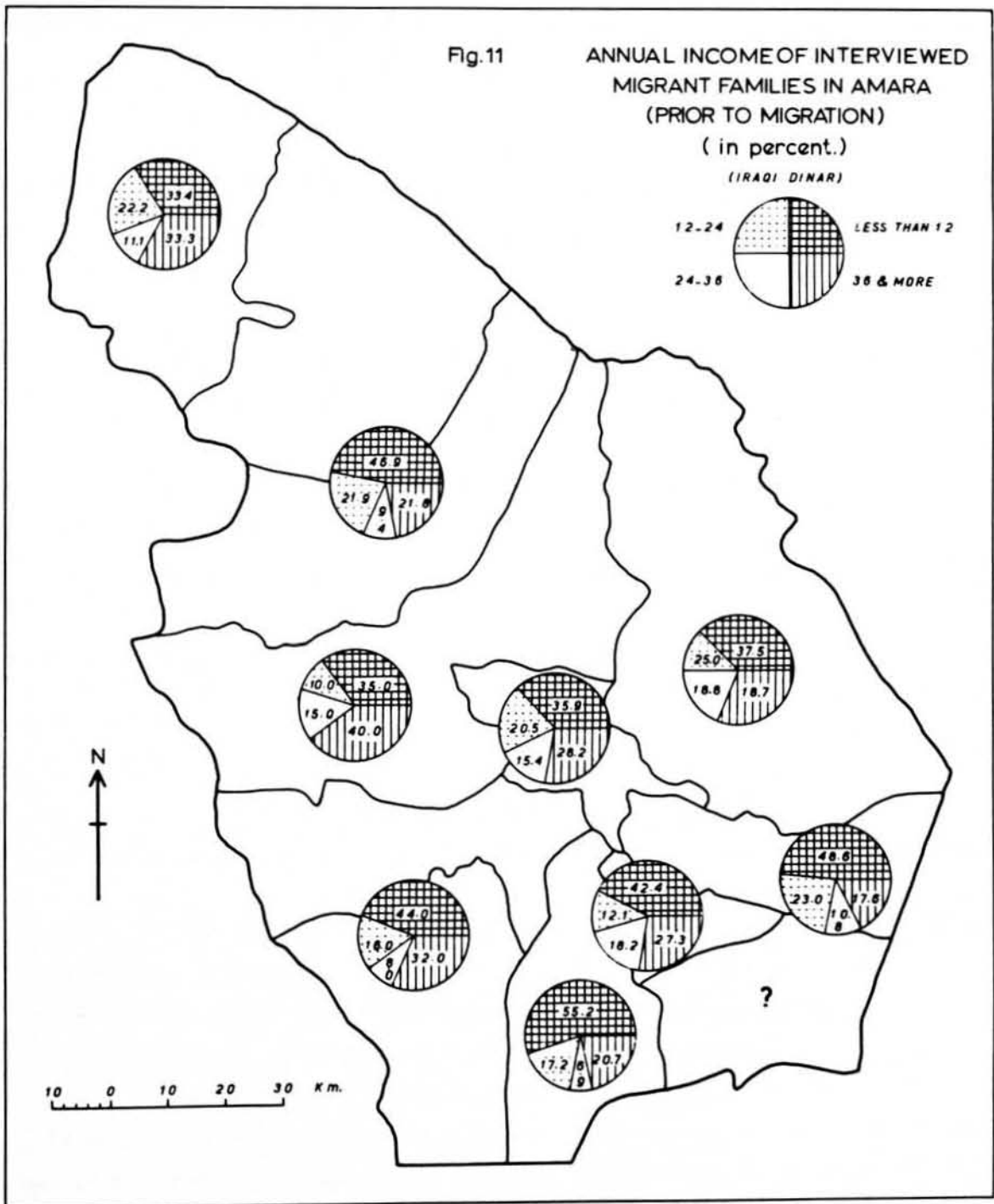
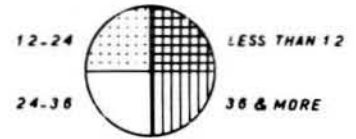


TABLE 2.6.

ANNUAL INCOME OF INTERVIEWED MIGRANT FAMILIES IN AMARA
(PRIOR TO MIGRATION)

Income (I.D.)	Per cent of total families
Less than 12	42.4
12 -24	19.7
24 -36	13.6
36 -48	6.4
48 -60	3.0
60 -72	1.7
72 -84	3.4
84 -96	2.0
96 -108	3.0
108 -120	0.7
120 and more	4.1
Total	100.0

SOURCE:
Interviews with migrants in Baghdad (1964).

advance inspite of the low prices at the beginning of the season when last seasons product is still in the markets. At this time the merchants and money lenders demand whatever interest they want since the cultivator is in an urgent need. They give the cultivator money, grains, or implements at interest rates of sometimes 100 or even 150 percent, which means that they give him only a quarter or one third of the crop's price and take twice or three times that price after the

harvest. Even though the money lenders demand 50 percent interest more frequently it equals 100 percent or more because the period of debt is less than six months. Even religious people find ways of getting around the injunctions of Islam about money lending.

It is necessary to refer to the Law Governing the Rights and Duties of Cultivators. This law was passed in 1933 and lasted until 1958. According to this law any cultivator who left or was forced to leave the land had to pay the landholder all his debts or he could not be employed in other agricultural jobs, in the government offices, in private firms or even as a domestic servant in private houses. In addition, the cultivator and his family had to remain on the land until the landholder provided them with a certificate of freedom from debt.

The almost complete dependence of the cultivators before 1958 on the money lenders or landholders for cash or other means of fulfilling his needs was mainly due to a lack of credit facilities. Agricultural cooperatives were almost unknown in Amara until recently. Most are consumer and housing cooperatives and until 1964 there was only one consumer cooperative in Amara (see Appendix D). Consequently the only government source for agricultural credit in Iraq is the Agricultural Bank which was established in 1936. It started with a nominal capital of I.D. 150,000. In 1951 this capital increased to I.D. two millions, which the government paid and in 1958 its capital was I.D. 10 million of which six millions was paid out. But inspite of this increase in capital the bank's services remained very limited and only helped on a small scale.

The limited activities of the Agricultural Bank are due, in fact, to many factors, primarily the lack and the inadequacy of resources. During the first 13 years of its work, for instance, the total amount of loans did not exceed I.D. 100,000. Although in 1959/60 this rose to about I.D. 551,000 in the next year it reached only about

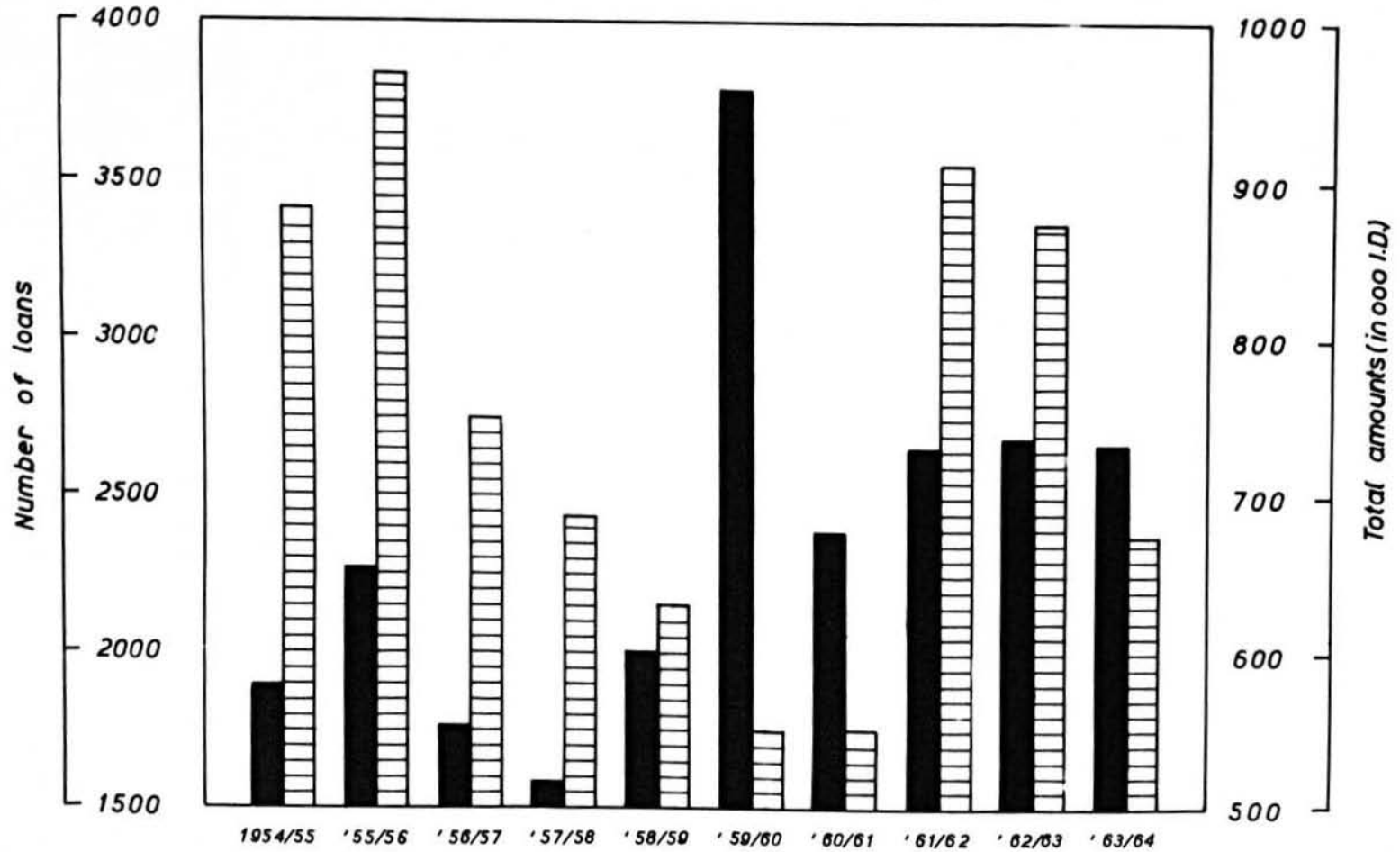
I.D. 559,000 (Fig.12). The average amount of loans during the whole period up to 1961, was only about I.D. 330,000, while the agricultural credit needed in Iraq has been estimated at about seven million iraqi dinars per annum. Thus the bank did not achieve its major target in developing and improving the agricultural sector in the country. Moreover the bank's regulations made it difficult to bring its services to the majority of cultivators, who cannot offer the required security for the necessary loans. Even after the agrarian reform law of 1958 and the security offered by the government for the cultivators loans the situation did not change to a great extent; for the number of cases secured by the government did not exceed in a period of two years 11 out of 3,510 cases.⁽¹⁴⁾ Thus the bank's services were restricted only to such influential people as landholders and shaikhs. Finally, almost all the branches of this bank are in large towns. This factor together with bad transport facilities makes the bank inaccessible to the needy cultivators, forcing them to borrow from the landholders or the town merchants. In spite of the urgent need for agricultural credit in a backward region like Amara the total number of loans in this province during the six fiscal years 1958/59 - 1963/64 was only 133. This constituted only six percent of all the money loaned in Iraq as a whole during the same period. Meanwhile, there were 1,772 loans in Diwaniya province during this period, or about 67 percent. of the total loaned (see Appendix E).

The cultivators small share of the total agricultural produce, has obviously affected the nutritional conditions of the cultivators and their families, and reduced their resistance to disease. Thus the cultivators sought any chance to escape from these miseries and emigration seemed the only refuge.

Although the situation has reached a critical stage in Amara particularly early in the 1950's, the measures were well behind the actual problems. Even the agrarian reform project of 1958 could

Fig.12

TOTAL AMOUNTS OF LOANS GRANTED BY THE AGRICULTURAL BANK IN IRAQ DURING THE FISCAL YEARS 1954/55 -1963/64



make no appreciable changes to the situation in the rural areas where conditions were progressively deteriorating. Some brief discussion of the agrarian reform policies in Iraq will reveal the different dimensions of the land tenure system and its related problems.

2.4. AGRARIAN REFORM IN THEORY AND PRACTICE.

Land tenure in Iraq before 1958 was characterised by the large proportion of arable land held by a small proportion of the population. Nearly 55 percent of the cultivated holdings were held by only one percent of the landholders in the country. The size of these holdings ranged between 2,000 mesharas and more than 100,000 mesharas. The defects of this system reflected on both the socio-economic conditions of the majority of population and the economy of Iraq itself.

2.4.1. Land Development Projects:

The government which inherited this heavy burden of land tenure and its related questions tried on many occasions and through different means to deal with the problem. The first step which was taken was to reclaim, develop and distribute the state land, miri sirf, to landless cultivators. The plan was begun by the Dujaila Land Development and Settlement Law in 1945 which then was replaced in 1951 by another law called the Miri Sirf Land Development Law No.43 which resembles, in fact, the Turkish land reform law of 1945 in most of its articles,⁽¹⁵⁾ and an organization called the Committee of Miri Sirf Land Development was set up to deal with such projects. Areas for development should not be less than 20,000 mesharas in the flow-irrigated areas, 80,000 mesharas in the rain-fed areas and 2,000 mesharas in the mountainous areas. The maximum size of land unit per household according

to this law, was 20 mesharas in the mountainous areas, 100 mesharas in the flow-irrigated areas, 200 mesharas in the pump-irrigated areas and 400 mesharas in the rain-fed areas, the difference in size being due to land productivity, water resources and location.

The selection of settlers for the new development areas was based on certain regulations; in the first place the land was provided for every landless Iraqi national who produced information showing his locality, occupation and family size. The settler should also be of good health and more than 18 years of age. Next, priority was given to the inhabitants of the area and its environs and to those with larger families. Thirdly, 20 percent of the total project area was to be allocated to graduates of agricultural schools and retired police and army officers with at least four years service, provided they are able to cultivate the land. Another 25 percent was to be devoted to retired civil servants of at least eight years provided they are capable of farming. After ten years, however, the land would be given to the settler free of charge as a private holding under certain conditions.

The major objects of the miri sirf land development schemes were, firstly to improve the economic and social conditions of the rural population; Secondly to settle the landless cultivators and to release the cultivators as a whole from the cruelty of the landholders; Thirdly, to offer some solution to the large holdings system by creating a new system of small holdings and finally to reduce the mobility of people from rural areas to urban centres, particularly Baghdad.

The total of the distributed areas, however, until 1955 was about 2,221,000 mesharas to 15,492 settlers.⁽¹⁶⁾ Seven schemes of land settlement and development were executed, the first being Dujaila project and the last the Great Al-Musayab project (Fig.13). The Dujaila project was important although it was not wholly within Amara since it was the first pilot experience of agrarian reform in Iraq.

Fig.13

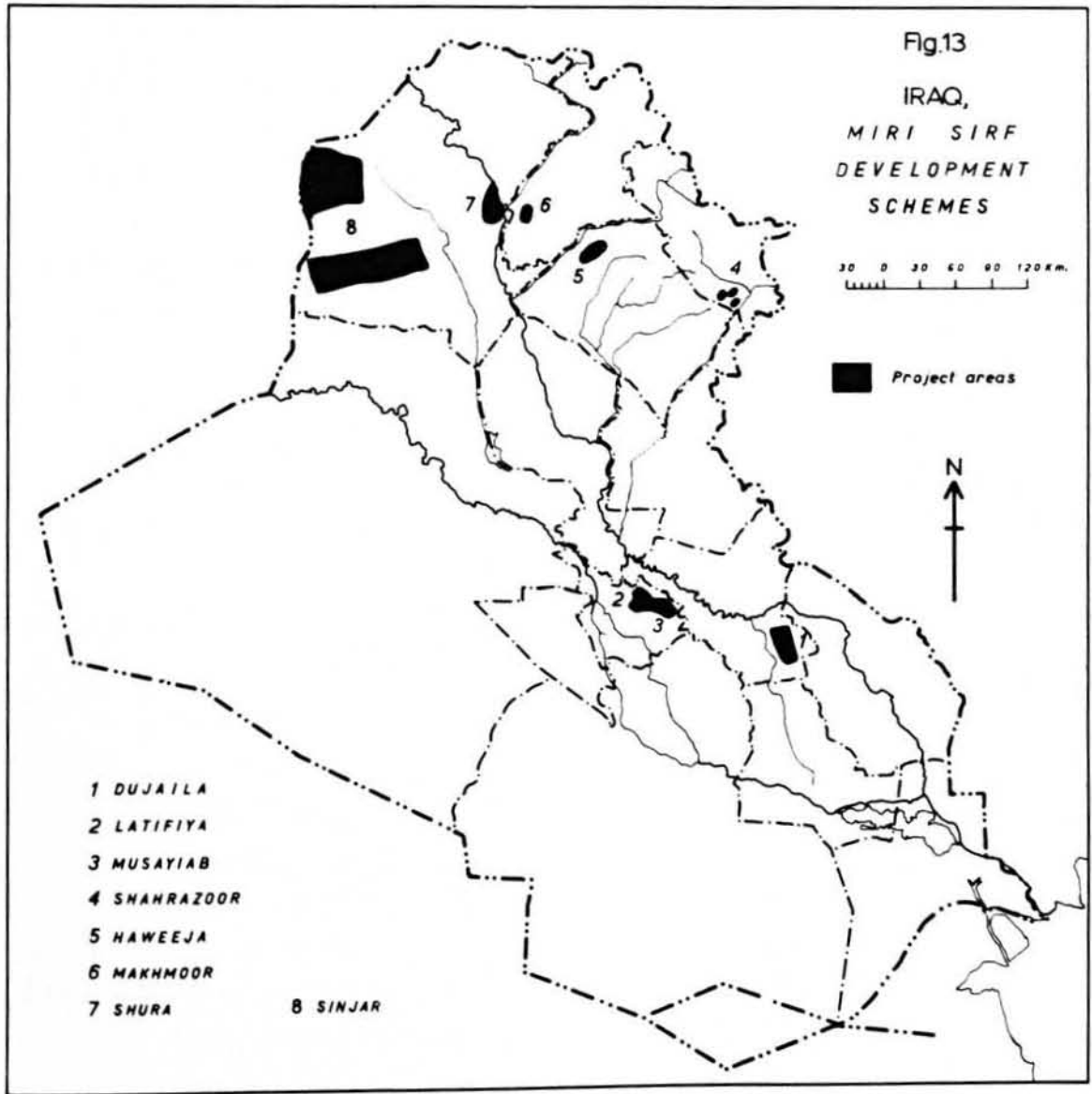
IRAQ,
MIRI SIRF
DEVELOPMENT
SCHEMES

30 0 30 60 90 120 KM.

Project areas



- 1 DUJAILA
- 2 LATIFIYA
- 3 MUSAYIAB
- 4 SHAHRAZOR
- 5 HAWEEJA
- 6 MAKHMOOR
- 7 SHURA
- 8 SINJAR



Dujaila Project:

The idea of this project emerged before the Second World War, but it was delayed until 1945. The chief purpose was to develop the cultivable land along the old Dujaila canal, which runs between the Tigris river in the east and the Gharraf canal in the west. The canal became operative in 1945 after the completion of the Kut Barrage on the Tigris river in 1939. The Dujaila canal leaves the Tigris a few hundred metres upstream of the barrage and extends for about 50 km. The water discharge of the canal is about 30 cumecs at its intake. Another 12 feeder canals and tributaries take water from the major canal.

The total irrigated area in the project was 165,650 mesharas, while the total number of settlers at the end of 1955 was 1,523 all of them from the local tribes of the region. Each settler was given a square-shaped piece of land of a hundred meshara and prohibited from selling or leasing the land for ten years. The government also gave each settler a loan of I.D. 100 repayable in five years.⁽¹⁷⁾ Each land plot had to be divided into two parts, one to be cultivated each season and the other to be left fallow. A crop rotation, moreover, was introduced and adopted during the winter season.

The project was also supplied with safe water, electricity, schools, dispensaries and experimental farms but houses had to agree with the designs prepared by the authorities. Consumptive cooperatives were established to serve the settler. Some light industries such as textile and furniture were also built.

The project was remarkably successful at first; the yield per meshara increased and the cultivator's incomes rose to a very high level compared with those of adjacent areas. Nevertheless, the Dujaila project has suffered since 1945 from many defects which distorted its great objectives. These problems were not related to the faults of the physical environment in the region, but mainly to

the inadequate uses of these geographical factors. The small achievement of the project in a short period has adversely affected the idea of agrarian reform and the majority of cultivators in Iraq. The project has not fully succeeded for a number of reasons; firstly, the land development law itself has assisted indirectly with the distortion of this important experiment. It has created not new small cultivator-owners but new landholders by devoting a large proportion of the new land to those who were not cultivators originally. These new beneficiaries employed cultivators or agricultural labourers to cultivate their land. However, although the law prohibited the settlers from leaving their land for five days without official permission, the retired military and civil personnel lived in urban areas as absentees since they were usually people of influence. The interviewed migrants in Baghdad from this area mentioned that they worked for these retired urban dwellers.

Secondly, the project was not based on full and detailed studies of different physical and social aspects, in spite of the long discussions which preceded its appearance. Unfortunately, these discussions had ignored some important problems in the area such as the drainage system as they dealt only with irrigation schemes. Consequently, because of the prevailing semi-arid conditions in the region associated with poor natural drainage, salts started to appear in many areas during the first three years. The authorities took in such cases some urgent measures such as planting salt adapted crops in the salty patches and constructing drainage ditches to lower the ground water table. Nevertheless, salt concentration continued until about 30 percent of the cultivated areas became unproductive, waste land⁽¹⁸⁾.

Thirdly, the new dwelling system whereby each family lived separately on its piece of land was strange to the settlers since cultivators in Iraq usually prefer to live in compact villages.

These houses were also far from the centre of the project where the main markets, shops, dispensaries and schools were.

However, adequate and well-trained staff were lacking to manage different aspects of the project, particularly the cooperative societies. Finally, the influential tribal shaikhs and town merchants were opposed to the project since it was a great challenge to their interests as the new settlers, for instance, no longer depended on the grain merchants for agricultural implements or cash.

As a result the project as a whole did not thrive. The same can be said about the other settlement projects in Iraq, despite the more extensive investigations and studies which preceded them. But, it should be said that these projects were important as preliminary steps towards the last and largest agrarian reform scheme of 1958.

2.4.2. Agrarian Reform of 1958:

On 30th of September, 1958 the Agrarian Reform Law No.30 was issued as a new measure to solve the land tenure problems in Iraq, and amend the former law of Land Development and Settlement No.43 of 1951 and the Law for the Distribution of State Land in Amara No.53 of 1955. It resembles, in fact, the Egyptian agrarian reform law of 1952 in that its major purpose is to redistribute the large estates and holdings exceeding certain limits to the tillers of the land. Both projects intend to raise the economic and social standards of the majority of the population and in turn those of the national economy. Furthermore, they fix minimum wages for agricultural labourers and instigate the formation of multi-purpose cooperative societies and trade unions.

The maximum holding according to the above law, should not exceed, 1,000 mesharas of flow or lift-irrigated areas and 2,000 mesharas of rain-fed areas regardless of its tenure category. The land owner has the right to choose this area from his holdings. The surplus area is confiscated and compensation given in the form of government bonds (bearing interest of three percent), redeemable during a period not more than 20 years.

According to article fifteen of the agrarian reform law an organization, known as the High Agrarian Reform Committee, was established to represent the government and to deal with every thing concerning the confiscation, distribution and temporary management of confiscated land and with the cooperative movement. Thus, the state became the sole owner of all confiscated areas, while the distribution was to be completed within the five years period following the passage of this law.

Land was to be distributed to beneficiaries on a small holdings of between 30 and 60 mesharas in flow and lift irrigated areas, and between 60 and 120 mesharas in rain-fed areas according to the productivity of the land. The beneficiary must be a landless Iraqi cultivator, over 18 years of age or a cultivator who has an area less than the above limits, priority being given to cultivators in the area and to those of larger families or poor dwellers. The allocated price of the new holdings should be paid within 20 years. In addition the beneficiaries should organize themselves in multi-purpose agricultural cooperative societies in each sub-administrative unit. The major activities of these societies are to provide their members with loans, seeds, machines, storage and transport facilities. The cooperatives should supervise, also farming techniques, land utilization, irrigation and drainage works. They should organize, moreover, the marketing of agricultural products and carry on almost all the agricultural services and social functions.

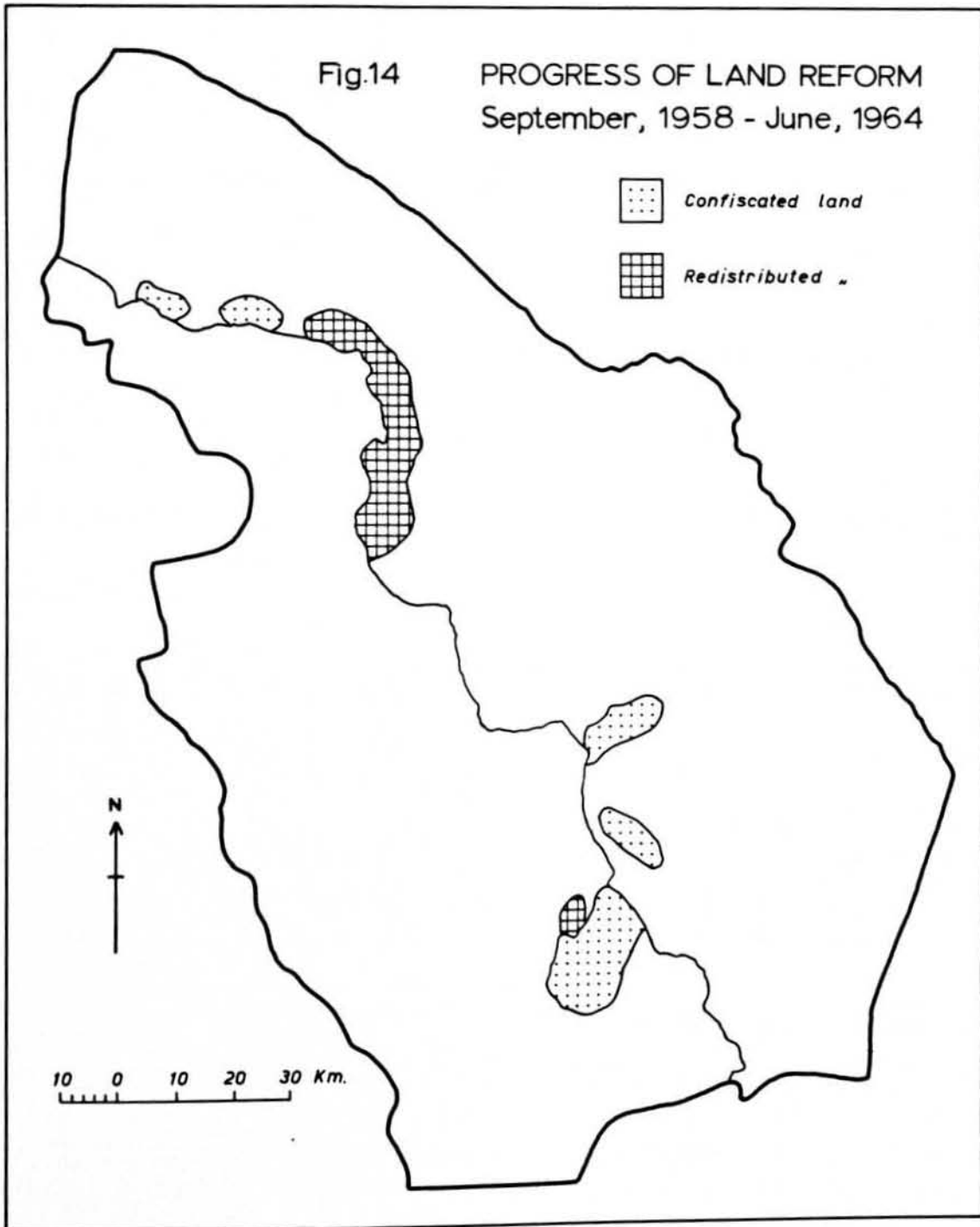
Before land is distributed to the new beneficiaries, there are two major preliminary processes namely, confiscation and

temporary management. The confiscation of land was very slow; the total of appropriated land in Iraq at the end of May, 1962 was about 2,455,000 mesharas which increased to about 7,020,000 mesharas at the end of May, 1964.⁽¹⁹⁾ Land confiscation did not occur in Amara at all in 1959, 1961 and 1962, while in 1960 the total confiscated area was only 185 mesharas. By the end of May, 1962 the total area which was subjected to the agrarian reform law was about 41,700 mesharas or only 0.8 percent of the dry area,⁽²⁰⁾ while at the end of May, 1964 this total rose to about 85,000 mesharas or still only 1.2 percent of the dry area in this region (Fig.14).

The High Agrarian Reform Committee manages, at present, all the confiscated areas and leases the land to the cultivators. A general directory for the temporary management of confiscated land has been established to deal with all affairs concerning these areas until the distribution takes place. This step has been taken for many reasons such as the long time needed for the land distribution, the large areas of unsurveyed land and the depressed socio-economic conditions of cultivators. The directory of temporary management started to lease the reallocated land to the cultivators according to certain regulations. In the first place, the lessee should be a cultivator and have the necessary qualifications of the beneficiaries of the agrarian reform project. Otherwise the land could be leased to the cultivators of neighbouring areas or others who have the required qualifications. Secondly, the leased area should not exceed the maximum limits of property fixed by the law. The total area leased to the cultivators at the end of May, 1964 in Iraq as a whole was about 6,353,000 mesharas to about 200,500 cultivators. However, on the same date the number of lessees of confiscated land in Amara was only 118.⁽²¹⁾

Fig.14

PROGRESS OF LAND REFORM
September, 1958 - June, 1964



The distribution includes, in fact, all categories of land tenure except the Waqf which was excluded in the agrarian reform law of 1958. The land distribution process was carried on quickly at first, then it started to slow down; so that from September, 1958 until September 1963 only 0.8 percent of the total seizure areas in the country was redistributed. Despite the urgent need for agrarian reform in Amara and the fact that most of the land belongs to the state, miri sirf, the redistributed area was only about 11,000 mesharas until the end of May 1964 (Fig.14). This area has been distributed to 700 families composed of only 3618 persons.⁽²²⁾ The slowness of distribution is due to the many difficulties facing agrarian reform. The incomplete settlement of rights and categories of land constitutes a considerable obstacle, for until the end of 1963 the area in which the rights of ownerships had been settled constituted about 50 percent of the total area of the country. Although the agrarian reform can only be applied in areas where the land claims and rights are settled and the land tenure categories, the major products and irrigation requirements are known, the process of settlement in Amara, for instance, was still going on in eight sub-administrative units until the end of 1963. Moreover, most of the land survey which was done until very recently was inaccurate and inadequate, concerning only a limited proportion of the country's total area, and land confiscation and distribution is almost impossible without a complete and accurate survey.

Inadequate planning and studies of problems concerning the land itself are other obstacles facing the agrarian reform scheme. Most necessary are the studies related to irrigation projects, soil classification and drainage systems, without which land distribution will be difficult.

Lack of agricultural machinery also hinders land reform because the new proprietors have to rent these implements at high costs, unsuited to their economic status. Although the total of agricultural machinery increased in Iraq after 1958, these requirements always lagged behind the local needs in Amara for in 1962 there were only 19 tractors out of 452 in Iraq, six harvesters (Iraq 193) and 18 ploughs (Iraq 289) (Fig. 15B). Even the increase of water pumps was very slow in Amara during 1955-1964 (Fig. 15A).

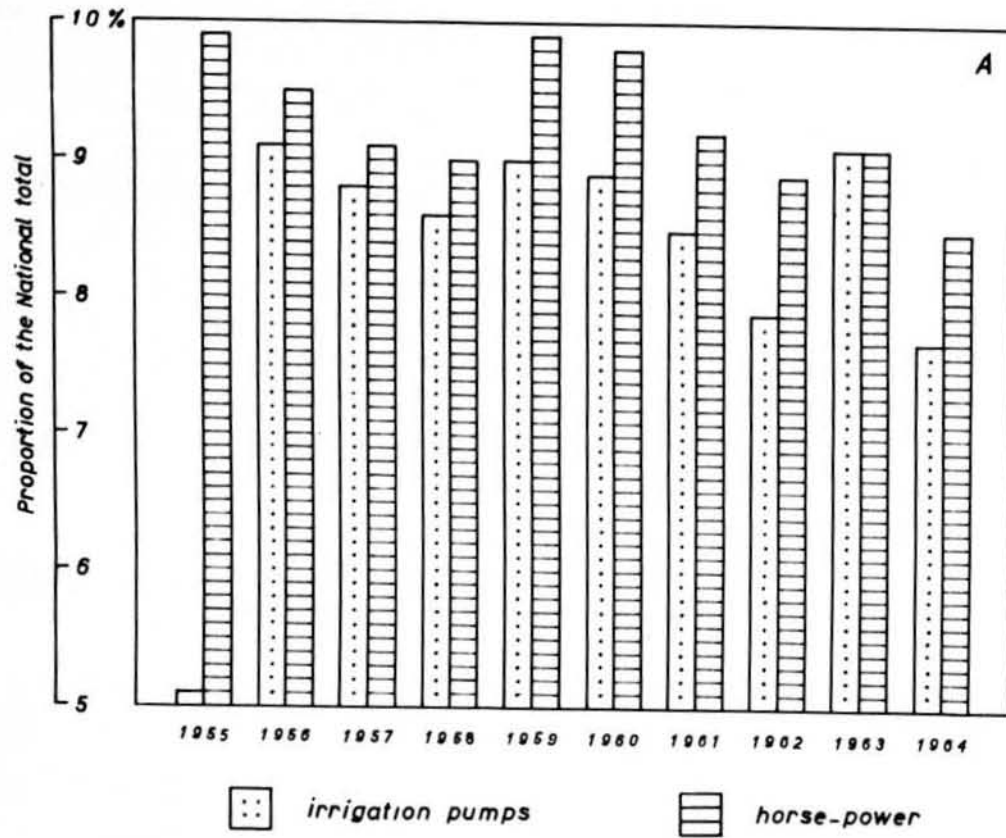
The acute shortage of administrative and technical personnel in the organization of agrarian reform is a serious problem too as most of the efficient engineers, technicians, skilled labourers and professional personnel prefer to work for private firms where they receive high remuneration.

The large scale confiscation of land was too great for the managerial capacity of the agrarian reform organization and led to the deterioration of agricultural production in many parts of the country.

Above all the traditional farming techniques and social customs in rural communities contribute greatly to slow progress of this vital project. Lack of adequate cooperative societies in these areas, lack of coordination between the staff of agrarian reform and the tightly centralized government have also delayed considerably the introduction of more advanced farming methods. Instead of giving more attention to the numerous social and economic problems in the rural areas, most of the attention has been given to administrative details.

Thus, agrarian reform still plays only a very minor part in the social and economic development of Amara where the miserable conditions in rural areas have been only slightly ameliorated. The poor cultivators imagined that agrarian reform would cure all their miseries. But since the new project could remove only little of the confusion which predominated in Amara for generations and could not

**IRRIGATION BY PUMPS & HORSE-POWER IN AMARA
AS A PROPORTION OF THE TOTAL IN IRAQ 1955-1964**



AGRICULTURAL MACHINERY IN AMARA

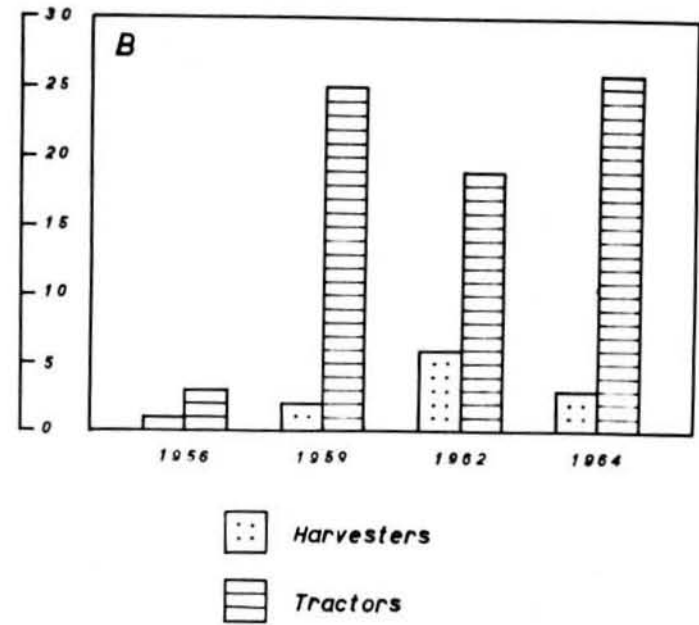


Fig.15

satisfy their hopes in a short time they lost confidence in it and their migration to Baghdad accelerated. Moreover, the attractiveness of Baghdad increased too for during this period large scale schemes of social and economic advancement were going there particularly to improve the conditions of rural migrants. This was, in fact, the period in which the effects of migration on the agricultural economy of Amara and different aspects of life in Baghdad began to be seen clearly. Thus, the agrarian reform project which was planned to persuade the migrants in Baghdad to return to their villages has helped, in fact, the exodus from the countryside. It seems that it will be a long time before remarkable improvements can be seen in rural areas since the land distribution, for example, will take more than 50 years if it continues at the present rate.

Chapter II : References :

1. Central Agency for Public Mobilization and Statistics :
Statistical Handbook of the U.A.R. 1952-1964, Cairo (1965),
pp. 15 and 198.
2. K.M. Langley: "Iraq : Some aspects of the Economic Scene"
Middle East Journal, Spring (1964), p.81.
3. A.W. Al-Atiya: The Agrarian Reform and the Economic Development,
Ministry of Agrarian Reform, Survey's Press, Baghdad (1963) p.11.
(Arabic).
4. W.H.Al-Khashab: op.cit., p.51.
5. A. Al-Fayiadh: Land Problems in the Muntifik Province.
Al-A'dhami Press, Baghdad (1956), p.49 (Arabic).
6. Ministry of Planning, Central Bureau of Statistics: Results of
the Agricultural and Livestock Census of 1958/1959, Government
Press, (1961), p.310.
7. Ministry of Interior, Directorate General of Publicity: The
Official Gazet, No.3104, 14th May (1952) (Arabic).
8. Ministry of Interior, Directorate General of Guidance and
Publicity: The Official Gazet, No.3619, 14th May (1955) (Arabic).
9. Ministry of Planning, Central Bureau of Statistics:
Statistical Abstract of 1963. Government Press, Baghdad (1964),
p.54.
10. International Bank for Reconstruction and Development: The
Economic Development of Iraq. John Hopkins Press, Baltimore
(1952), p.143.
11. J. May and I.S. Jericho: The Ecology of Malnutrition in the Far
and Near East. Hafner Publishing Co.Inc., N.Y. (1961), p.410.

12. U.N., F.A.O. and W.H.O. : Report of the Nutrition Committee for the Middle East, Nutrition Meetings Report Series No.24, Rome (1959), p.16.
13. K. Haseeb: Estimate of the National Income of Iraq. 1953-1961. Dar Al-Taleea Press, Beirut (1963), p.104 (Arabic).
14. A.W. Al-Atiya : op.cit., p.30.
15. U.N., Department of Economic Affairs, Progress in the Land Reform: N.Y. (1954), p.80.
16. H. Muhammed Ali : Land Reclamation and Settlement in Iraq. Baghdad Printing Press, Baghdad (1955), p.75.
17. B. Fisk: "Dujaila: Iraq's Pilot Project", Economic Geography XXVIII, (1952) p.343.
18. A.W. Al-Atiya: op.cit., p.34.
19. Agrarian Reform High Committee: The Agrarian Reform in Six Years, Survey's Press, Baghdad (1965), p.19 (Arabic).
20. Ministry of Agrarian Reform: The Agrarian Reform Between 30.9.1958 and 31.5.1962. Survey's Press, Baghdad (1962), p.7 (Arabic).
21. Agrarian Reform High Committee: op.cit., p.26.
22. Ibid, p.54.

CHAPTER III

AGRICULTURAL PRODUCTION

With vast areas of cultivable land, abundant water for irrigation and a favourable climate, Amara was until recently among the most important agricultural regions in Iraq. Historically the region has contributed to Iraq's economy, particularly for rice production. The study of agricultural production in Amara is important not only because farming remains the occupation of the majority of population and the major source of income,* but it also helps to show the low standard of agriculture and the primitive methods and practices employed. The traditional techniques together with unfair distribution of landownership rights, where most of the cultivated areas concentrated in the hands of a few landholders have affected various aspects of the agrarian sector. Low yield per meshara, insufficient return and uncertainty of exploitation are some obvious examples throughout the region. The low income of cultivators and the widespread of malnutrition in rural areas reduced the productivity of population and their resistance to diseases. Thus, farming became unprofitable occupation and many have been forced to leave the region in search for better opportunities in towns. The agricultural production of the area has deteriorated and the national economy has been badly affected as will be seen in chapter seven.

This study of farming and animal resources in Amara is also significant because it provides clear evidence on the acute labour shortage in the agricultural sector due to the continuous emigration of cultivators to urban areas especially in the 1950's.

* The rural inhabitants constituted in 1957 about 75 percent of the total population of Amara, while 87 percent of these were active in agriculture, and even the dependents (non-working persons) can also be considered active because, normally, people who are under 14 and over 60 years of age are a part of the agricultural labour force.

Although the labour shortage has affected the cultivation of all field crops, it is especially significant in the rice producing areas.

Discussion of agricultural production in Amara, will also indicate the immense agricultural potential of Amara and its importance as a basis for a large scale development in this direction. The present cultivated area constitutes less than one third of the total cultivable area, apart from the livestock and fish resources and the great opportunities to increase them in the future.

Although the Amara region is a part of the irrigated zone where agricultural production depends almost entirely upon the twin rivers, a considerable area mainly in the northern and central parts of the region depends on rainfall. In Msharrah and Kumait areas, for example, about 51 percent and 28 percent respectively of total cultivated land depends on rainfall, while the rain-fed area constitute only 0.7 percent of the total cultivated area in Kahla in southern Amara.

The high dependence upon rainfall in the northern and central parts of the region is because these lands lie higher than the water courses, and gravity irrigation is not possible. Shortage of labour which is so necessary in irrigated lands may discourage irrigation in the north whereas in the southern areas it is more plentiful.

The total area of Amara province is about 7,350,800 mesharas, of which about 29 percent is permanent and seasonal marshes and in 1958 the cultivable area constituted about 22 percent out of about 30 percent of the surveyed area.⁽¹⁾ Before the declaration of the agrarian reform law in 1958, the dry land comprised agricultural units and holdings of different sizes depending upon a number of social and environmental factors particularly the influence of landholders and shaikhs (p. 48).

The land tenure system has a profound effect on farming techniques in Amara, because it does not encourage either landholder or lessee to introduce improvements to agricultural practices; the few progressive steps taken by the landholders, such as installation of water pumps were designed chiefly to increase their share of production. In addition the low income of the cultivator is a great hindrance to the use of agricultural machinery. It has been estimated that the cost of using machines is about I.D. 1 per meshara. The average size of cultivated parcel per cultivator under traditional farming techniques in Amara is about 15 mesharas of winter crops and about five mesharas of summer crops. In this case the cultivator requires about I.D. 20 to use machinery. But since the income of the majority of families is between I.D. 12 and 60 per annum few cultivators can afford machinery.

Consequently the cultivators still use the ancient wooden plough and traditional means of irrigation, sowing, harvesting and threshing. Ignorance of modern techniques such as fertilizing, weeding, storage and marketing is reflected in the impoverishment of the soil, lower yields and the low socio-economic status of the cultivators.

A cultivator in Amara usually puts half of his land under the plough each year and leaves the other fallow, so that half the cultivated land in this area is left idle. The main reason for the fallow system is to restore the soil productivity, particularly nitrates, and sometimes to lower the underground water table from the root zone. The length of fallow depends on many factors such as the type of cultivated crop and the amount of water available.

The fallow system is most common where barley and wheat predominate but is applied occasionally in rice areas, where flood water adds a thick layer of deposits to the cultivated land along the

outskirts of marshes. These deposits renew soil fertility continuously and naturally. Moreover, burning of bulrush and giant reed thickets in these areas contributes to soil fertility each year by the addition of considerable quantities of potash.

Fallow land is usually ploughed twice or three times in order to expose the low layers of soil to sunshine, frost, wind and little amounts of winter rainfall, called by the cultivators, Felhan. Weeds and wild plants colonize the fallow land and are used as natural pasture by the cultivator's livestock while the soil receives the addition of animal manure. Thorns and weeds, however, probably continue to withdraw essential nutrients from the soil. Crop-rotation is of course the proper solution but it is almost unknown in Amara.

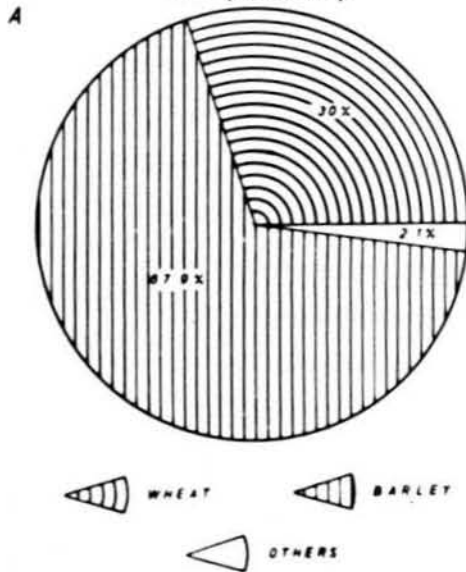
3.1. FIELD CROPS.

A variety of crops is usually cultivated in Amara; these can be classified into two categories according to their growing season. The first type are winter crops Shitwi and include wheat, barley and other minor crops. These crops which occupy the largest proportion of the cultivated areas (Fig.16, A,C and D), are generally, sown during autumn or early winter and harvested during spring or early summer. Shitwi crops are raised everywhere in Amara, but are most common in semi-arid zones away from the marshes.

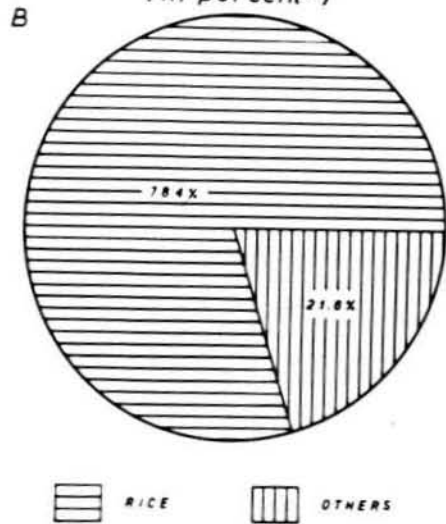
The second type are summer crops or Saifi which are usually sown in late spring and harvested at the end of summer. Normally, the cultivated area of summer crops is less than that of winter crops (Fig.16 D). Rice is the leading summer crop in Amara. By contrast with the winter crops, the minor summer crops occupy a larger proportion of the summer cultivated land.

Fig. 16

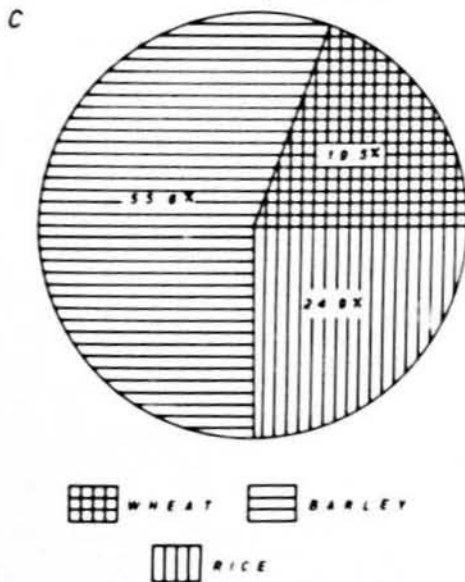
ANNUAL AVERAGE OF WINTER CULTIVATED AREA IN AMARA 1955-1964 (in percent.)



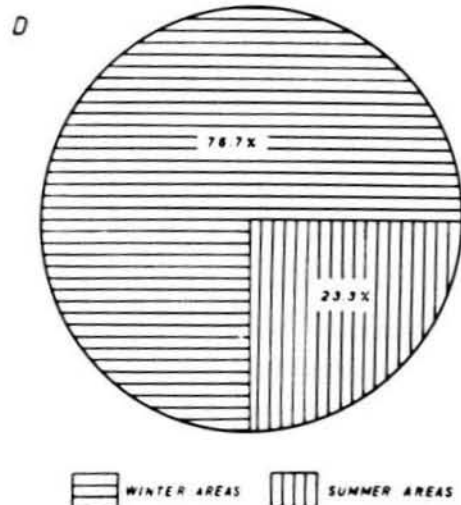
ANNUAL AVERAGE OF SUMMER CULTIVATED AREA IN AMARA 1955-1964 (in percent.)



ANNUAL AVERAGE OF PRODUCTION OF MAJOR WINTER AND SUMMER CROPS IN AMARA 1955-1964 (in percent.)



ANNUAL AVERAGE OF WINTER AND SUMMER CULTIVATED AREAS IN AMARA 1955-1964 (in percent.)



Summer drought is not the only problem of agricultural production, but ignorance of irrigation techniques is especially important. The traditional means of irrigation especially those of flow and flood irrigation, are responsible for great losses of water which reduce the amount of water available for both winter and summer farming. The main object of cultivators in Amara is to give as much water as possible to the land in a short time. The amount of water wasted in this way in Amara has been estimated as high as 60 percent for all crops except rice. In the case of rice losses are nearer 40 percent because the permanent flooding of rice fields reduces water percolation. Furthermore, there is no effective supervision of water utilization which is left almost entirely in the hands of the landholders and other influential persons.

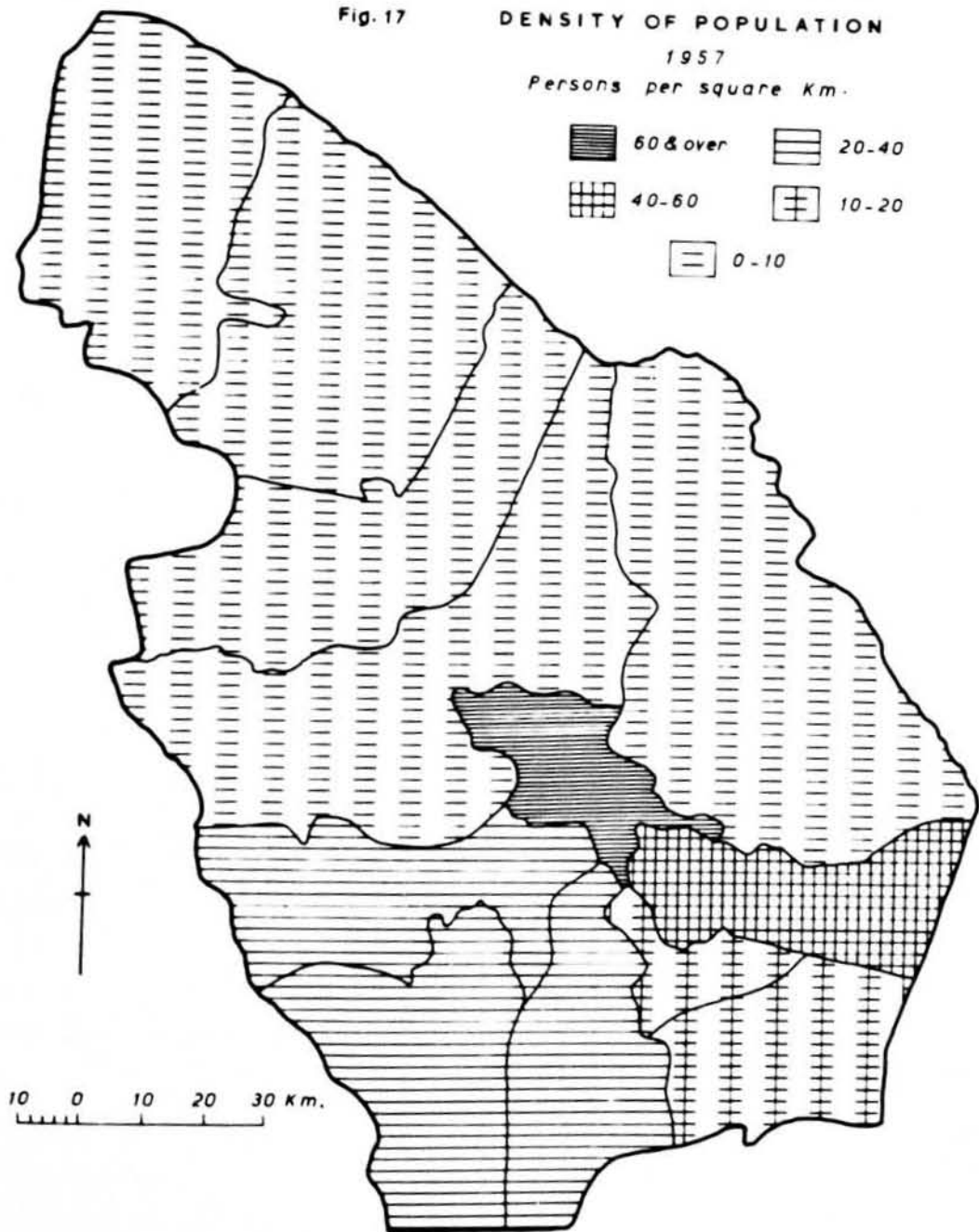
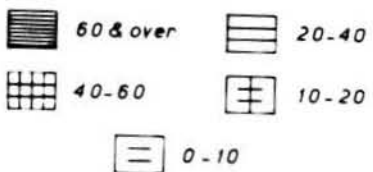
The average annual cultivated area of both winter and summer crops from 1955 to 1964 was about 471,720 mesharas, or about 28 percent of the cultivable land. The bulk of cultivable land is uncultivated for a number of reasons, principally the land tenure system by which huge agricultural holdings were allocated to a very few landholders and shaikhs before the declaration of the agrarian reform law in 1958. These landholders did not put these vast holdings under the plough, since the land belonged to the state and any investment did not serve their interests. The second factor is that most of the cultivable land is either semi-arid or higher than the water courses and artificial irrigation is necessary. Thirdly, manual labour in Amara is not commensurate with the size of the cultivable areas and this shortage of labour constitutes a major obstacle to agricultural expansion and development. Amara has only about 18 persons per sq.km. compared with other agricultural provinces of southern Iraq such as Hilla where there are about 63 persons per sq.km. (Fig.17). The average density of population on cultivated land in Amara, moreover, is lower than in other cultivated regions of southern Iraq, being about 80 persons per sq.km. compared with 95 persons per sq.km. in Nasiriya and 109 persons per sq.km. in Hilla.

Fig. 17

DENSITY OF POPULATION

1957

Persons per square Km.



Such low densities are due to the emigration of cultivators from the region in contrast with other regions where there is less mobility of rural people.

Winter crops occupied about 77 percent of the cultivated land during the period 1955-1964 (Fig. 16A), barley (68 percent) and wheat (30 percent) being the major crops. The preponderance of barley in Amara is due to its resistance to both salinity and drought.

Because of the insufficient water supply in summer, the summer agriculture is confined to the areas along or near water sources, or where lift irrigation is practicable. Rice is the major summer crop found in almost all parts of Amara, but concentrated, in particular, in the marshy lowlands of the southern sub-administrative units (Figs. 18 and 19).




Many factors contribute to the general concentration of rice cultivation in the south. The existence of cultivable marshy plains where irrigation canals flow to the marshes makes flood irrigation easy for the rice fields, compared with the high land in other parts. Moreover, most soils here are of moderate to heavy textures with a high proportion of silt laid down annually during the flood season. Such silt is suitable for paddy rice cultivation since it can retain water for a long time, while the coarser, more permeable soils were laid down in the upper Tigris valley in Amara. Above all paddy rice transplanting needs more manual labour than wheat and barley which can be cultivated by extensive or dry farming with small amounts of labour.

The annual average area under rice during the period 1955-1964 was about 64,400 mesharas or about 18 percent of the annual average of wheat and barley. Nevertheless, this constituted about 80 percent of the total summer cultivation in the region (Fig. 16B).



Fig.18

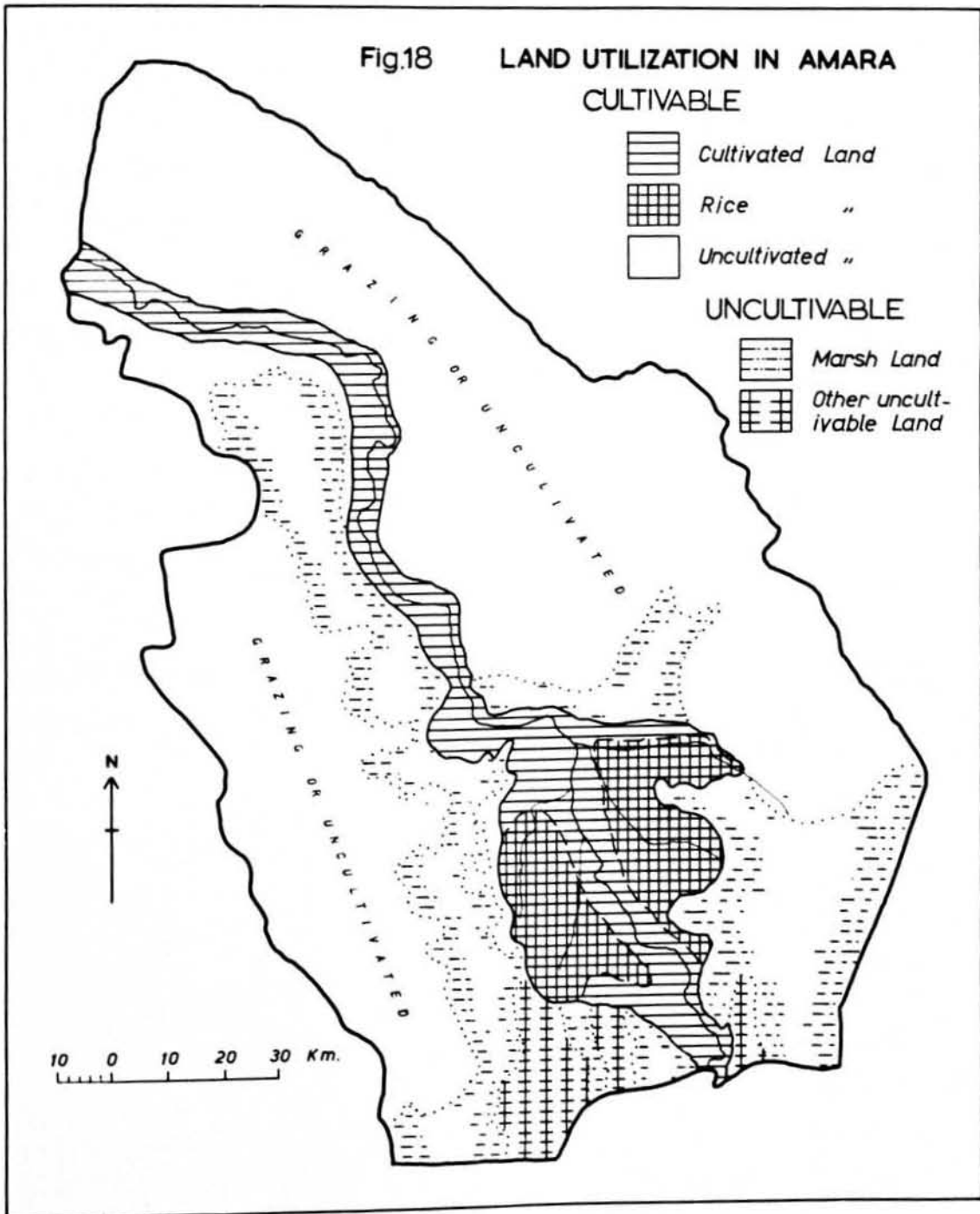
LAND UTILIZATION IN AMARA

CULTIVABLE

-  Cultivated Land
-  Rice "
-  Uncultivated "

UNCULTIVABLE

-  Marsh Land
-  Other uncultivable Land



Inspite of the little difference in the extent of the annual cultivated area yields varied markedly from one year to another. The same was true of the yields per meshara of different crops (Table 3.1). It is clear that the yields per meshara of the three major crops has slightly increased, especially since 1958. This was due to different measures introduced by the agrarian reform authorities in this region to increase production. But inspite of this, the total production of these crops, particularly rice did not show considerable increase, suggesting a shortage of labour as a result of the large scale movement of cultivators from Amara after 1958.

Although the average of seed sown per meshara of wheat, barley and rice was almost the same (see Appendix F) the return of these crops per meshara differed from one sub-administrative unit to another (Table 3.2). The ratio of seed sown to yield per meshara is higher in the southern marshy sub-administrative units such as Kahla, Maimouna and Mijar Al-Kabir, than in the semi-arid administrative divisions in the north. The yields were among the lowest in Iraq and other grain producing countries in the Middle East and the rest of the world (Table 3.3 and see Appendix G).

However, the discussion of field crops will be concentrated mainly on the three major winter and summer crops in Amara namely, wheat, barley and rice to show the importance of these crops as a major source of income and staple of diet. The cultivated areas and yields are small considering the vast agricultural resources not because of their poorness but because of the inadequate and traditional methods applied in the utilization of these resources. At the same time the discussion of major field crops will reveal the amount of labour required in the cultivated areas but not available in the region. Other important crops for human consumption such as vegetables and legumes which are not important in the region and occupy only a small proportion of the annual cropped land, will be mentioned very briefly.

TABLE 3.1

YIELDS OF MAJOR WINTER AND SUMMER CROPS IN AMARA 1955-1964

(Kg. PER MESHARA)

CROP	AGRICULTURAL YEAR										AVERAGE OF 10 YEARS
	54/55	55/56	56/57	57/58	58/59	59/60	60/61	61/62	62/63	63/64	
Wheat	148	141	141	141	189	187	177	165	152	172	161
Barley	198	161	161	170	226	235	241	219	129	199	194
Rice	231	294	294	278	334	282	326	350	370	356	312
<u>SOURCE:</u>	Calculated from figures estimated by: (a) Ministry of Agriculture, Agricultural Economics Section: <u>Agricultural Abstracts 1957/58 - 1963/64.</u> (b) Ministry of Agriculture, Directorate General of Agriculture: <u>Files No. 4/128, 5/306 and 6/306, for the years 1954/55, 1955/56 and 1956/57.</u> (Unpublished).										

1
88
1

TABLE 3.2.

AVERAGE RATIO OF SEED SOWN TO YIELD PER MESHARA IN SELECTED SUB-ADMINISTRATIVE UNITS OF AMARA PROVINCE 1955 - 1964.

CROP	SUB-ADMINISTRATIVE UNIT					
	AliAl-Gharbi	Shaikh Sa'ad	Kahla	Maimouna	Mijar Al-Kabir	Amara province
Wheat	1 : 7.7	1 : 7.2	1 : 7.2	1 : 7.2	1 : 7.3	1 : 7.1
Barley	1 : 8.4	1 : 7.9	1 : 6.8	1 : 7.6	1 : 6.5	1 : 6.9
Rice	1 : 9.2	1 : 9.8	1 :12.2	1 :11.6	1 :10.7	1 :10.4
<p><u>SOURCE :</u> See <u>Table 3.1.</u></p>						

TABLE 3.3

AVERAGE YIELDS OF MAJOR WINTER AND SUMMER CROPS IN DIWANIYA AND NASIRIYA
PROVINCES 1955-1964.

PROVINCE	CROP	YIELD PER MESHARA
Diwaniya	Wheat	177 Kg.
	Barley	214 "
	Rice	419 "
Nasiriya	Wheat	163 "
	Barley	206 "
	Rice	383 "
<p><u>SOURCE:</u> Calculated from : Ministry of Planning, Central Bureau of Statistics : <u>Statistical Abstracts 1955-1964.</u></p>		

3.1.1 Wheat(Triticum sativum)

Wheat was one of the earliest crops known in Mesopotamia where there are references to this crop during the Sumerian times. It can survive in different climatic and soil conditions, because of its numerous varieties. It can resist, for instance, low temperatures, the minimum being around 5°C., and it needs between 120-160 days to mature. The ideal soil is a deep well-drained clay-loam though yields fall in the heavy clayey and sandy soils.

The climate in southern Iraq is cool in winter with some cold spells in January, and the annual rainfall of less than 200 mm. is insufficient for wheat, so that production depends either on flow or lift irrigation. Soils in Amara are generally suitable for wheat cultivation, but the main problem is that natural drainage is very poor because of the flatness of the land which accompanied by faulty irrigation techniques give rise to large salty patches unsuitable for cultivation.

The variety of wheat which is most common in the Amara region is called, Al-Iraqia. Various types of this are grown, the grain ranging between a dark red and yellow-whitish colour. The most common local names of this kind of wheat are Hmaira, Hussainiya, Yousufiya and Akkama. Also grown is another new kind of wheat called Al-A'jiba which was developed in Iraq and successfully introduced in many parts of the country, it resists the rust disease, matures early, gives good yields and enjoys popularity in the wheat markets.

A brief discussion of wheat production methods will throw light on the standard of agricultural production in Amara. The most suitable time for wheat sowing is from the beginning of November till the middle of December before the cold spell in January. This crop is called early or Harfi and matures during the first half of May. A second crop sown after January known as late

Afli, matures after about four months only. Consequently Afli yields are usually lower both in quality and quantity than Harfi, since many diseases and pests became active during the spring.

The amount of seed sown per meshara in Amara ranges between 20 and 25 kg. (see Appendix F). Sowing is usually by hand. A farmer can sow approximately one meshara of land per hour by this mean, whereas a mechanical drill can sow between 30 and 50 mesharas per day. After sowing the cultivated land is ploughed again to cover the seeds.

Wheat seeds can be sown either after the land has been irrigated Tarbis or before Haroj. By the first method the ploughed land is divided into basins of different sizes which are then flooded with water. When the upper layer dries out and becomes suitable for ploughing sowing can begin. By the second method, Haroj, seeds are put in the prepared land and ploughed before it is divided into basins, and irrigated. The Tarbis method, however, is preferred by cultivators because it secures almost total germination of seeds. The flow of irrigation water, furthermore, during these earlier stages must be very slow or the seeds or small plants will be washed to the lower parts of the field. It is obviously essential to make all of the basins on the same level to prevent the water from collecting in the lower parts.

Many kinds of weeds grow in the wheat fields, because of the careless planting and poorly selected seeds, the most common being called locally Doser, Ruwaita and Zwan. The abundance of weeds is convincing proof of the backward agricultural traditions in Amara.

The shortage of labour is critical in all the wheat producing areas in Iraq, but it is most acute in Amara where farming depends on flow or lift irrigation, extra labour being needed particularly to dig irrigation canals.

This difficulty has been overcome elsewhere, especially in the rainfed zone by using machinery but it is still not easy to apply machinery in irrigated areas because the land is covered with a dense network of irrigation canals and ditches.

The harvest season for wheat in Amara starts about the middle of May and because of primitive methods may last for a month or even more. By the old method which is called locally, Minjal the cultivator can harvest an average area between a half and one meshara in an 8 to 10 hour day, while the small harvesters pulled by mules, which are common in northern Iraq can harvest between 10 and 15 mesharas daily.

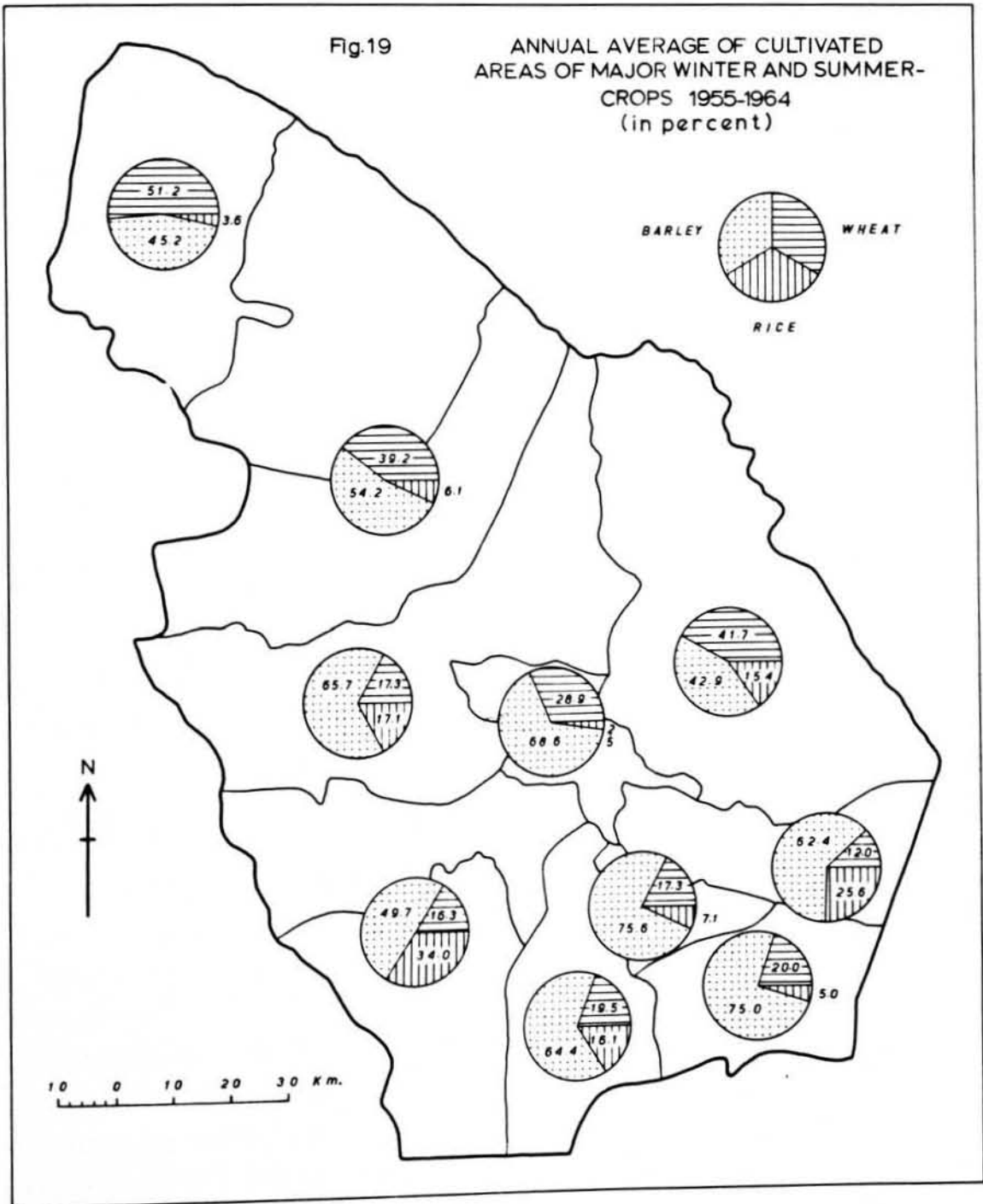
The harvested crop is collected in a heap on a hard surface where it usually is threshed by a local technique called, Jargar using animals or sometimes a threshing machine. The Jargar is a thresher composed of two wooden cylinders about a metre long and a quarter of a metre in diameter, with many big iron knives fixed on the cylinders. The Jargar is pulled by two animals guided by a boy over the harvested wheat. Threshing can also be carried out by draught animals tied together and moving over the harvested crop. Mechanical threshing is ideal because it sorts the grains according to size and separates them from weeds and hay. About 0.3 to 0.6 tons can be threshed by either the Jargar or the animals, while the thresher can complete between 6 and 12 tons daily. In 1958 the number of cultivated holdings using machines and animals for agricultural operations in Amara was only 89, while those using animals alone totalled 10,902 and the number using neither animals nor machines were 125.⁽²⁾

Pests and Diseases:

In addition to other difficulties facing wheat production in Amara, pests and diseases are also serious. These diseases are due to the many faults in the exploitation of

Fig.19

ANNUAL AVERAGE OF CULTIVATED
AREAS OF MAJOR WINTER AND SUMMER-
CROPS 1955-1964
(in percent)



agricultural resources such as inadequate irrigation, poor selection of seeds, ignorance of insecticides or modern farming methods and the lack of confidence and cooperation between landholders and cultivators.

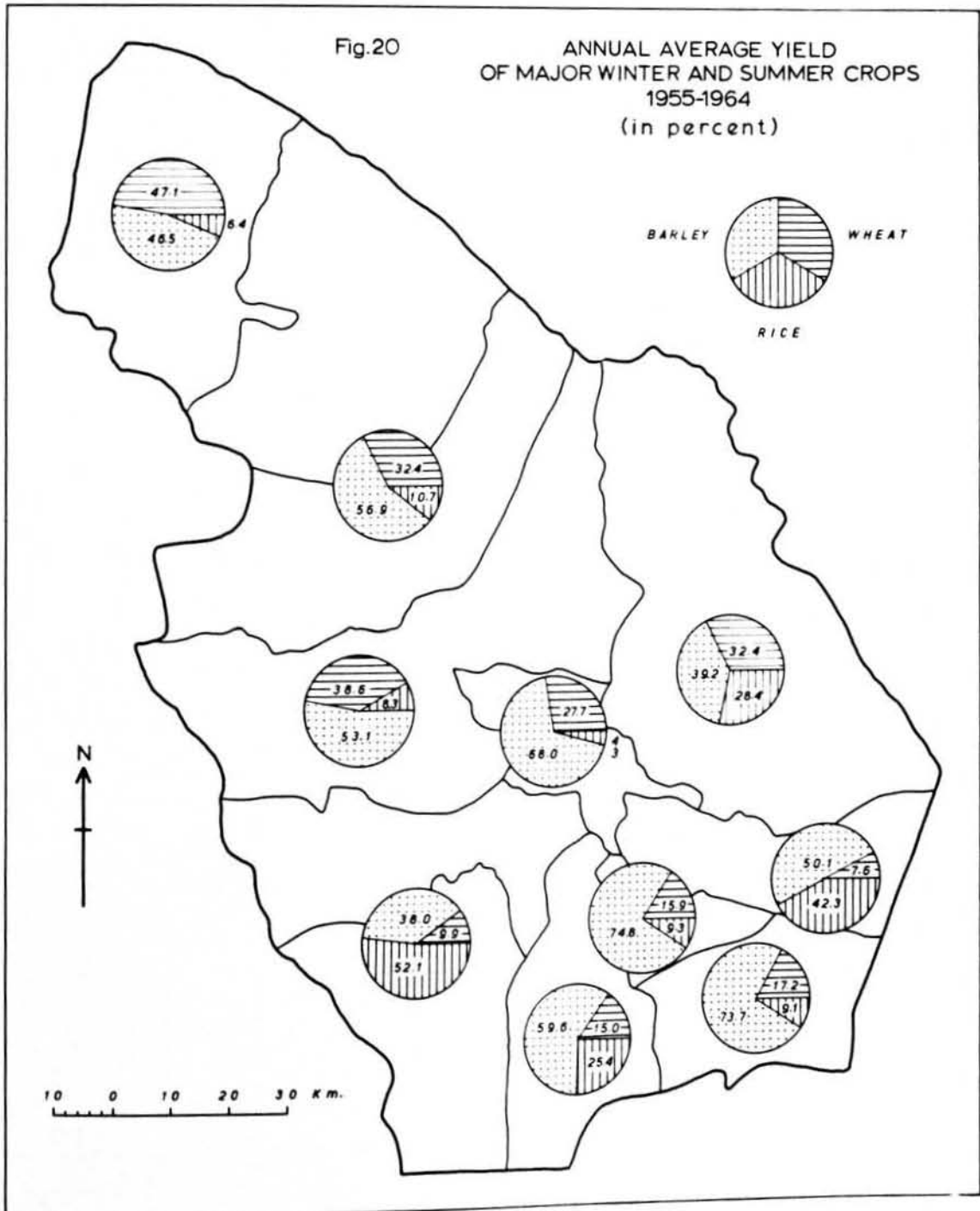
Numerous pests and diseases attack the wheat crop. The most common insects which may cause great losses of production are: Locusts, particularly the yellow migratory desert locust and the large brown grass hoppers.⁽³⁾ There is also the senn pest which causes severe damage sometimes to half the crop. The most serious diseases in Amara are the leaf rust which is familiar to cultivators as Zink and spreads in spring when the temperature begins to rise.⁽⁴⁾ Moreover, the smut Al-Chalab converts the wheat to a black dust and also spreads rapidly in spring. Late wheat, Afli is frequently affected with the blast which occurs when the temperature rises suddenly in the spring and liquid evaporates from the grains. However, since most of these diseases spread in spring, the early cultivation of wheat, Harfi or the kinds of wheat which resist these diseases or mature early should be more widely used. Using effective chemical and improving the present irrigation and farming methods could greatly reduce these diseases.

Distribution of Wheat Production:

About 39 percent of wheat yields come from the northern parts of Amara, Ali Al-Gharbi Qadha and the rest from other parts, particularly the central sub-administrative divisions. The wheat area in Ali Al-Gharbi Qadha constitutes about 39 percent of the total cultivated areas in Amara (Figs.19 and 20). This is due to many factors: firstly the shortage of labour in the north compared with the southern parts where the comparatively high density of population makes intensive cultivation of other crops possible. In 1965 the density of population in Ali Al-Gharbi Qadha was 5.3 percent per sq.km., compared with 32.2 persons per sq.km. in Maimouna Qadha.

Fig.20

ANNUAL AVERAGE YIELD
OF MAJOR WINTER AND SUMMER CROPS
1955-1964
(in percent)



Secondly, the vast dry cultivable land in northern areas is suitable for wheat cultivation, while permanent and seasonal marshes cover most of the south. Thirdly, the soil salinity, generally, increases to the south where flow and flood irrigation predominate and the land is too low in relation to the water courses. The south is invariably marshy for a long time each year and the water table is not so far from the surface. In summer when the water evaporates from these surfaces the salt content in the soil increases greatly.

2.1.2. Barley(Hordeum)

Barley is the major winter field crop in Iraq, because of its ability to survive in different soil and climatic conditions. Nevertheless, its cultivation is concentrated in the south where the soil is unsuitable for wheat, while it cannot compete with wheat in northern Iraq. Barley, moreover, was until recently the main food cereal in rural areas. It follows dates as Iraq's major agricultural export and it is used for animal fodder and increasingly for brewing.

Although many kinds of barley grow in Amara, three major types are most common. The most important type for human food is called Subergalan, a hybrid variety with large white grains and high yields. The other two types are a local type called Al-Iraqi which also gives good yields and the draught-resistant black barley which matures early.

Although barley grows in almost all types of soil, a fine clayey soil is preferable. Also, because barley is a salinity tolerant crop, it occupies those areas which are not suitable for wheat, rice and other crops. Thus it can be found in every sub-

administrative unit of Amara both in the semi-arid and swampy areas, in the rain-fed and irrigated lands. Thus, it occupies an average of about 68 percent of the total winter cultivated land annually (Fig. 16A). By contrast with wheat the largest proportion of barley land is in the southern sub-administrative units. The average area under barley in Kahla Nahia, for instance, was about 13 percent of the barley cultivated area in Amara compared with about seven percent in Shaikh Sa'ad Nahia 1954/55 - 1963/64. Meanwhile about 14 percent and seven percent of the average annual yields of barley in Amara during the same period, came from these sub-administrative divisions respectively.

A fallow system is used in barley cultivation, the land being ploughed many times before sowing. Barley sowing starts generally, a month before that of wheat during October and November and matures before it in April or May. Methods of barley sowing, harvesting and threshing resemble those of wheat. The amount of seed per meshara differs considerably according to soil type, way of cultivation and time of sowing, but the average is usually between 25 and 30 kg. (see Appendix F).

The yield of barley also differs greatly from one part and from one year to another. The average yield during the decade 1954/55 - 1964/65 was 194 kg. per meshara in Amara (Table 3.1), the lowest yields in the irrigated lands of southern Iraq. The annual production of barley varied during this period but averaged about 50,300 tons. The bulk of production came from the southern sub-administrative units mainly Kahla Nahia, Mijar Al-Kabir Nahia and Maimouna Qadha while the northern parts contributed only limited quantities (Figs. 19 and 20).

Barley suffers from the same pests and diseases as wheat, but it is more sensitive to humidity in storage than wheat.

3.1.3. Rice(*Oriza sativa*.)

This crop has been known in Iraq since about 300 B.C. and ever since it has been the staple food for the majority of the population.⁽⁵⁾

However, in Amara the temperature is much higher and the humidity is lower than the ideal requirements of rice cultivation. It has been found that rice does not grow properly, for instance, if the temperature exceeds 36°C, and if it rises to 42°C at heading time all the pollen dies within a few minutes.⁽⁶⁾ The mean temperature of July in southern Iraq is about 35°C and the average maximum temperatures in July are 49°C (p. 8). Accordingly, it seems almost impossible to grow rice in such conditions, but irrigation water in the paddy fields and evaporation from the plants themselves modify the effect of heat.

Rice cultivation is almost completely confined to the southern provinces of Iraq (Amara, Diwaniya, Nasiriya and Basra). The major criteria in the rice distribution in the country are the high temperature and the amount of water available in the summer.

Rice production differs in neighbouring provinces from year to year inspite of similar environmental conditions. The availability of labour is as important as that of water supply. This fact is clear in the case of Amara and Diwaniya provinces, for until recently Amara was the leading area of rice production in the country, but because of the continuous migration of cultivators, production has fallen and Diwaniya which is not so affected by migration has become the largest producing area (Table 3.4). It is clear that the rice production in Amara started to decrease during 1955-1964 when the largest exodus of rural inhabitants occurred, but rice occupies about 80 percent of the total summer cultivated land.

The paddy fields are located in alluvial plain of the Tigris and in the marshy parts of Amara subject to annual flooding

TABLE 3.4.

RICE PRODUCTION IN THE AMARA AND DIWANIYA PROVINCES DURING 1949-1964.

(TONS)

YEAR	PROVINCE	
	AMARA	DIWANIYA
1949	106,540	49,632
1950	114,950	66,510
1951	24,055	32,790
1952	52,293	33,470
1953	67,246	36,950
1954	59,585	42,700
1955	14,974	24,611
1956	26,461	31,334
1957	18,018	40,583
1958	21,600	39,933
1959	15,122	36,015
1960	15,201	57,916
1961	18,939	23,750
1962	24,008	41,143
1963	21,291	45,382
1964	22,175	65,560

SOURCE:
Ministry of Planning, Central Bureau of
Statistics: Statistical Abstracts 1950-1964.

(Figs. 7 and 18). Flood water annually brings huge amounts of silt and other deposits to rice lands. The amount of water which was lost between Kut and Amara to the adjacent lowlands and marshy areas has been estimated at 91 percent of the total annual discharge of the Tigris, so that the amount of deposits brought with water can easily be imagined. Thus, available water is more adequate in these areas that the fallow system is of no use and the same piece of land can be cultivated with rice continuously for a period of between 15 and 50 years. The soil in most of the paddy lands of Amara is either heavy clay or clayey loam with high salinity. But the continuous flooding of the land washes the salts far below the root zone.

Cultivators of Amara use two types of land for rice cultivation. The first, is the lowland around the marshes or near the water courses, Tetiab which is most easily flooded and upon which the silt layer reaches 15 to 20 cm. Moreover, it is easy to drain the water from the paddy fields to the adjacent marshes or rivers. The second type Rabath is farther away from the marshes and water sources and requires greater amounts of labour to maintain canals for irrigation. Some of these lands are so high and remote from the water sources that it is necessary to use pump irrigation. Because of the inadequate irrigation installations particularly of pumps, in Amara the Rabath lands became less productive since both water and alluvial deposits are less than in the Tetiab lands. The total yields of these lands is thus lower and this in turn has affected the economic status of the cultivators. Because of the insufficient alluvial deposits and the shortage of labour in these lands due to emigration, the rice land is sometimes left fallow after the harvest of the crop for a year or more as in ~~Sheikh~~ Sa'ad and Mijar Al-Kabir.

The cultivators of the Rabath land, tend to be the poorest group of rice cultivators in Amara and constitute the majority of migrants to Baghdad. The low economic status of these people is due not only to the low productivity of the land but to the use of pump-irrigation which reduce the share of cultivator and increase the share of the landholder.

The cultivator starts to prepare the Tetiab land for rice cultivation in February by opening his canals and clearing them. These canals usually run parallel to each other from the high parts of the field to the marsh or the canal. The distance between canals is between 40 and 60 metres depending upon the flatness of the land. The cultivator builds a mud terrace at an equal distance between each two canals. Thus, the rice field is divided into rectangular basins. At this stage the basins are flooded, many times, with flood water which leaves a layer of silt over the land and washes out the salts to the neighbouring marsh or canal. The cultivator then begins to clear weeds and level the silt deposits in his fields.

In the Rabath lands, the cultivator ploughs the land on right angles and must ensure that his fields are graded to permit slow gravity flow of irrigation waters. The land is again divided into rectangular basins and inundated with water in spring two or three times to form a layer of alluvial deposits and to wash out the salts before sowing.

Then the cultivator usually keeps the rice seeds in a small pit full of water near a stream or sometimes in a bag shaped reed mat called, Ga'ida which he puts in running water until the seed germinates. At the same time a small piece of land has been selected for intensive planting between 100 and 150 kg. per meshara. When the plant grows to 10-15 cm. in this small plot it is transferred to the prepared fields and planted at intervals of about 25 cm. The rice field is irrigated by day and drained by

night continuously until about a week before the harvest. In addition to the transplanting method, rice especially of low grade varieties, is also cultivated in the same way as wheat and barley, particularly in high lands remote from the marshes or canals.

The amount of seed sown per meshara is irregular in Amara but the average according to the figures given by the cultivators and agricultural authorities, is about 30 kg. (see Appendix F) and the ratio of seed to the yield per meshara was 1 : 10.4 in 1955-1964 (Table 3.2).

Different varieties of rice are cultivated the most important on the basis of quality and price being Al-A'nber which is the best species for marketing in Iraq. It consists of large white grains, gives best yields in clayey non-saline soils when planted by transplanting methods. Thus it occupies the best Tetiab land in Amara although its area is small compared with other low grade varieties. The most suitable time for the Al-A'nber cultivation is from the end of May to the beginning of June with the harvest in October. Next to this kind in quality and popularity is Al-Moulawi rice. Its grains are white, but thicker and harder than the former and it is cultivated in smaller areas. An Iranian species which entered Amara recently called Rushti is planted in small areas. A low grade rice called Na'ima occupies the largest proportion of rice land in Amara. Its grains are thick of red, white and light red colour and it can be cultivated in both Tetiab and Rabath lands. Because of its low price, it constitutes with the next type, the staple diet of the majority of the rural population in the region. The red rice which is one of the cheapest types is consumed by poor rural dwellers, for whom it is the main cereal for rice bread. The grains are large and require long cooking but it is resistant to salinity and gives a good yield.

Finally, another Iranian species called Al-Hwaizawi, after the Al-Huwaiza marsh, has been cultivated recently in the region. It also survives the saline and arid conditions.

The predominance of poor and cheap varieties of rice in Amara reveals three important facts : in the first place the low standard of agriculture in the region as a whole, because of the prevailing land ownership system and the absence of cooperation between the different partners (i.e. the state, the landholders and the cultivators) to improve agricultural production. The deterioration of rice farming can easily be seen through the inadequate system of irrigation and the primitive methods employed. Moreover, under depressed economic and social conditions the rice cultivators in Amara cannot improve his returns by planting good varieties of rice and all he seeks is the minimum requirements for the survival of his family. The cultivation of good and high price varieties requires at least vast areas of Tetiab land and a large amount of water both of which are not available for the cultivator. Secondly the production of such low grades of rice which constitutes more than 70 percent of the daily food of the majority of the rural population, lowers their nutritional intake and in turn their physical productivity. Thirdly the low standard of living of the bulk of rice cultivators is partly due to low incomes from these cheap kinds of rice. Finally growing poor varieties of rice on a large scale is an indication also of the shortage of labour. Good grades of rice need a great deal of attention and labour for preparing the Tetiab lands, transplanting, irrigation etc ..., compared with poor kinds which can be cultivated in the same way as wheat or barley. The rice cultivators in Amara, however, pointed out that about 29 persons are required to cultivate one meshara of transplanted rice, while only about 18 persons are needed by the other method.

Weeds and Diseases :

Because of the prevailing humid conditions in the rice fields of Amara, the poor selection of seeds and the traditional methods of cultivation, plenty of weeds grow throughout the paddy lands. Cyperaceae grasses and the Barnyard grasses particularly the Panicum column and the Echinochola crus-galli species, called locally Dnan, are the most common. These two last grasses may constitute about 25 percent or even 50 percent of the plants in the rice field, especially if the method of transplanting is not adopted, and thus they considerably reduce the quality and the price of the rice product. Other weeds include the Panicum repens called locally, Murran, the Typha angustata called in the marshy areas, Berdi and the Alisma plantago aquatica called by the rice cultivators Kzaibra.

The most harmful insect in rice fields is the cricket Gryllotalpa vulgaris which becomes active between April and July. It frequently kills the plant because it lives on the roots. Also destructive are the Stemborer Schoenobius incertellus and the Fulgorid Nilaparagata oryzae.

Blast Piricularia oryzae is not important in the Amara rice fields, the only other disease being seedling blight. Amara is, fortunately, almost free of the most endemic disease of rice in Iraq. Nevertheless, the deterioration of rice cultivation has continued in this region due to traditional means of production the shortage of agricultural implements and the large scale migration of the rice cultivators.

3.1.4. Other Crops

In addition to wheat, barley and rice there are some other minor winter and summer crops occupying relatively small proportions of the total cultivated lands. The lack of these minor crops helps to explain the poor nutritional and economic status of cultivators in the region.

The most important of the minor winter crops which occupy only two percent of the total winter cultivated area are broad beans, onions and other vegetables. Broad beans Vicia faba are used either as green vegetables during winter time or as dry beans at other times, but they are produced in insufficient quantities because the cultivators regard vegetable cultivation unbecoming for tribesmen and also because vegetables and other minor crops are not, usually, included in the lease agreement between the landholder and the cultivator.

Broad beans are planted either with barley and harvested with it at the same time or in separate plots of barley and wheat fallow land. In the latter case broad beans are planted also to enrich the soil with nitrates.

Onions Allium cepa are found in all parts of Amara, but the bulk are produced near the big towns. Consequently, the largest quantity comes from the Qadha Centres where transportation is easier and demand is larger. Fallow lands of wheat, barley or other winter crops comprise the main onion growing areas. The annual average output of onions during 1958/59 - 1963/64 was about 1800 tons.

Small gardens of winter vegetables are grown in Amara near towns and villages for cash, being rarely consumed by the cultivators themselves. Besides the broad beans and the onion other vegetables are lettuce, spinach and carrots.

The minor crops which are grown in Amara during the hot dry season occupy about 20 percent of the summer cultivated land, a higher proportion than the minor winter crops (Fig. 16B), though this can vary from year to year. The most important minor food crops are : sesame, green gram, cow peas, sorghum and vegetables.

Sesame Sesamum indicum which is found on limited areas and cultivated particularly in the fallow lands of wheat and barley, is generally eaten by rural people mixed with dates. The average yield ranges between 120 and 200 kg. per meshara. The total production of this crop differed greatly throughout the area during the period 1958-1964 (see Appendix H).

Green Gram Phaseolus mungo is also an important food crop in rural areas and poor parts of Amara. The green gram hay is used as fodder for livestock. Since it grows better in a deep well-drained soil, it is found normally in wheat and barley lands. The yield of green gram in Amara varies between 120 and 200 kg. per meshara and the total production during 1958-1964 fluctuated from year to year (see Appendix H).

Cow peas Vigna sinensis are widely grown in Amara to be eaten as a green vegetable during summer or dried in winter. Although the cow peas grow in almost all kinds of soil they flourish in rich, sandy and non-saline soils. Average yields between 100 and 200 kg. have been recorded in Amara and the average of annual production during the period 1958-1964 was about 200 tons.

Sorghum Sorghum vulgare cultivation is confined mostly to the southern parts of Amara, particularly Qalat Salih Qadha. In rural areas bread is sometimes prepared from sorghum mixed with wheat and barley and it is fed to livestock and poultry. The yield of sorghum in Amara is between 120 and 200 kg. per meshara and the annual average of production during the period 1958-1964 was about 1,200 tons.

Vegetables together occupy, in fact the largest part of summer cultivated land after rice. But they contribute only little to the agricultural economy of Amara and to the cultivator's income. The summer vegetables in Amara include all kinds of melons, cucumbers, tomatoes, egg plants, okra, different kinds of squash, green cow peas and green peppers. In the period 1961-1964 the average annual area under summer vegetables was about 10,000 mesharas yielding about 18,000 tons per annum.

Thus, despite the great agricultural potential especially with abundant water in winter, both winter and summer vegetables are only of minor importance in the agricultural production of the region. This comparatively limited cultivation of vegetables in Amara is due to a variety of reasons namely the reluctance of tribesmen to cultivate them, the cultivator's inability to choose their crops and the shortage of labour. Water shortage also hinders vegetable production while, finally the lack of good roads and fast transport facilities has inhibited vegetable production considerably since they are perishable goods and need to be consumed locally or raised near big markets. Therefore, most of the vegetable gardens in Amara are concentrated around and inside towns and usually within date palm groves.

The physical environment of Amara offers great possibilities for the production of both winter and summer vegetables, which might improve diets and increase the cash income of the rural inhabitants.

3.2. FRUIT PRODUCTION

Economic, social and environmental factors in Amara have discouraged fruit production as they have the production of vegetables. Most commercial fruit orchards are complete private ownership either within or around the towns where the high prices of these products make pump irrigation profitable. Elsewhere orchards are less common since most of the land belongs to the state, miri sirf, and the landless rural dwellers could not plant trees without some security of tenure. Neither could the labour requirements of fruit farming be met with the labour available in the region. Apart from dates, fruit is consequently a luxury item in Amara, particularly for rural dwellers, because either they are in limited supply or prices are prohibitive.

Date palms are most common in this region and constitute about 90 percent of the total fruit trees of bearing age. They are consumed in different ways as a fresh fruit during summer or as a dry fruit or syrup in winter and are the chief fruit in the diet of the rural inhabitants. Pomegranates represent about four percent of the fruit trees in Amara. Other fruits being apples, lemons, vines, apricots, figs and oranges.

3.3. LIVESTOCK

Amara possesses great natural possibilities for raising a variety of livestock. But as with the agricultural resources the inadequate utilization of these possibilities together with summer draught, has discouraged livestock production. Until recently the farmer, for instance, was not able to keep the number of animals he wants, since the landholder believes that these

animals will destroy his cultivated land. Consequently, the livestock in Amara could hardly find sufficient food if raised almost completely on natural pastures. Food shortage is, in fact, the major factor which affects the expansion of these resources in Amara.

Livestock rearing in Amara is notable for its variety; animals are usually raised by the cultivators themselves in the agricultural holdings, so that shepherds are unknown. Commonly, a cultivator keeps a few sheep and goats together with a cow or two and a few donkeys. Animals are fed on either the remnants of winter crops during summer or on the natural pastures which grow after winter and spring rainfall. Livestock and their products constitute part of the rural inhabitants' cash income when sold in towns or in the nearby rural communities, so that the cultivator rarely kills his animals for meat.

3.3.1. Sheep and Goats:

Sheep constitute the bulk of the livestock in the region as in the whole of Iraq. The main breed being Arabi kept in southern parts of Iraq, sometimes called Shavali. Their wool is fine and short and the colour is a mixture of white, black and brown. The total number of sheep in Amara was 415,000 in 1958 or about 1.3 head per capita of total population (Table 3.5). Most of the sheep are in the semi-arid parts, which provide the best grazing areas in the country, much land being available as natural pastures in the wet season. The Beni Lam, who live in the area on the left bank of the Tigris between the provincial capital and the Iranian borders and on the right bank between Kumait town and the provincial capital of Kut, are a semi-nomadic tribe who specialize in sheep raising. They rear their sheep flocks during winter and spring on the grassland near the Zagros foothills. When the rainfall ceases and temperature begins to rise during summer, the grasses

Fig.21

MAJOR TRIBES
IN AMARA

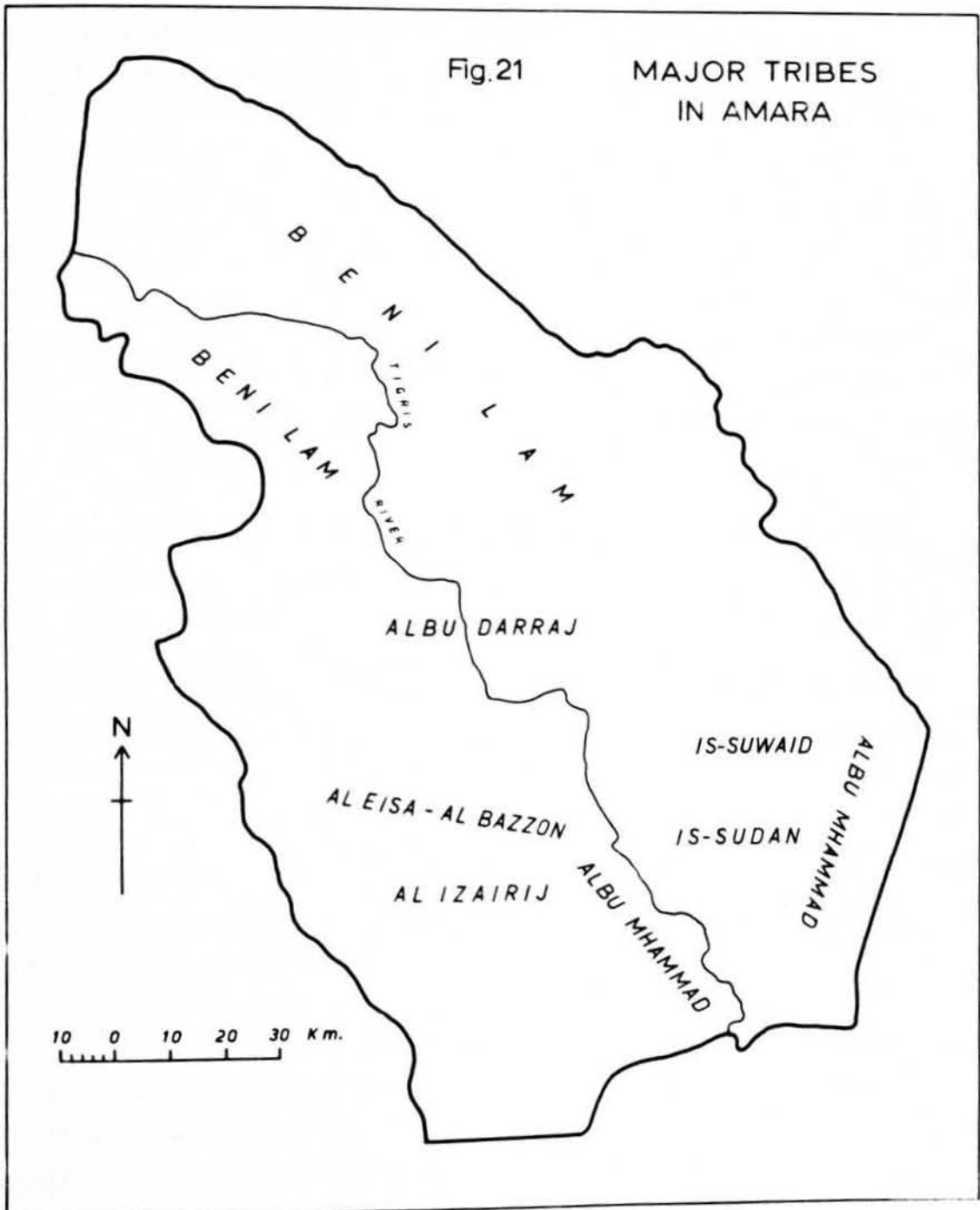


TABLE 3.5

LIVESTOCK AND POULTRY IN AMARA 1957/1958

KIND	TOTAL
Horses	19210
Mules	150
Donkeys	21509
Cattle	109751
Buffaloes	18297
Sheep	414856
Goats	12723
Chickens	239720
Turkeys	163

SOURCE:
Ministry of Planning, Central Bureau of Statistics:
Results of Agricultural and Livestock Census of
1958/59. Government Press, Baghdad (1961), p.316

start to dry and the Beni Lam move with their sheep either up to the frontier hills which are still covered with grass or westward to the Tigris valley where they keep the animals on the remnants of harvested winter crops.

Consequently, the sheep distribution in Amara is closely related to the semi-arid areas particularly those in the northern, central and south-west parts. The sheep in Kumait Nahia, for instance, in 1958 constituted about 22 percent of the total sheep in Amara. The second important area of sheep raising is in the south-west part of Amara where a large semi-arid zone lies between Al-Salam Nahia of Maimouna Qadha and Al-Chibayish and Al-Nasiriya

Qadha Centre of Nasiriya province. Some clans of the Al-Izairij tribe keep their sheep in these parts. Two major tribes in Amara known as Al-Eisa and Al-Bazzon also keep one of the best type of Arabi sheep in Iraq on the natural grasses and fallow lands here (Fig. 21), so that there is about 16 percent of Amara's sheep here. After that comes Ali Al-Gharbi and Msharrah in the north and central parts where sheep constitute about 11 percent and 15 percent respectively of Amara's total (Fig. 22). The conditions in Ali Al-Gharbi are more difficult than in the other places, for the climate is much drier and hotter and the pastures poorer. But in Msharrah Nahia the pastures are an extension to those in Kumait and are mostly inhabited by Beni Lam tribe.

Goats are raised, generally, in poor areas where conditions are unsuitable for sheep. Thus their number is fewer and is restricted to those sub-administrative units of poor pastures such as Ali Al-Gharbi Qadha Centre and Shaikh Sa'ad Nahia where about 76 percent of the total goats in Amara are to be found.

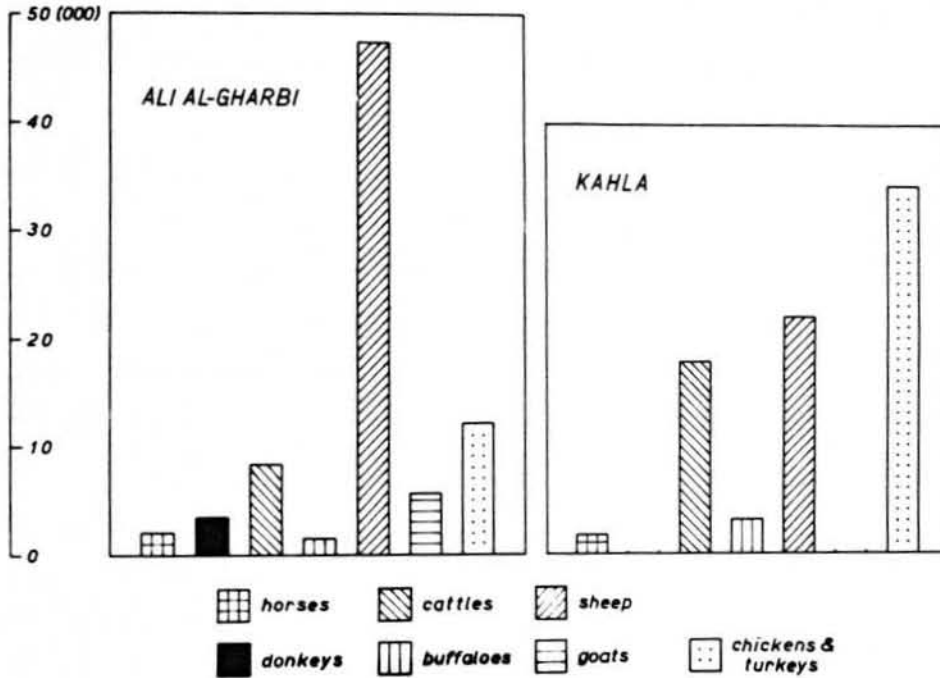
3.3.2. Cattle:

Rural people throughout Amara keep cattle for their milk and milk products and they constitute one of the cultivator's most valuable possessions which he can sell for cash. They are concentrated in the wet areas of Amara where sufficient water and food are available, particularly in Maimouna Qadha and Kahla Nahia which in 1958 supported about 20 percent and 16 percent respectively of the total number of cattle in the region (Fig. 22). Cattle even in these more suitable parts are weak and suffer from malnutrition so that their yield of milk and meat is low*. In summer

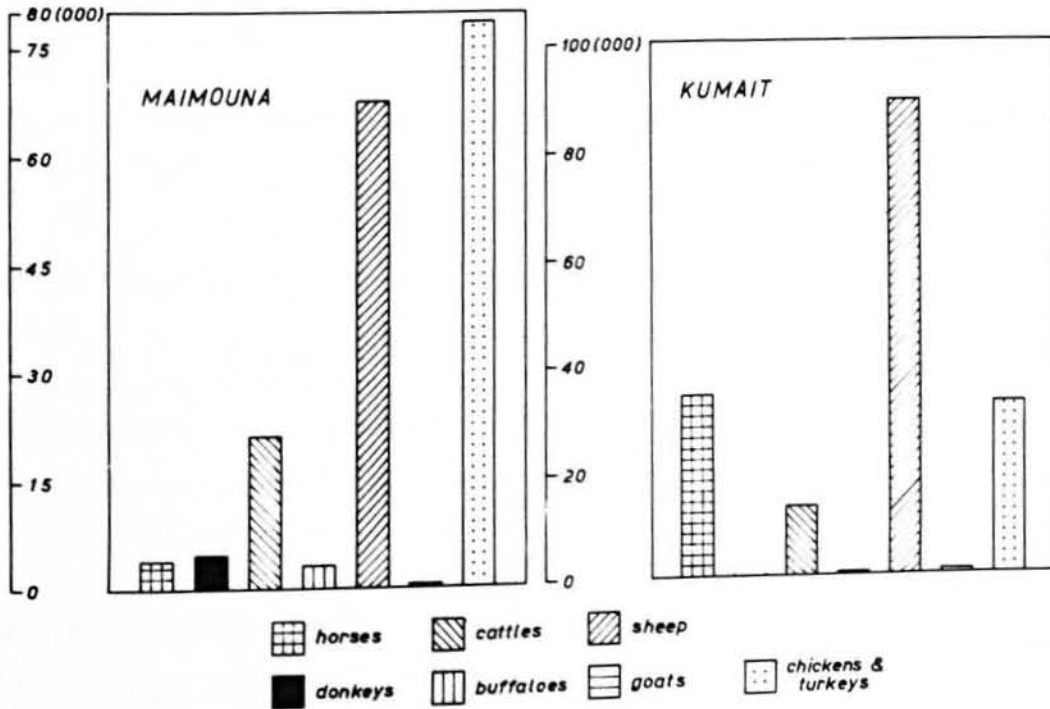
*Both milk and beef cattle are raised in Amara, but it is difficult, in fact, to distinguish between them because people naturally keep all kinds for milk, so that about 81 percent of those in Maimouna and Kahla, for instance, are females.

Fig. 22

LIVESTOCK AND POULTRY IN ALI AL-GHARBI Q.C.
AND KAHLA NAHIA 1957/1958



LIVESTOCK AND POULTRY IN MAIMOUNA
QADHA AND KUMAIT NAHIA 1957/1958



they eat the remnants of winter crops, the bulrush and giant reed while depending on green grasses and natural pastures in winter. Endemic diseases kill large numbers with almost total loss in some years.

3.3.4. Water Buffaloes:

Water buffaloes are the basis of the culture and way of life of the marsh dwellers Ma'dan, since they are used as currency, food and draught animals. Since the marshes cover a vast area in Amara water buffaloes can also be found almost everywhere, but they tend to be more numerous where the largest marshes are, 64 percent being in Kahla Nahia, Maimouna Qadha and Mijar Al-Kabir Nahia in 1958 (Fig. 22).

Ma'dan usually migrate with their animals deep into the marshes during spring and winter to feed them on the new stems of bulrush and giant reed, while during the dry season they move out to the vicinity of rivers and water courses where they may work on rice cultivation. Buffalo products, especially cream, sell in the nearby villages. Camels are kept also in the semi-arid parts of Amara for milk, cash and as draught animals. However, the number of camels is small compared with other kinds of livestock being about 1,300 in 1953/54.

3.3.5. Draught Animals:

Horses, mules and donkeys are kept in all parts of Amara for a variety of functions. Horses in particular constitute the major means of transport in remote rural areas and arid lands; and are found in large numbers in such areas. However, a great amount of farm work is done by the animals such as ploughing, harvesting and threshing. Mules are rare, there were only 150 in 1958 in the whole of the region. But the total number of horses was about 19,000 head and there were about 22,000 donkeys (Table 3.5).

3.3.6. Poultry :

Poultry in Amara include chickens and turkeys. They are found both in rural areas and towns, but in larger numbers in rural parts, where they easily can be fed in the cultivated land and contribute to cultivators' incomes through the sale of eggs and chicken in the towns, but they rarely enter their diet. Chickens in rural areas are only killed on important occasions when sheep, goats and cattle would be slaughtered in other rich rural areas of Iraq.

3.3.7. Livestock Diseases :

In addition to the shortage of food all livestock suffers from many endemic and infectious diseases. The most serious diseases in cattle are the tick-borne blood protozoan diseases, anaplasmosis and theileriosis. Foot and mouth disease is also common but death rates from this disease are low. Anthrax is a continuing problem in Amara as in other parts of the flood plain of Iraq. Hemorrhagic septicemia also causes heavy losses, particularly in Amara where cattle and buffaloes are associated.

Many parasitic diseases attacking cattles also attack sheep and goats. Scabies Monge midge mites are extremely common. The blood protozoan diseases are less serious, but the most important infectious sheep and goat diseases are pox, mastitis (inflammation of the breast), anthrax, foot and mouth disease and blackleg.

However, when considering the livestock resources in Amara it is necessary to remember that this region contains one of the best and largest natural pastures in Iraq particularly in the semi-arid areas in the eastern, north-eastern and south-western parts which are highly suitable for sheep raising particularly the Arabi type which is characterised by its unique adaptation to arid conditions. One of the best kinds of Arabi sheep is kept at present

on a limited scale. In addition the vast marshes and swamps within the region with an abundance of rich natural vegetation could make Amara the leading province in Iraq of water buffaloes breeding. In the southern parts of the region where a large amount of water is available during the hot season greater numbers of cattle could be kept and their quality improved considerably.

Livestock are not, however, as important as they might be for the kind of reasons which have affected the production of crops in the region as well. The absence of artificial pastures is a direct consequence of the large holdings common before 1958, whereby the cultivator could not devote a part of the land to his livestock since the land which he tilled did not belong to him and livestock farming was not usually permitted in the agreement with the landholder. Moreover, the cultivator normally has to sell his few animals for cash to pay his debts and to satisfy some of his family's needs. The use of livestock as a source of cash inspite of their importance for food is also a consequence of his low income from agricultural production. Finally the prevalence of endemic and infectious diseases in the region associated with lack of medical services also presents a grave problem.*

All livestock suffers from this lack. Diseases usually kill thousands of animals annually. The total number of sheep, for example, has decreased during the past fifty years from 30 millions to only ten millions while medical care until 1959 could reach only 40 percent of all animals in Iraq.⁽⁷⁾ Animals also travel long distances every year for food and water and great losses occur through these journeys.

* There are to date no more than 100 veterinary surgeons in Iraq for about 38 million head of livestock, and most of these are either in big cities or in the army.

Any improvement in the agricultural sector of the economy in Amara, particularly that related to land ownership should encourage in turn livestock production, improve the nutrition levels among the cultivators and raise their standards of living. Whatever investment is made, Amara could be transformed from the largest source of migrants in Iraq to a major source of animals and animal products not only for the people of the region only but for the whole population of Iraq.

3.4. FISHING.

Amara is one of the four largest provinces of southern Iraq for fish production. The extensive marshes and irrigation system are suitable habitats for a variety of fish. Many fishing areas are found throughout marshy and riverine parts while almost all the towns on the Tigris and its tributaries can be considered fishing centres.

Fishing in most of these places is, however, on a limited scale compared with the resources available. Because the depressed rural population in Amara cannot exploit these resources properly, most fishing is done by urban merchants who market their catch outside the region particularly in Baghdad and Basra. Thus, this valuable and abundant resource has almost no economic or nutritional importance to the dwellers of the region.

Transport problems between producing areas and markets seriously affect the fish trade. Adequate storage facilities are available in all provincial centres in southern provinces except that of Amara. Nevertheless, the amount of fish sold in 1964 in this region constituted about 20 percent of the total in the four southern provinces (Basra, Nasiriya, Diwaniya, Amara plus Baghdad and Hilla).⁽⁸⁾

The low standard of fishing industry in Amara is another example of the depressed economy of the region. In spite of the huge livestock and fish resources available, malnutrition and a low protein intake is common and constitutes a major obstacle to economic and social development in the region. This problem concerns the health and efficiency of future generations and affects particularly young people and nursing mothers. With only a relatively small investment on agricultural, livestock and fish resources much social and economic improvement in the region might be achieved and the scale of present migration might be appreciably reduced.

Chapter III : References :

1. Ministry of Planning, Central Bureau of Statistics: Results of the Agricultural and Livestock Census of 1958/1959. Government Press, Baghdad (1961), p.313.
2. Ibid, p.316
3. U.S. Department of Agriculture: Agricultural Economy of Iraq, Washington D.C. (1965), p.25.
4. F.H. Mustafa : The Common Plant Diseases in Iraq, Ministry of Agriculture, Government Press, Baghdad (1965), p.16.
5. L.F. Chao : Rice Production in Iraq, Ministry of Agriculture, Government Press, Baghdad (1960), p.30.
6. H. Ito : The Necessity, the Possibility and the Means of Rapidly Increasing Rice Production in Iraq, Ministry of Agriculture, Government Press, Baghdad (1963) p.17.
7. Q. Doughramachi : "Sheep of Iraq", Bulletin of Iraqi Agriculture, Ministry of Agriculture, XIV (10 & 11), (1959), p.11.
8. Ministry of Agriculture : Annual Agricultural Abstract of 1964, Government Press, Baghdad (1965), p.239.

CHAPTER IV

SOCIAL WELFARE

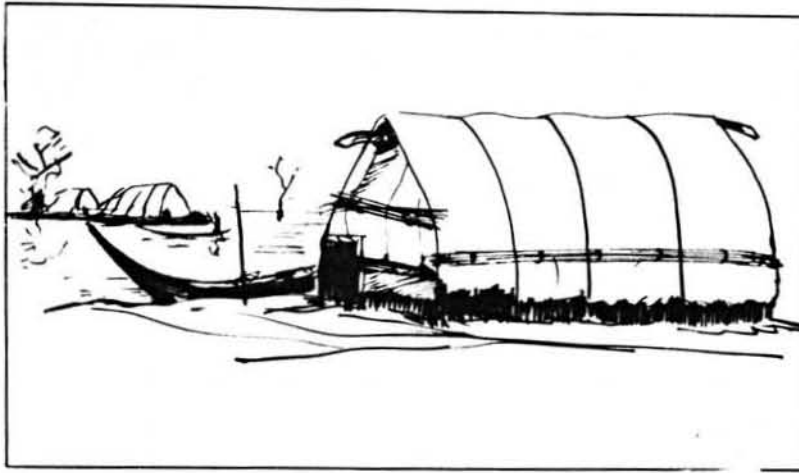
The aim of this chapter is to examine the social welfare of the population of Amara to assess the standard of living and to suggest how far environment factors are responsible for these standards. The relationship between environment and living conditions is best seen in types of dwellings and settlements, occupations of the inhabitants and in health standards, and these are considered in the following pages.

Social life in Amara is unlike that of other rural areas of Iraq and differs from the neighbouring marshy zones of the lower Tigris and Euphrates basin for a number of reasons. In the first place unlike the marshy areas of the Euphrates, the Amara region has been isolated from outside influences until recently. Lack of ancient sites of civilization in the lower Tigris valley compared with that of the Euphrates provides historical evidence. The latter region was the home of some of the most ancient civilizations in the world, Ur, Lagash, Al-U'baid and Babylon all of them in the Euphrates, not the Tigris valley. The lower valley of the Tigris was a vast, inaccessible marshy area, remote from the main ancient trade and caravan routes which followed the Euphrates valley, and even in modern times, the marshy areas of Amara were almost completely cut off from the outer world until the First World War. Amara town itself was founded only about a century ago and some of the tribes migrated recently to the region from other parts of southern Iraq. Nevertheless, people in this region mixed with other ethnic groups, particularly the Lurs in the south west of Iran across the marshes. Secondly, the land tenure system already discussed was until 1958 notable for the concentration of big landholdings in the hands of a small proportion of the rural population and had created marked social differentiation between rural dwellers compared with other provinces.

4.1. TYPES OF DWELLING.

Having no surplus of agricultural output and little educational and medical knowledge the rural inhabitants of Amara are living in very depressed housing conditions. Since the cultivator has no security of tenure and no guarantee of exploiting the same piece of land the next season, he has been forced to live in a simple, light and cheap kind of dwelling. These simple types of rural dwellings usually differ from one part of the region to another and even within the one village depending upon the wealth of the occupants, the building materials available and purpose of the building. However, all types are, generally, simple and mirror living conditions in these areas. The four major types of rural habitation in Amara are :

4.1.1 Serifa (Plate 111): Serifa is the simplest as well as the most common type of rural dwelling in Amara. It is basically made of giant reeds Qasab and reed mats, so that it is cheap since almost all the building materials are locally and naturally produced. In spite of the slight difference in the size and shape of such homesteads, construction is quite easy and can be done within a few hours. A serifa is normally built by digging an equal number of pits in the ground on two facing lines. The smallest serifa consists usually of five pits on each side, while the largest consists of nine pits. The next is to stand columns or poles, made of giant reed tied together, in these pits. Then the upper ends of the two lines of giant reed pillars are fastened together forming a set of reed arches. On both sides of these arches more giant reed bundles are stretched horizontally, and the skeleton of the building is covered with reed mats usually made of young giant reed. The number of reed mats required sometimes reaches 70 or 80. At this stage the dwelling is open at both ends, but one of them is usually closed while the other is left with usually a square opening without a door to be used as an entrance.



a. Ordinary reed hut.



b. Summer hut.



c. Large reed hut.

This one room house is traditionally divided into two parts by a reed mat; one of these parts is used as a reception room, the other is devoted to the family and used at the same time as a kitchen, food store or even as a shelter for young animals in winter. The serifa hut has no facilities but simply a few reed mats on the floor.

Sometimes the serifa is built stronger and higher than the ordinary type, usually by those who enjoy better economic conditions such as some of the government officials and school teachers. There is also a very simple kind of reed hut, called Shagis, built usually as a temporary accommodation. It is no more than a standing pillar of giant reed covered with a reed mat. This type of hut is usually erected by water-buffalo keepers during their wandering in the marshes before building a permanent serifa hut.

4.1.2 Kukh : (Plate V). This kind of house is found in the large villages outside the marshy areas and in or on the outskirts of towns in the Amara region. It is a rectangular or square shaped house usually made of mud and reeds. The kukh which has the same facilities of the serifa hut is similarly constructed but it has a flat or a rounded roof covered with mud and is sometimes larger. A few small, square openings are generally made in the walls for windows.

4.1.3 Al-Mudhif, the guest house. (Plate IV&VI). This type of splendid building customarily belongs to the tribal chiefs or influential people in the rural areas of Amara. Al-Mudhif does not, in fact, differ essentially from the ordinary reed hut, serifa, but is certainly much larger and stronger with more charming appearance and architecture. Pillars and arches in this building sometimes exceed ten or even fifteen on each side. In addition a kind of decoration is necessary in its construction. The guest house lasts, of course, longer than the serifa or kukh huts, and it is not uncommon to find a mudhif which has lasted many years or even decades. In the

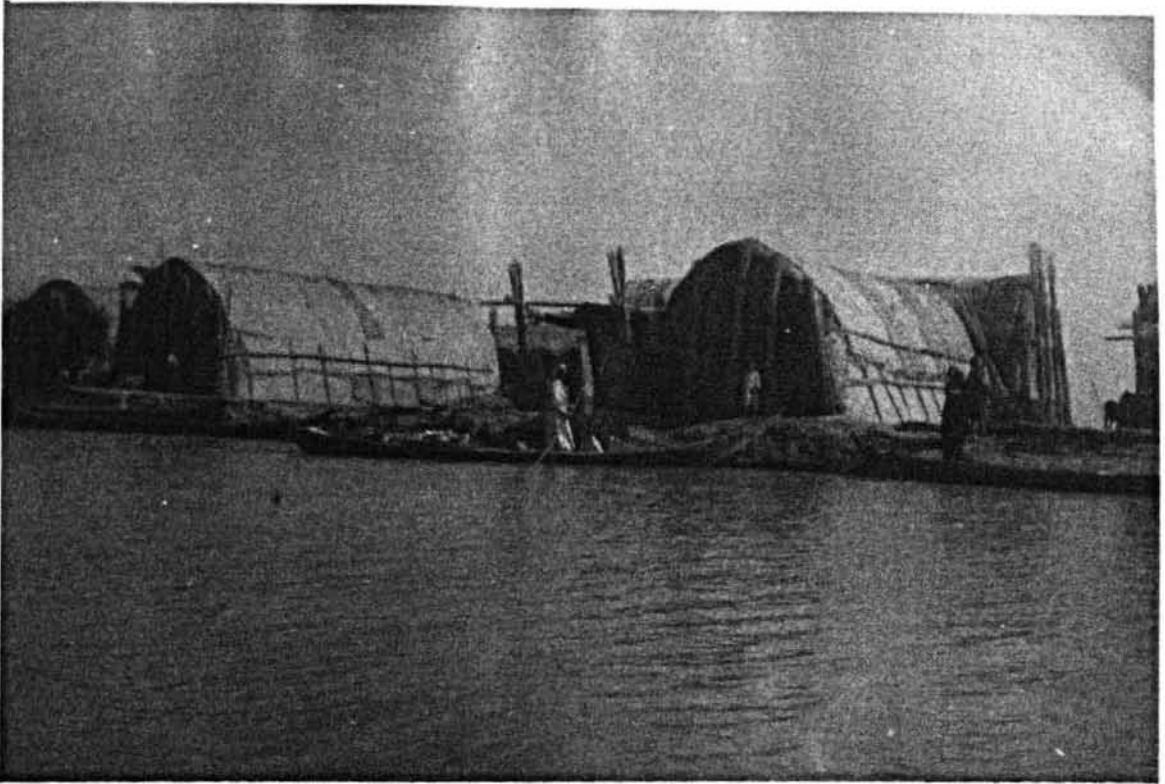
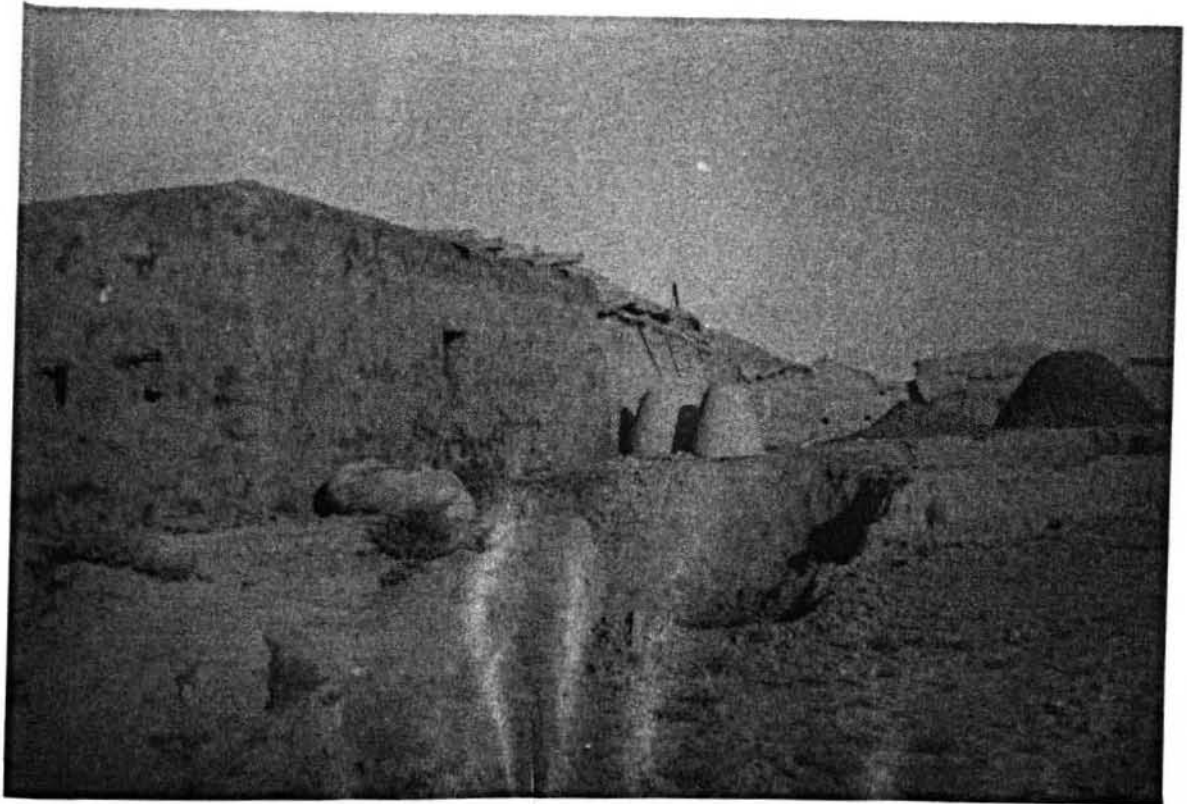


Plate IV. Guest house (Mudhif) in Kahla Area.

Plate V. Mud dwellings (Kukh).



neighbourhood of the guest house a small reed hut is prepared as a kitchen or as a food store. During the hot season the lower parts of the building, which are usually made loose, are removed on both sides to allow a breeze to enter.

Al-Mudhif plays an important role in rural life. It constitutes the public centre where villagers usually meet. Visitors, foreigners and senior officials are also received in it. Tribal conferences and most of the traditional feasts take place in this public place since it is the formal residence of the shaikh or the head of the community. According to the tribal customs bitter coffee and sometimes meals are provided for the attendance.

4.1.4 Tents: (Plate VII). These are a common type of dwelling outside the marshes and particularly in the semi-arid zones of Amara. Tents are made usually of goats hair and used by the semi-nomads. They may contain several compartments and may be protected by shelters such as mud walls especially among more settled tribes. Tents are, usually, poorly furnished, with a few reed mats or some cheap old rugs and family possessions are also simple and limited. These possessions are composed of a metal or wooden box to keep the valuable things and clothes, low grade cooking utensils including brass plates, pans and in some rare cases a kerosine cooker. The beds are chiefly in the form of poor locally woven wool blankets and reed mats.

As a result of the poor economic conditions the clothes of the majority of the rural population are very simple and hardly protect them from the cold, rainfall and bitter winds in winter and the intense heat and hot winds in summer. They are merely cheap cotton or rayon garments with sometimes second-hand imported jackets or coats. Rural inhabitants usually wear a head covering but the bulk of them are bare footed.

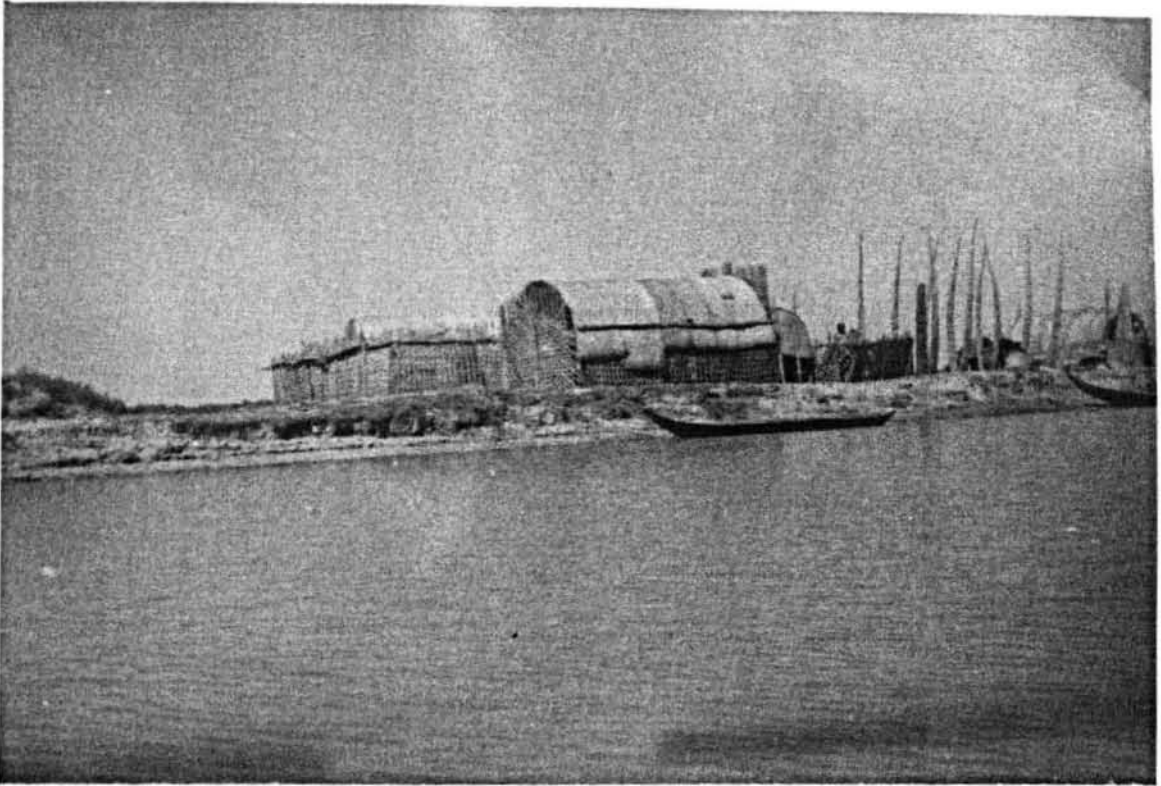
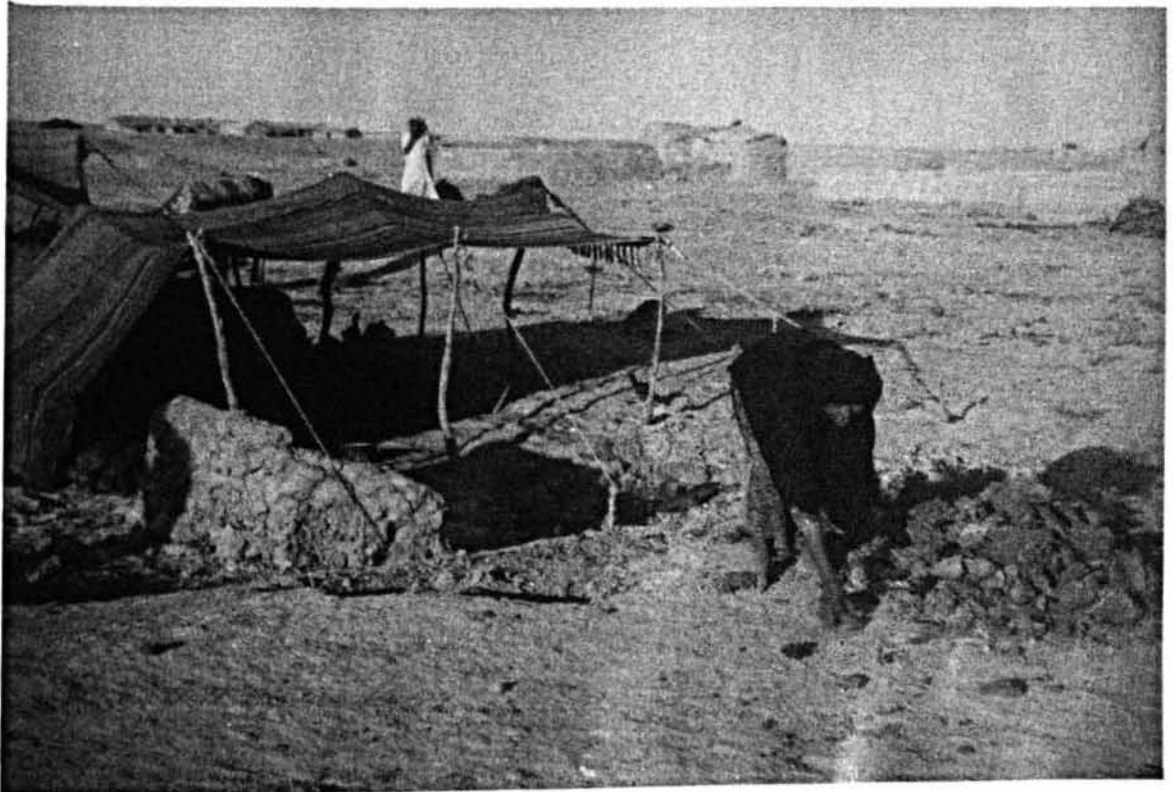


Plate VI. Guest house in summer and reed building under construction.

Plate VII. Hair tents typical of semi-arid areas.



The houses in rural areas are, moreover, highly overcrowded. In 1957 there were about 63,000 families in Amara on an average of 5.1 persons per family. About 50 percent of these families were living in serifa huts (Table 4.1). This simple and inconvenient kind of dwelling, therefore, was not only dominant in the region, but it was frequently inhabited by a large family. About 72 percent of the families in the serifa houses were composed of four persons and more. In addition about 19 percent of the total families lived in kukh dwellings. The kukh huts were also overcrowded, about 72 percent of the total families living in these mud huts were composed of four persons and more. Thus, 69 percent of all the families in Amara were living in serifa or kukh hutments in 1957. The largest proportion of these dwellings was, of course, in rural areas, only about nine percent of the families living in these huts being in Amara town. Families who were living in mud brick houses and hair tents constituted together about 17 percent of the total, while those in apartments and brick houses only about 12 percent.

By contrast, about 50 percent of the total families in Baghdad were living in brick houses, while those families living in serifa and kukh camps constituted about 20 percent. The migrants from Amara constituted, in fact, the majority of the serifa and kukh occupants in Baghdad.

The serifa and kukh lodgings can also be found on the outskirts of large towns in Amara and even in the town centres. In Amara, the capital of Amara province, itself the proportion of brick houses was only 39 percent in 1956 while the remaining dwellings were built of either mud, mud-bricks or reeds.

TABLE 4.1

FAMILIES IN AMARA BY SIZE AND TYPE OF DWELLING, 1957.

(PERCENT)

TYPE OF DWELLING	SIZE OF FAMILY (PERSONS).										PERCENT OF TOTAL FAMILIES	
	1	2	3	4	5	6	7	8	9	10 and over		
Flat or appart.	4.4	4.4	8.7	34.8	13.0	13.0	-	2.7	4.3	2.7		0.04
Brick House	3.6	8.8	10.8	12.1	12.7	12.3	11.9	9.6	6.9	11.3		12.1
Mud-brick house	3.1	8.8	12.5	14.8	14.9	13.6	12.7	8.4	4.5	6.7		4.6
Serifa	2.2	10.5	15.8	17.6	16.6	14.1	10.2	6.7	3.5	2.8		50.3
Kukh	1.8	10.5	15.8	18.2	16.9	14.1	10.7	6.2	3.3	2.5		19.4
Shop	36.8	5.3	26.3	-	15.8	-	10.5	-	-	5.3		0.03
Tent	1.2	8.3	16.0	19.3	19.2	14.5	10.0	6.1	2.9	2.5		12.5
Gov. establishment.	30.0	16.7	6.7	10.0	5.0	5.0	3.3	5.0	1.7	16.6		0.1
Open	17.2	31.0	10.4	20.8	10.3	6.9	3.4	-	-	-		0.03
Other places	13.5	13.6	13.6	14.0	11.6	12.1	10.0	4.0	3.2	4.4		0.9
Perc. of total families	2.3	10.0	15.0	17.1	16.4	14.0	10.6	6.9	3.8	3.9		100.00

SOURCE: Calculated from:
Ministry of Interior Directorate General of Census:
Statistical Abstract of Census 1957, (Amara and Basra)
Dar Al-Tamadun Press, Baghdad (1962), pp. 100-101.

Other evidence of overcrowding in housing in Amara was that about 68 percent of all the families were occupying a single-roomed house in 1957 (Table 4.2), most of these were, of course, living in the one-roomed serifa and kukh huts as mentioned before. Therefore, the majority of the population in Amara inhabited a single-room dwelling, while dwellings of eight and nine rooms were almost unknown. The 1957 figures still remain true since not a single housing scheme has been introduced in the rural areas of Amara since then. Families occupying single-room houses in Baghdad, nevertheless, constitute only about 27 percent.

The number of persons per room indicates the seriousness of congestion in Amara. In the capital town the average number was 3.1 in 1956, the second highest in the country; in the rural areas this average is much higher since serifa and kukh camps are single-room houses and the average family consists of over five persons. The rural dwellers also keep some of their animals indoors with them, particularly during winter.

In spite of such miserable conditions, both government and private housing has always lagged behind the urgent needs of the region. At the end of 1962, for example, there were 201 housing cooperatives in Iraq.⁽¹⁾ But 127 of them or about 63 percent were in Baghdad while only one cooperative was in Amara although this region contains one of the highest proportions of serifa and kukh houses in the country. In addition this single cooperative was in the capital town of the region and its services are confined to town dwellers.

4.2 TYPES OF SETTLEMENT.

Rural dwellers in Amara prefer to live in a compact settlement for a variety of reasons. Each household wants to live as close as possible to the next of kin according to the local tribal traditions. Furthermore, because of the land tenure system

TABLE 4.2.

SIZE OF FAMILY AND PERSONS PER ROOM (PERCENT)

NO. OF ROOMS	SIZE OF FAMILY (PERSON)										PERCENT OF TOTAL FAMILIES
	1	2	3	4	5	6	7	8	9	10 & over	
0	-	-	-	-	-	-	50.0	-	-	50.0	0.0
1	2.3	10.6	16.4	18.0	17.2	13.9	10.0	6.2	3.1	2.3	68.0
2	2.1	5.2	8.1	9.8	13.9	15.6	15.1	12.7	7.3	10.2	4.9
3	2.4	6.1	7.3	10.9	11.3	11.9	13.9	12.2	8.8	15.2	2.9
4	2.4	6.5	8.0	11.2	12.2	10.3	11.4	9.7	9.7	18.6	1.8
5	3.3	9.4	7.9	10.0	10.6	11.9	10.9	10.1	9.7	16.2	1.1
6	3.1	6.7	7.4	9.2	7.1	14.1	14.4	9.2	9.8	19.0	0.5
7	5.5	5.5	7.2	8.8	13.8	8.8	10.5	8.3	7.2	24.4	0.3
8	5.0	6.0	11.0	8.0	13.0	10.0	9.0	9.0	6.0	23.0	0.1
9 and over	3.1	5.3	9.2	10.7	6.1	12.2	11.5	6.9	3.8	31.2	0.2
Unclassified	2.3	10.3	14.6	18.2	15.9	14.4	10.7	6.9	3.6	3.1	20.2
Perc. of total families	2.3	10.0	15.0	17.1	16.4	13.9	10.6	6.9	3.8	4.0	100.0

SOURCE: Calculated from :

Ministry of Interior, Directorate General of Census, Statistical Abstract of Census of 1957. (Amara and Basra), Dar Al-Tamadun Press, Baghdad (1962), pp.96-97.

predominant in the region until the end of 1958 and the traditional land utilization, the shaikh or the landholder preferred to settle his cultivators collectively in one place to make the agricultural management and supervision more adequate. Rural dwellers congregated together for security as well, there being no authority to keep public order until recently.

However, because of different environmental and economic factors such as availability of water, distance from towns, productivity of land and social and tribal structure, these nucleated villages differ from one part of Amara to another. Those in the marshy areas differ from those in the semi-arid parts and those in the riverine strips. The most common types of settlements in different parts of the region are as follows :

4.2.1 Al-Salaf (Plate IX). This is a village or a group of reed and mud huts with a guest house, Mudhif, and sometimes a few shops and bazaars, usually built on dry ground along rivers and irrigation canals. Although no clear planning is followed in the establishment of such settlements, pairs of houses are usually built to form 'T' or 'L' shapes. Most of these settlements are overcrowded and they may consist of several hundred huts with narrow roads filled with stagnant water in the wet season, while a few are provided with primary school, police post or a dispensary. In 1956, for example, there were 463 villages and towns of 15 houses or more in Amara out of 480, and the occupants of these settlements totalled about 239,400 persons or about 517 occupants per village (Table 4.3). Each settlement is occupied by individuals belonging to a certain tribe or clan such as nazil M. Al-A'raibi on the Zubair branch of the Kahla canal and nazil M. Al-Luti on the outskirts of the Huwaiza marsh in the same area. The shaikh of the tribe or the head of the clan was until recently the actual ruler of the salaf inspite of the apparent

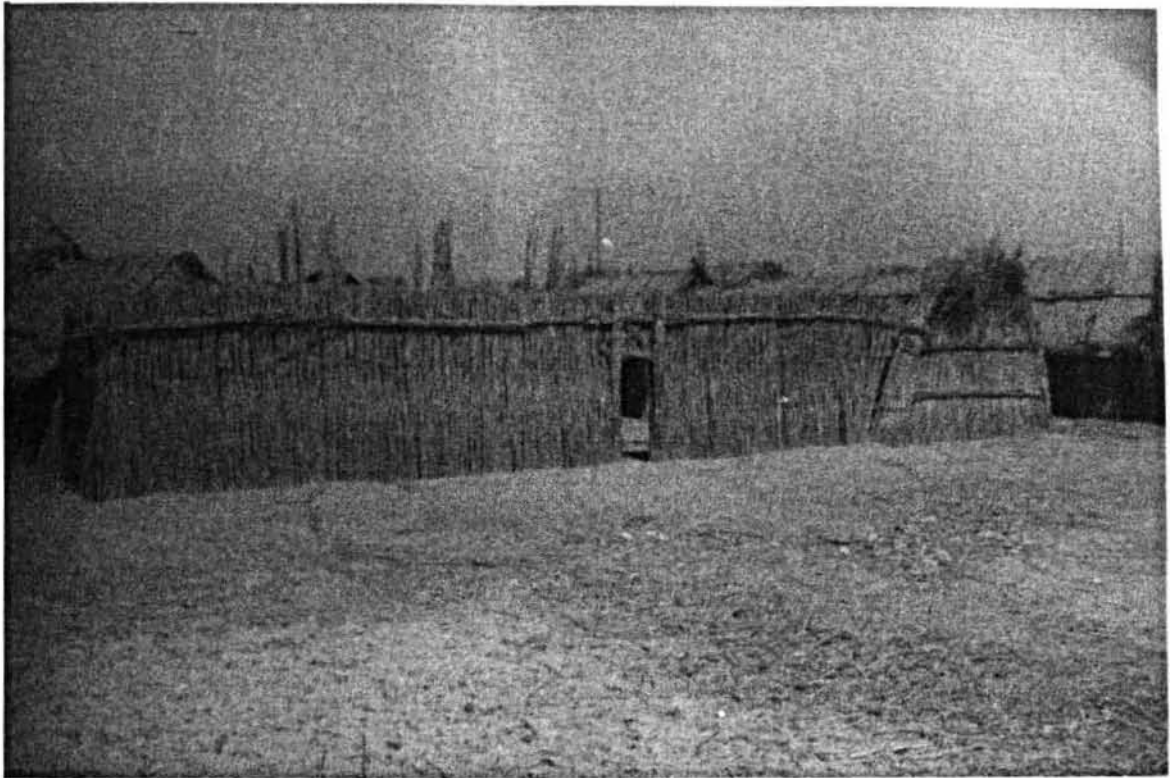


Plate VIII. A village school constructed of reeds near Al-Uzair.

Plate IX. A village (Salaf) on Kahla Canal.

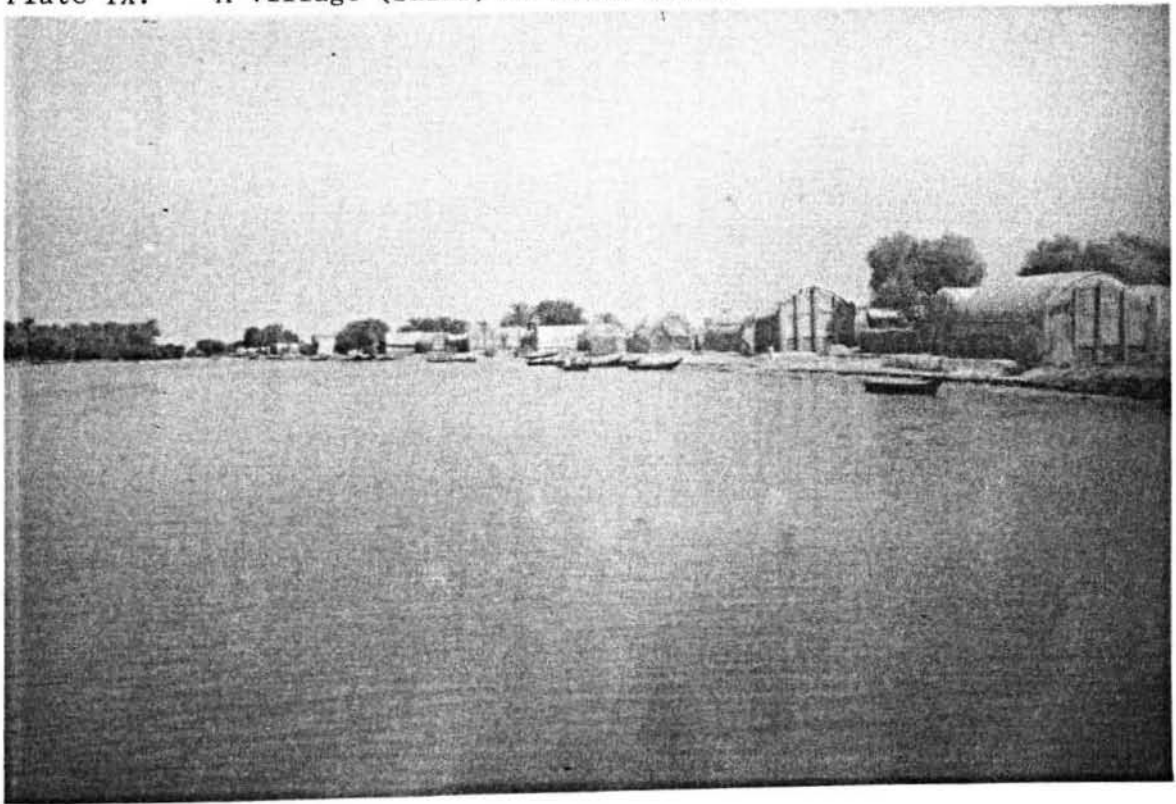


TABLE 4.3

DENSITY OF SETTLEMENT IN AMARA, BAGHDAD AND IRAQ - 1956.

	SETTLEMENTS OF LESS THAN 15 HOUSES.	TOTAL OF HOUSES.	SETTLEMENTS OF 15 HOUSES AND MORE.	TOTAL OF HOUSES	TOTAL OF IN- HABITANTS IN SETTLEMENTS OF 15 HOUSES AND MORE.
Amara	17	176	463	43449	239398
Baghdad	290	2785	435	128078	919611
Iraq	3137	25089	8267	735160	4453452
<p><u>SOURCE:</u> Ministry of Economics: <u>Statistical Abstract of 1956, The Housing Census of 1956.</u> Al-Zahra Press, Baghdad (1957),pp.123 and 124.</p>					

functions of official authorities. He had full responsibility to deal with everything in his village according to tribal rules.

Being established on or near the water ways, such settlements are linked easily with the outside world for both demand and supply. The village community requires different kinds of goods mainly cloth, sugar, tea, soap, and some metal materials which are not produced locally. The few shops in the village where these commodities are available are mostly owned either by aged villagers or sometimes by people from outside. In turn the village supplies towns with agricultural products and, increasingly, labour through migration.

4.2.2 Al-Ishan : This is a form of village on earth island or on ancient elevation in the marshes. Most of these islands rise to less than about three metres above the surrounding water level. On these mounds the marsh dwellers erect their easily-built huts. The number of hutments in this type of settlement depends upon its location and size (Plate X). Al-Ishan is mostly occupied by water buffalo herders since it satisfies their constant mobility within the marshes with their beasts.

4.2.3 Al-Tahil, consists of a small floating island of heaped and pressed reeds which can be moved from one place to another in the marshes. It contains one or two huts and a few animals.

4.2.4 Finally, there is the permanent reef of reeds which is constructed by pressing reeds together with earth (Plate XI). This construction, Chibasha, subsides in time into the water; therefore more reeds have to be added continuously to keep it on a certain level above the water. Some of these islands are large enough to contain big villages. The best examples of these settlements in Amara are Ash-Shadda, Al-Baidha and Al-Sauda in the Al-Huwaiza marsh. This



Plate X. Reed island (Ishan) in the Eastern marshes.

Plate XI. Reed reef (Chibasha) in the Eastern marshes.



and other types of settlements have been well described by G. Maxwell⁽²⁾, W. Thesiger⁽³⁾ and J. Dauphin.⁽⁴⁾

4.3 PUBLIC UTILITIES.

4.3.1 Electricity and Piped water:

In addition to the low standard and the great overcrowding of houses in Amara, those supplied with electricity and piped water are remarkably few compared with the national average. Houses supplied with electricity in Amara constituted only 5.4 percent in 1956, and those provided with piped water were not more than six percent of the total (Table 4.4). About 69 percent of the houses supplied with electricity and 88 percent with piped water were in the capital of the region. The rest in other small towns, these basic facilities being almost unknown in rural areas. By contrast the proportion of houses with electricity (40 percent) and safe water (45 percent) in Baghdad was far higher (Table 4.4).

The generating capacity in Amara is insufficient for light even in the towns. In the provincial capital itself the electricity is so inadequate that the local authorities cut off the supply from some parts of the town in turn for a certain time every day. This situation becomes very serious in summer when most of the refrigeration and cooling equipment stops functioning most of the day because of excessive demands for power. The total number of electricity units consumed during 1955-1964 was extraordinarily low (Table 4.5). In 1956, for example, the total was the second lowest among the provinces in Iraq. The conditions in rural areas are, of course, much worse, for electricity has not yet reached the villages or even many towns. The main lighting devices in these areas are kerosine lamps or even oil lamps. Animal dung is the major source of fuel for cooking and heating.

TABLE 4.4

HOUSES PROVIDED WITH PIPED WATER AND ELECTRICITY IN AMARA,
BAGHDAD AND IRAQ - 1956.
(PERCENT OF ALL THE HOUSES)

	PIPED WATER	ELECTRICITY
Amara	5.6	5.4
Baghdad	44.8	40.3
Iraq	21.0	17.1

SOURCE:
See Table 4.3, p.123

Houses provided with piped water are almost non-existent outside the towns in Amara. Rivers and canals constitute the major sources of water supply for drinking, washing and other domestic uses in these parts. The few artesian wells satisfy the same purposes in semi-arid parts of the region. Since there are no private or even public baths and toilets in rural areas rivers and marshes are also the major sources of water for these purposes. Using the unpurified water directly from the water courses as the only source for drinking, bathing and all domestic uses has greatly affected public health in these areas, facilitating the spread of many diseases such as bilharzia, dysentery and typhoid. (Plate XII).

Projects for supplying piped water are being introduced very slowly in Amara despite the urgent local needs for such vital projects, for only a very minor proportion of houses can use purified water. The amount of piped water consumed in Amara was

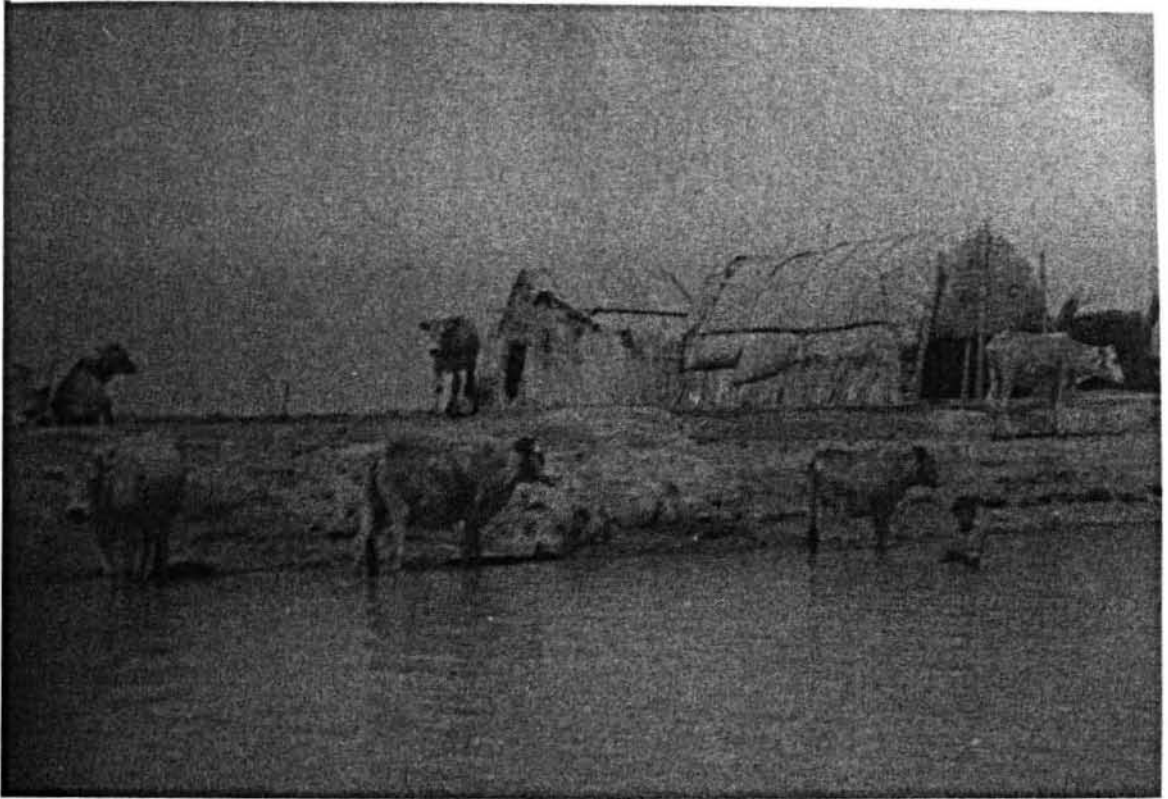


Plate XII. Water courses provide for the needs of animals and men.

Plate XIII. Fishing with tridents in Eastern marshes.



TABLE 4.5

ELECTRICITY UNITS CONSUMED IN AMARA BETWEEN 1955-1964

(IN 000 KILOWATTS)

YEAR	PURPOSE			TOTAL
	LIGHTING	MANUFACTURING	OTHER PURPOSES	
1955	1414	-	122	1536
1956	1755	-	182	1937
1957	2576	-	261	2837
1958	2997	-	11	3008
1959	3529	6	584	4119
1960	4458	391	-	4849
1961	5160	169	-	5329
1962	5382	1186	107	6674
1963	4947	973	28	5948
1964	4722	923	16	5661

SOURCE:
Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1955-1964.

3,158,000 cubic metres in 1959, but it had increased only to 3,905,000 cubic metres in 1964. These quantities are, in fact, insufficient even in big towns where a large proportion of the people still use the water from rivers for all domestic purposes.

Thus the majority of Amara's rural population has very poor housing conditions with no social and municipal services. High densities of villages, overcrowded houses, absence of good roads in rural areas, low standards of public health services are common aspects of the social life in these areas. Rural settlements in

summer, for instance, become a suitable habitat for many diseases such as dysentery and for harmful insects like flies and mosquitoes when the high temperature and humidity are associated with poor public hygiene and lack of cooling facilities. In winter the poorly furnished reed and mud huts invariably inadequately heated, are penetrated by cold winds and vulnerable to flooding.

By contrast social improvement projects have been going on in Baghdad on a very large scale. Many large housing and settlement schemes for poor classes and particularly rural migrants have been executed in the city. Such unfair distribution of social development has not only deteriorated the social conditions in rural areas in a relative sense by concentrating the bulk of the investment in Baghdad, but has made this city a major focus for poor rural inhabitants from the former region, because they migrated not only for better economic conditions but also for better social welfare.

4.4 SOCIAL COMPOSITION OF THE RURAL POPULATION.

Social stratification is marked in the rural communities in the region for its roots are deep in their traditions. Social differences have arisen as a result of many factors, the most important of which is economic status, particularly that related to the keeping of land holdings or estates. Consequently, until recently shaikhs and landholders were the most influential group in rural villages. Next in importance is religious status since piety is a high respectable attribute. Moreover, praise worthy social characteristics such as hospitality, trust, loyalty to the family, the village and the tribal traditions can also enhance social status. For simplicity the rural inhabitants of Amara can be categorized in the following groups.

Until the end of 1958 shaikhs constituted the smallest proportion of the rural population in Amara totalling only 148 from about a quarter of a million rural inhabitants. Two groups of shaikhs could be distinguished; those who held or controlled more than 10,000 mesharas, and the rest who were exploiting holdings of less than this size. Nevertheless, both of them constituted the richest and most influential group in rural districts compared with the majority of their tribesmen. The wealth of Muhammed Al-A'raibi one of the biggest landholders in Amara, is shown in the possession of bedding for 3,000 people used on the occasion of the King's visit to the region.⁽⁵⁾ They inherited economic and social power from their ancestors as heads of their tribes or clans. The shaikh had several important duties to perform, for example, he organized forced labour for clearing of canals, the strengthening of the river banks, building temporary and permanent dikes over the rivers and canals, and supervising the distribution of canal water among cultivators. In most cases, however, the shaikhs held all administrative responsibilities in their districts and even kept a large number of followers called Ma'moreen as private order-keeping forces.

Nevertheless it is important to mention that, inspite of their great annual income from vast cultivated holdings, shaikhs in Amara were not so rich as those in the adjacent provinces such as Nasiriya and Kut, because a great proportion of their incomes was distributed among their followers and agents. Another part of the income went to the government as taxes and for official purposes such as entertainment of guests. Some of the lesser shaikhs could not even pay government taxes and were indebted most of the time, but because of the tribal traditions and formalities they had to keep their shaikhdom characteristics such as hospitality and generosity. Most of the paramount shaikhs lived in urban centres, but those who lived in rural areas usually occupied ordinary houses, while the shaikhs in other parts of southern Iraq lived, generally, in more splendid houses. This was because, the shaikhs in Amara used the state land. Thus, they can be considered, in fact, as landless shaikhs living in the land only temporarily. In addition according to the local tribal traditions in Amara, which differ from those of other parts of Iraq, only one nominated son of the shaikh could usually succeed his father as a leader of the tribe. The others have to either remain in the area as ordinary people or to emigrate to the towns searching for employment.

After the shaikhs the most influential people before the declaration of the agrarian reform law in 1958, were the sub-tribal chiefs or Sarkals, and the religious men. The influence of the sub-tribal chiefs resulted from the shaikh leadership, because the shaikhs usually selected their agents from their relatives or close family. These agents played an important role in rural areas in managing and supervising different aspects of the village, particularly those related to farming. The sarkal divided the plots, fixes the dates of sowing and harvesting and sometimes advanced money or seed. Religious people, at the same time were, and still are an important section of

the rural population. They usually acquire their religious status by inheritance and deal with different religious and personal affairs of the villagers. In addition they were until very recently the founders of religious schools in these areas where the children learn reading and writing.

However, both the sub-tribal chiefs and religious men constituted only a small proportion of the rural population. Their incomes were derived from the shares of both the landholder and the cultivator as has been mentioned before or from the pieces of land they sometimes cultivated.

Cultivators include all the rural dwellers who are engaged directly in land exploitation, that is those who cultivate crops and/or keep livestock. In Amara the cultivators belong also, as in other parts of the flood plain, to certain tribes or clans, who preserve their tribal traditions. The largest of these tribes in Amara are Al-Bu Mhammad, Al-Izairij, Is-Sudan, Is-Sua'd, Beni Lam, and Al-E'isa (Fig. 21). The first two tribes are engaged mainly in paddy rice cultivation as a major summer crop depending upon the Kahla, Mijar Al-Kabir and Butaira canals, with a number of animals. Other tribes, particularly Beni Lam, Al-E'isa and Al-Bazzon, are mainly wheat and barley cultivators along the Tigris river and its tributaries upstream of the Kahla canal intake, and keep a large number of sheep (p. 110).

Ma'dan or the marsh dwellers are the rural inhabitants who engage in water-buffalo breeding and sometimes in rice cultivation. Their life depends almost completely upon their animals and their products. Ma'dan usually build their hutments on the permanent or floating reed islands and mounds deep in the marshes. The majority of marsh dwellers in Amara, belong to some branches of the Al-Bu Mhammad tribe such as As-Shadda, Al-BuGhannam and Il-Fartus.

There are also the semi-nomads who constitute a small proportion of the total population in Amara. They wander usually in the semi-arid areas such as those in Ali-Al-Gharbi Qadha, Msharrah Nahia, Kumait Nahia and Maimouna Qadha. Their major occupation is keeping flocks of camels with a few goats and sheep, always migrating with their animals in search of pasture. In spring they reside usually on plains or oases where the land is covered with grasses or natural pasturage. At the end of spring, when the grasses start to wither, they move gradually towards the Zagros mountain foothills where the land still provides pasture or wander in the harvested fields to feed their beasts on the remnants of the crops.

However there is a remarkable resemblance between the water-buffalo breeders and the semi-nomads in many aspects despite the considerable contrast between their physical environment. The ma'dan move seasonally with their buffaloes in and out of the marshes as the semi-nomads do in the semi-arid areas. In summer when the water level in the marshes begins to fall and the reeds dry up they move out to or near rivers and canals. By contrast, in winter and spring they usually penetrate deep into the marshes where plenty of young reed shoots have grown up. Besides, the water-buffaloes fulfil the same function in marshy areas as the camels do in the arid areas. The marsh dwellers depend almost entirely on these animals as a major source of income. Their products such as milk, milk products and sometimes meat are important items of the marsh dwellers' daily meals. The buffaloes also resemble the camels in the deserts in being almost the only draught animals in the marshes. Both the marsh dwellers and the semi-nomads, moreover, live in simple types of dwellings. The reed huts of the ma'dan do not differ essentially from the semi-nomads' hair tents. Both dwellings are easily constructed of local materials in order to satisfy the constant movement of these two

groups; similarly their possessions are also simple, light and few. Finally, the number of both the ma'dan and the semi-nomads is decreasing continually since their occupations cannot support a large number, thus many of them have sold their animals and migrated to the towns.

Other groups not engaged in cultivation or pastoralism include the reed mat makers, fishermen or Berbera and the builders of canoes or Mashoofs, but there are very few of these.

Available data though sketchy show clearly that the cultivators constitute the highest proportion of the rural population while being the poorest group in the region. By contrast the tribal shaikhs and their agents who constituted until recently the smallest proportion held the land and the influence. Such social stratification in the rural society has resulted in lack of cooperation between the inhabitants, which in turn has made the introduction of social and economic development in the villages very slow and difficult. The cultivators lost interest in better farming and in the idea of progress in the rural society and started to leave their homes, looking for better social conditions and less social segregation in the towns.

4.5 EDUCATION.

Illiteracy is still one of the major social problems throughout the Amara region. It is true that educational institutions and services have increased during the past ten years in Iraq, but unfortunately they were unevenly distributed and still lagged behind the needs of depressed areas such as Amara. The bulk of schools are concentrated in urban districts, especially big towns. By contrast they are few in numbers and inadequate in rural areas even though the rural inhabitants constitute the majority of population. This problem is more serious, of course, in marshy and

remote areas where good communications are not available.

The low standard of living of the rural population in Amara is a great hindrance to sending boys and girls to school, for although free education is provided by the state, the other expenses such as clothing cost the poor cultivators too much. In some cases they can afford such expenses for a limited period after which the pupils have to leave their schools. In addition boys and girls represent a significant part of the family labour force, so that many rural dwellers prefer to keep their sons out of schools.

Malnutrition also causes many children to leave the schools after a short time. The total number of pupils in the primary schools of Iraq increased from 60,000 in 1955 to 100,000 in 1957, when U.N.I.C.E.F. and the government financed a project to feed school children.⁽⁶⁾ It is clear therefore that with lack of facilities, the poor socio-economic conditions of rural Amara contribute to the poor educational standards.

In 1957 the illiterates in Amara constituted about 88 percent of the total population, excluding those under five years of age.⁽⁷⁾ This can be compared with 82 percent in Iraq as a whole and 70 percent in Baghdad. Illiteracy is highest among women throughout the region. People who could both read and write totalled only eight percent of the total population. The remaining four percent included those who could read only. These figures differ slightly from one part of Amara to another. In addition the proportion of illiteracy is higher among the rural population than town dwellers (Table 4.6). Consideration of educational services will explain more clearly the low standard of education in the region.

4.5.1 Primary Education:

Primary schools are usually open to children who are not less than seven years of age. At the same time there are evening primary schools for older people. Primary education lasts six academic

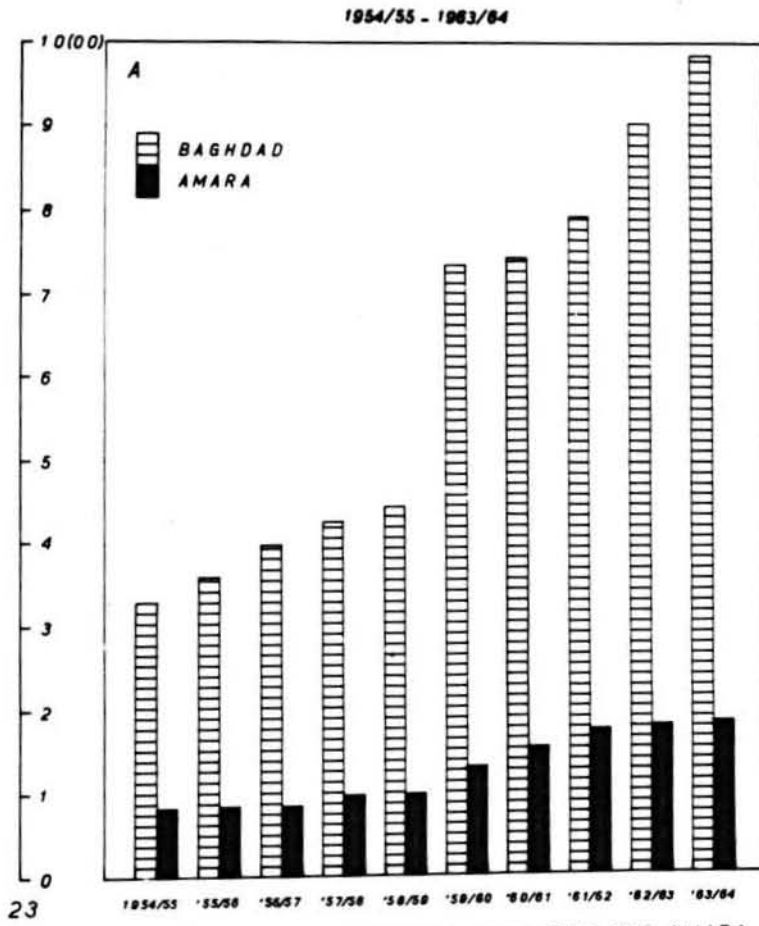
TABLE 4.6.

ILLITERACY STATUS OF RURAL POPULATION IN SELECTED SUB-ADMINISTRATIVE UNITS
OF AMARA, 1957.
(PERCENT EXCLUDING THOSE UNDER FIVE YEARS OF AGE).

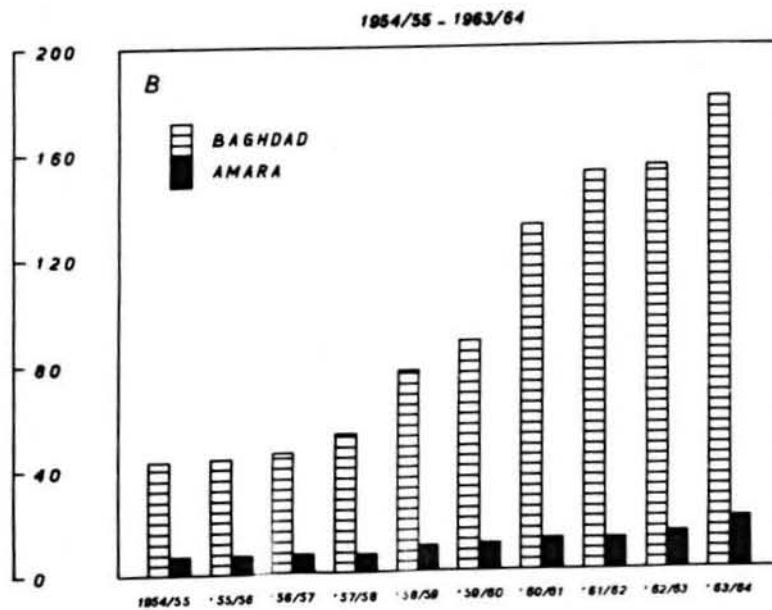
SUB-ADMINISTRATIVE UNIT	ILLITERATE			PROPORTION OF RURAL POPULATION TO TOTAL POPULATION
	MALE	FEMALE	TOTAL	
Kahla Nahia	43.7	51.6	95.3	93
Maimouna Qadha	42.5	50.4	92.9	98
Mijar Al-Kabir Nahia	44.8	49.7	94.5	83
Ali Al-Gharbi Qadha C.	43.3	54.5	97.8	78
<p><u>SOURCE:</u> Calculated from: See <u>Table 4.1.</u> pp.42-46.</p>				

Fig.23

NUMBER OF PRIMARY SCHOOLS IN BAGHDAD AND AMARA



SECONDARY SCHOOLS IN BAGHDAD AND AMARA



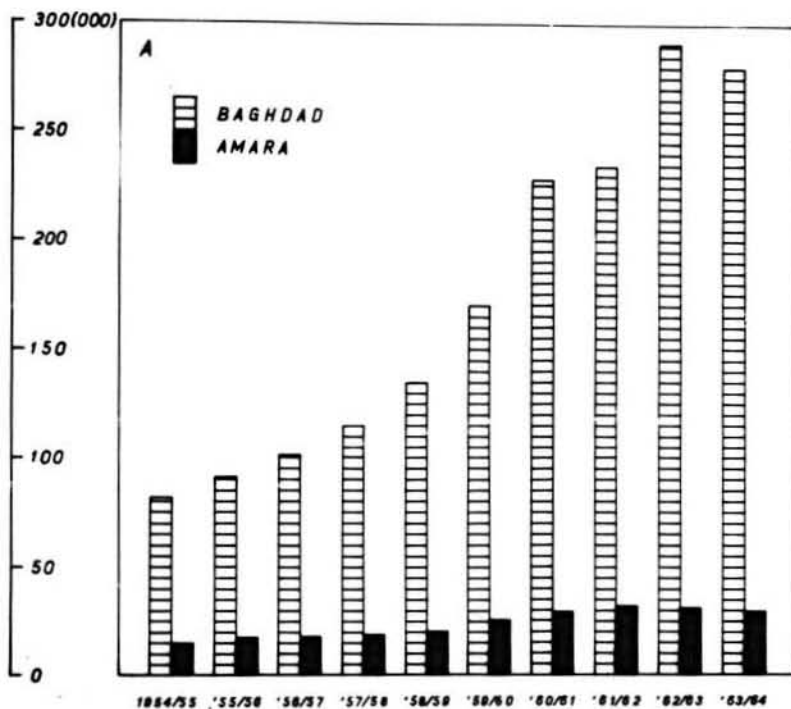
years after which the pupils take a ministerial general examination or Baccaloureate for a primary school certificate. Most of the primary schools in Iraq are run by the state. In Amara their number falls far short of local needs. Their total grew very slowly during 1955-1964 compared with other parts of the country, particularly Baghdad (Fig 23A). The total government primary schools in Iraq during the academic year 1957/58 was 2037 or about one school for each 473 children between five and ten years of age. About 21 percent of these primary schools were in Baghdad while those in Amara constituted only about five percent. This means that there was a primary school for each 437 children of five to ten years of age in Baghdad and about one primary school for each 594 children of less than ten years of age in Amara. In the academic year of 1963/64 the total number of government primary schools in Iraq rose to 3975. The proportion increased to 24 percent of this total in Baghdad, while it decreased to well below five percent in Amara.

The uneven distribution of primary education in Iraq in 1955-1964 can be seen not only by the total of primary schools but also by the number of pupils and teachers in these schools. The proportion of pupils of primary school age (5-15 years) who were in primary schools in 1957/58 was 26 percent in Iraq as a whole, 35 percent in Baghdad and only 19 percent in Amara. Thus more than 80 percent of primary school age children in Amara were out of the schools in that year. Furthermore, although the number of pupils in government schools was doubled in the six year period 1957/58 - 1963/64, about 33 percent of them were in Baghdad, while those in Amara constituted only about four percent (Fig 24A).

In 1957/58 also the number of primary school teachers in Baghdad constituted about 29 percent of all those in Iraq but those in Amara totalled only five percent (Fig 25A). In 1963/64 the total of such teachers more than doubled the number of 1957/58; those in Baghdad composed about 30 percent of this total whilst the number of

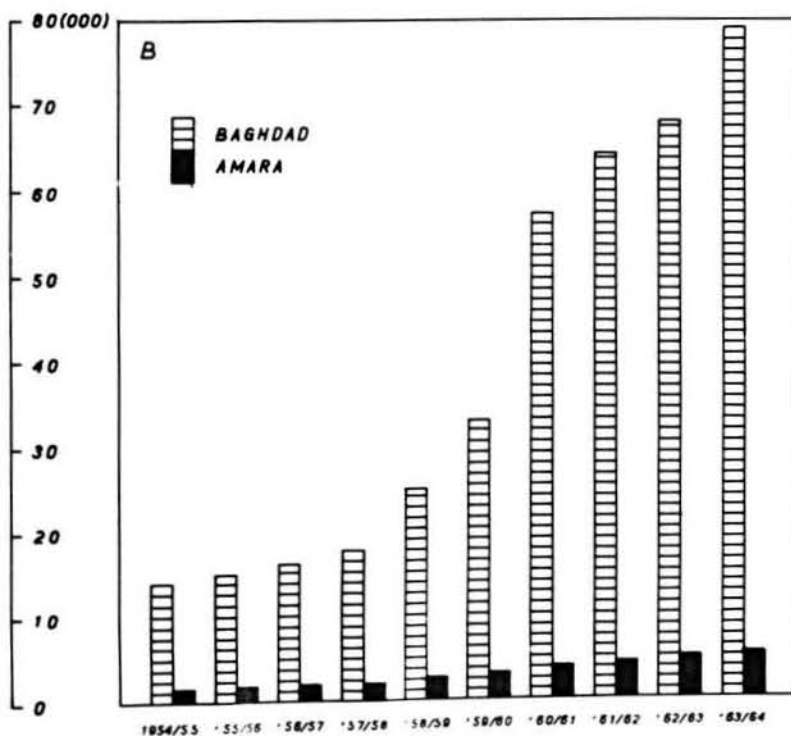
Fig. 24
STUDENTS IN PRIMARY SCHOOLS IN BAGHDAD & AMARA

1954/55 - 1963/64



STUDENTS IN SECONDARY SCHOOLS IN BAGHDAD & AMARA

1954/55 - 1963/64



teachers in Amara decreased to only about four percent. The national average of teachers per primary school was about eight teachers in this year with about eleven teachers in Baghdad, whereas the average in Amara remained as it was in 1954/55 with about six teachers per primary school.

It is clear that primary education in Amara was below the national standard during the ten year period 1955-1964. In some rural parts of Amara there was only one government school for more than thirty villages, many of which could hardly be called "schools", being reed-built, poorly equipped and badly furnished (Plate VIII). Also most of the teachers in marshy and remote areas were of the second or third grade while the best were found usually in towns. Since schools were sparsely distributed within the region it was difficult for children to attend them particularly in winter with the absence of good transport facilities. Consequently primary education, which constitutes the corner stone of the educational structure as a whole shows clearly serious defects in this region.

4.5.2. Secondary Education:

Secondary education is usually divided into two sub-stages, the intermediate and the secondary. Pupils, who pass the ministerial general examination of the primary schools, can attend intermediate school for three years. After another ministerial general examination or Baccalaureate at the end of the third year students can attend secondary school for two years increased to three years since 1966. In the secondary school a student has to choose one of two courses either the sciences or the arts. At the end of the last year he has to pass another ministerial general examination before he can attend university.

However, not all graduates of primary schools go to intermediate schools since some of them usually attend vocational

schools of agriculture, technology and home arts. Some others, particularly those who come from poor families, leave the primary schools and find jobs. Furthermore, not all graduates of intermediate schools go to secondary schools because some of them could enter other vocational institutes such as secondary schools of commerce and secondary school for police inspectors. Until a few years ago graduates of intermediate schools could attend some other technical and vocational schools such as the primary teachers training schools, schools for health officials and institutes of fine arts. Hence, the total of intermediate and secondary schools and the total of students at this stage are usually smaller than in the previous stage.

As in primary education, intermediate and secondary schools which are also run mostly by the government are unevenly distributed and strongly concentrated in Baghdad. Although the amount of schools, students and teachers of secondary education showed a remarkable general increase, it increased only very slightly in Amara. In the academic year 1957/58 the total of government intermediate and secondary schools in Iraq was 178, about 30 percent of them were in Baghdad, but those in Amara constituted only four percent of the national total. There was then one school for every 2809 people between 15 and 20 years of age, with one for 2267 in Baghdad, and only one for every 3316 persons in Amara. In the academic year of 1963/64 while the proportion of intermediate and secondary schools in Baghdad constituted about 36 percent of the national total, that of Amara did not increase and remained at four percent (Fig 23B).

The shortage of intermediate and secondary schools in Amara obviously reduced the chances for boys and girls who were eligible to attend these schools. The growth of the number of students at this stage during this decade was very slow compared with that in Baghdad (Fig 24B). The proportion of students of secondary education age actually attending secondary schools indicates this.

In Iraq in 1957/58 it was only about ten percent compared with fifteen percent in Baghdad and nine percent in Amara.

The number of teachers in the intermediate and secondary schools of Amara shows also the inadequacy of secondary education, for the number of teachers increased only a little during 1955-1964 compared with Baghdad (Fig 25B). In 1957/58 the average number of teachers per secondary school in Iraq and Baghdad was about 14 and 18 teachers respectively compared with ten in Amara. In 1963/64 the figures were Baghdad 20, Iraq 19, and Amara 13.

4.5.3. Other Educational Institutes:

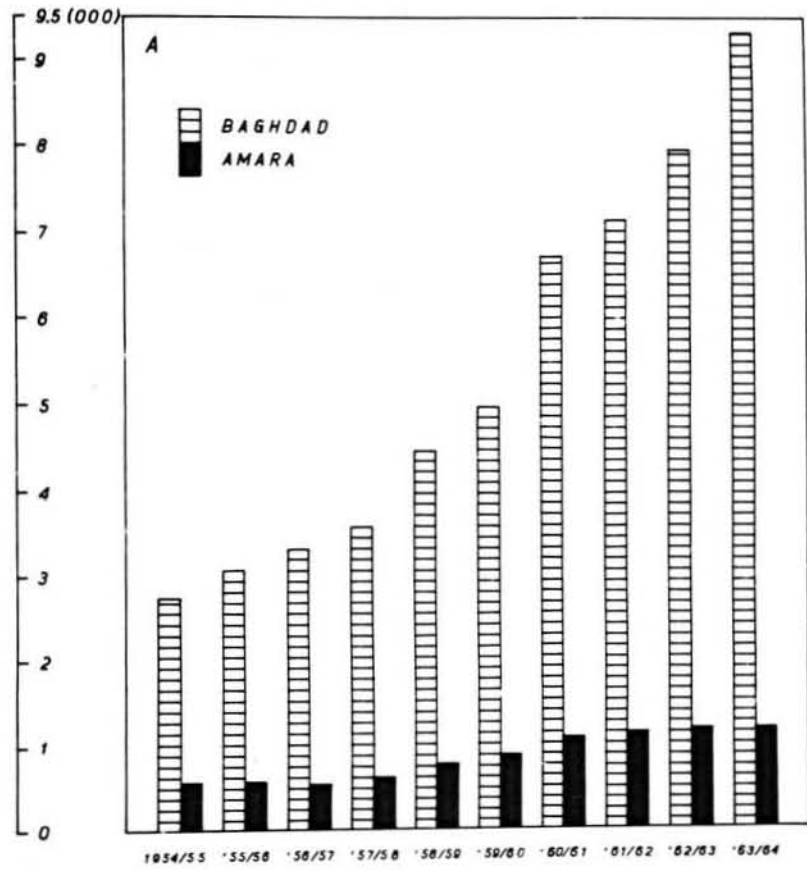
In addition to the primary, intermediate and secondary schools, there were other educational institutes in Amara in 1955-1964. Two vocational schools were established in Amara in 1964/65, the first being a home arts school in Amara town, the other an agricultural school in Mijar Al-Kabir town. Agricultural education in this important agricultural region in Iraq was neglected until 1964 when the only school of agriculture was founded. There were also two primary teachers training schools in the region, one of them to train female teachers.

Compared with other provinces there were fewer evening schools in Amara. In 1963/64 there were four evening schools all in Amara town (one for secondary education the rest for primary) and students attending was the lowest number among the fourteen provinces of Iraq. In spite of the high proportion of illiteracy in this region, moreover, there were only eight centres of illiteracy education during 1963/64, two of them in the provincial capital. Almost all the students were male, for there were only two females out of 294 students in these centres. In addition despite the insufficient number of schools throughout the region, the highest proportion of primary, intermediate and secondary schools is concentrated in Amara Qadha centre especially the capital town

Fig. 25

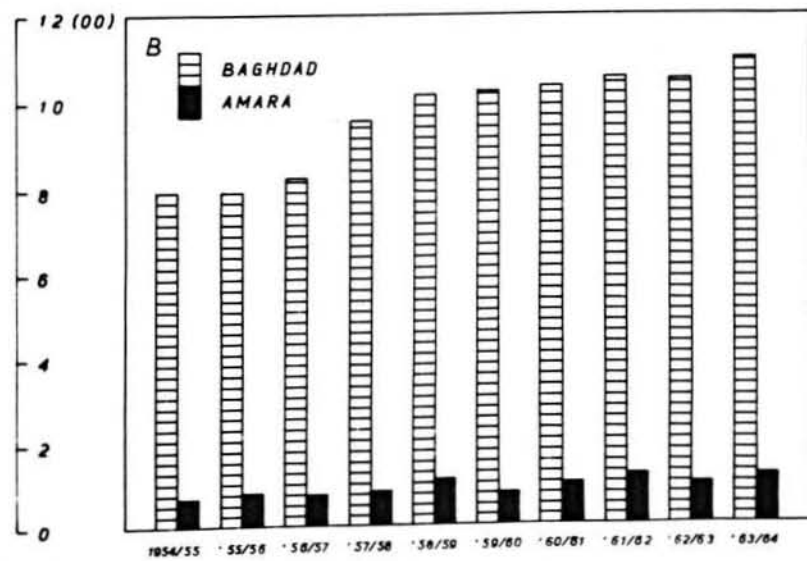
TEACHERS IN PRIMARY SCHOOLS IN BAGHDAD & AMARA

1954/55 - 1963/64



TEACHERS IN SECONDARY SCHOOLS IN BAGHDAD & AMARA

1954/55 - 1963/64



itself while they are found in limited numbers in other parts (Fig 26).

The Amara region also suffered during 1955-1964 from a remarkable shortage of school buildings. Normally the same building is used by two and sometimes three schools. The state owns most of the school buildings in Iraq but it rents other buildings sometimes in great number. Some of the wealthy people erect school buildings especially in rural areas and donate them while the state provides them with teachers and equipment. This happened in almost every province of Iraq except in Amara in 1955-1964. By 1963/64 there were only three school buildings in Amara provided by private enterprise out of 472 schools of this kind in Iraq. This clearly reduced in turn adequate educational opportunities in Amara particularly outside the towns, and assisted the dominance of illiteracy.

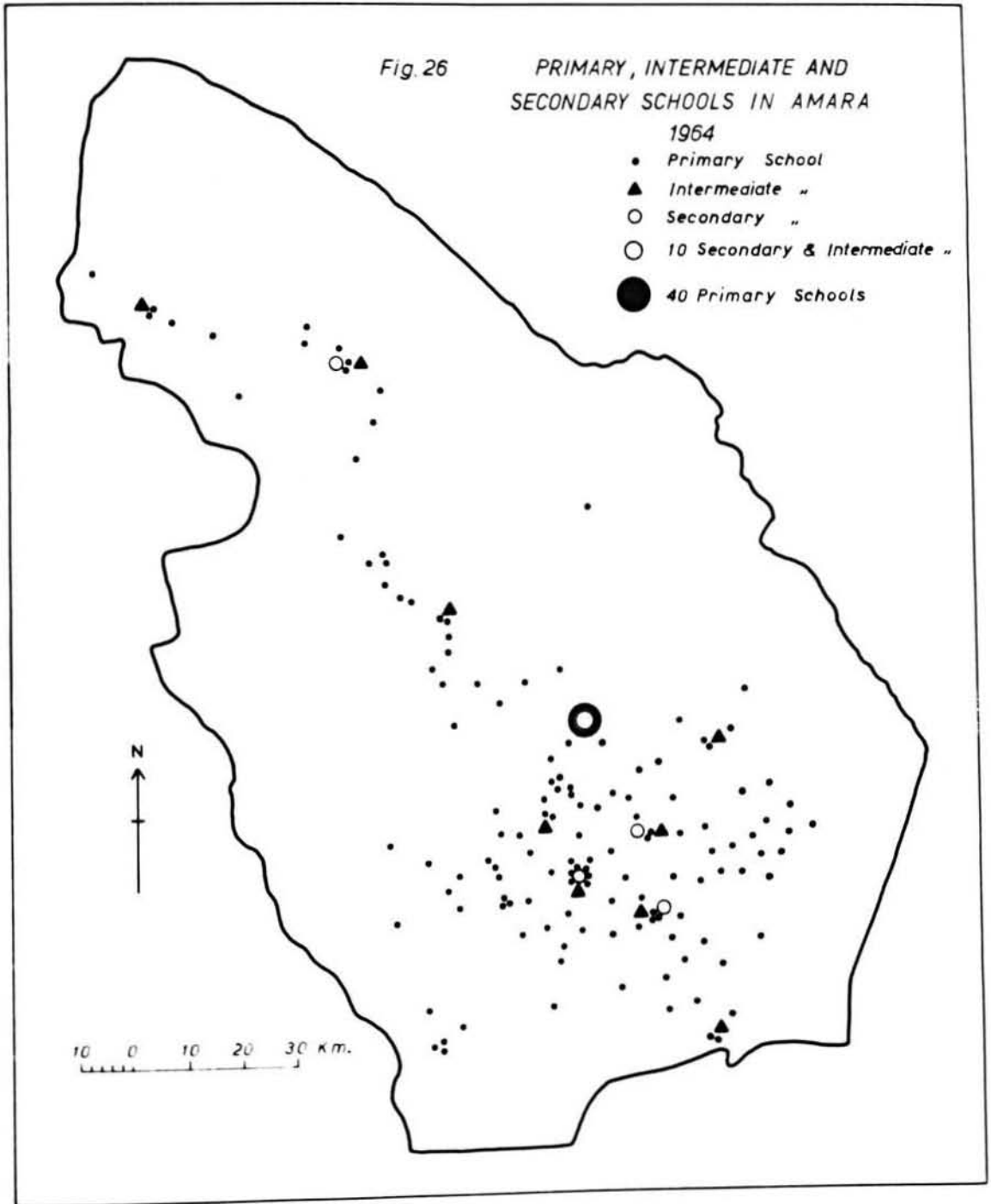
Such low educational standards of the majority of the population have hindered the introduction of modern farming techniques. At the same time the concentration of educational services in Baghdad has drawn there the illiterate people of Amara, looking for a more adequate and higher standard of education. The high proportion of illiteracy has, moreover, contributed to low nutritional and health conditions which will be discussed in the next chapter.

Fig. 26

PRIMARY, INTERMEDIATE AND
SECONDARY SCHOOLS IN AMARA

1964

- Primary School
- ▲ Intermediate "
- Secondary "
- 10 Secondary & Intermediate "
- 40 Primary Schools



Chapter IV : References :

1. M. Aziz : "A Study in Housing", The Economist, The Association of Iraqi Economists, X (1962), p.47 (Arabic).
2. G. Maxwell : A Reed Shaken by the Wind, Longmans and Green, London (1957).
3. W. Thesiger : The Marsh Arabs, Longmans and Green, London (1964).
4. J. Dauphin : "Les Ma'dan de Basse- Mesopotamie", Annals de Geographie, LXIX, (1960), pp. 34-49.
5. D. Warriner : Land Reform and Development in the Middle East - A Study of Egypt, Syria and Iraq, Royal Institute of International Affairs, London and N.Y. (1957), p.151.
6. F.I. Qubain : op.cit., p.209.
7. Ministry of Interior, Directorate General of Census: Statistical Abstract of the Census of 1957 (Iraq and Iraqi Nationals Abroad), Dar Al-Tadhamun Press, Baghdad (1962) p.48.

CHAPTER V

NUTRITION AND HEALTH

5.1. NUTRITION.

The nutritional status of the rural inhabitants in Amara is low for five major reasons: (i) the low purchasing power of the majority of the population, (ii) the high rate of illiteracy, (iii) the traditional attitudes to food, (iv) the small variety of food items and (v) the land tenure system. Of these it seems likely that the land ownership system and the small variety of food are the most critical factors for malnutrition in Amara. The small share of the cultivator, which was until recently less than 25 percent of the total agricultural product, is in fact well below the minimal food requirements of his family. The physical environment in Amara, on the other hand, is quite favourable for production of various kinds of crops, but the social traditions, the traditional farming methods and inadequate planning inhibit considerably further agricultural expansion.

5.1.1 Food Supply and Consumption:

In Iraq as a whole cereals, chiefly wheat and rice, constitute the staple diet. The cereal consumption per capita per year was 119 kg. in 1953-1955, while meat, eggs and fish were only 13 kg. ⁽¹⁾ Cereals, roots and sugar, moreover, supplied about 80 percent of the total calorie intake per person per day in 1958 (Table 5.1). The importance of cereals in the daily food is very marked in rural areas of Amara, whereas in other parts of Iraq a greater variety of items is available, and the cereals normally supply not less than 70 percent of the total calorie supply.

TABLE 5.1

NUTRITIONAL LEVEL : ESTIMATED NATIONAL FOOD SUPPLIES IN IRAQ (PER CAPITA PER DAY).

	CALORIES (kilocalorie)	PROTEIN (gm)	ANIMAL PROTEIN (gm)	CEREALS, ROOTS AND SUGAR (PERCENT - CALORIES)
1934-938	2210	67	9	-
1946-949	1930	60	8	-
1958	2250	74	15	9
<p><u>SOURCE:</u> W.H. Wickwar : "Food and Social Development in the Middle East", <u>Middle East Journal</u>, XIX (1965), p.181.</p>				

Cereals are not available in all parts of Amara. Wheat and barley, for example, are the major crops outside marshy areas and in semi-arid parts of Amara. In marshy areas rice becomes the predominant crop. Consequently, wheat and barley are the chief sources of diet away from the marshes while rice is the leading cereal in the marshy areas. Furthermore, the consumption of these three crops differs according to the socio-economic conditions of the rural dwellers. Wheat, for example, is consumed by only a small proportion of the population because of its scarcity and high price, while barley or a mixture of both these cereals constitutes the diet of cultivators and other rural people in the semi-arid northern and central parts of the region. They are consumed either as bread made of wheat only or mixed with barley or other minor grains such as sorghum.

Far in the marshy areas where the marsh dwellers and the rice cultivators live rice is the main source of food. People consume rice in different forms, as a bread made of pounded rice, called Tabag and Siah or as boiled meal with condensed sour milk called Rouba but rarely with vegetable stew as in urban areas or the prosperous rural areas of the country. Rice might be also consumed as a thick soup or something like rice pudding. Such rice meals are usually prepared for the whole family, infants and children being given the starch water of rice as a main daily meal. Other kinds of grain such as sesame, greengram and sorghum are of minor importance.

According to the evidence of heads of families interviewed in Amara (see Appendix A,3), animal products followed cereals as food items but unfortunately, they are consumed only rarely inspite of the huge livestock resources in this region. In 1964 the total number of sheep slaughtered, which constitute the major source of meat, was a little more than 17,000, while the total number in

Baghdad was well over 900,000 head (see Appendix I).

However, fish is the major source of meat for ma'dan and rice cultivators in the marshy areas of Amara since it is difficult to raise livestock other than buffaloes and cattle which constitute the major source of cash and are rarely killed for meat (Plate XIII). In addition to fish, the migratory birds in the marshes are frequently shot or netted for food, for sale to urban areas. The most common birds in the marshes of Amara are ducks Khdairi, geese, coots Dijaj mai and dabchicks Braizji. Unlike fish the wild-fowl meat supply is available only seasonally.

Outside marshy areas fish are obviously less important. Sheep, goats and cattle are commonly raised in cultivated holdings either on natural pastures or on the remnants of the harvested crops. Nevertheless, the cultivator in these parts, as in the marshy areas, does not kill his animals for family consumption except when necessary. They are useful commonly for their milk and milk products, wool and as a source of cash.

Poultry are kept in considerable numbers in rural areas of Amara, but chiefly as a source of cash in the form of meat and eggs sold to towns. Chicken meat is a luxury for rural dwellers, consumed only on special occasions.

Milk and milk products are available but in insufficient quantities and at high prices. Cow's milk is preferred but great amounts of sheep and goat's milk is consumed particularly in the villages. Buffaloes milk is usually devoted completely to making thick cream, while camel's milk is consumed by the semi-nomads in the semi-arid parts of the region. Cheese is usually prepared from sheep and goat's milk and butter from sheep, goat's and cow's milk. However, dairy products contribute only little to the rural dweller's daily food except as sour milk which is an important item of the daily meals with boiled rice, dates or bread.

Winter and summer vegetables are the third source of food but their consumption is limited. The main difficulty in producing summer vegetables is the lack of water during this season, while the cold spells in winter affect greatly the newly-grown winter vegetables. Besides, because of the local social traditions, until very recently, the majority of cultivators considered this task unsuitable for tribesmen. Consequently, vegetable cultivation is usually restricted to very limited areas in Amara especially around the big towns. In the last few years some of the cultivators in Amara started to produce various kinds of vegetables, especially along the Tigris river near the Baghdad-Basra highway, but almost the whole of production is marketed mainly to Basra and Amara, while only a small proportion is consumed in the area.

Dates are also important. Since Iraq is the largest producer of this crop in the world, it comprises the cheapest and the most widespread food in the country. About a half of the total production is grown in Basra province adjacent to Amara, but the total number of date-palms in the latter is much less than in even other date producing provinces such as Diyala, Kerbela and Hilla. This is also a consequence of the land ownership system in Amara, which discouraged the rural inhabitants from planting palm trees since the land did not belong to them. Nevertheless, this kind of fruit constitutes an important food item in the daily food throughout the region, where a typical meal is composed of dates with sour milk, bread and some onions. Other kinds of fruit are almost unknown.

In some ways sugar and tea can be regarded as the most important items of food in the diet of the rural population. In spite of the low incomes of rural dwellers and the low nutritive values of these materials, more than half the family budget is usually devoted to them. Sweetend black tea and bread is sometimes a major meal in rural areas.

There are normally three meals a day in rural areas of Amara. Breakfast may be composed of sweetend tea with bread and sometimes with milk; lunch may be dates, sour milk, onion and bread with a few families enjoying some vegetable stew with bread; in the evening the meal is often composed of rice with sour milk. Meat is a rare luxury.

5.1.2. Diet Composition :

Data concerning food composition, food balance and nutritive values of the common foods are, generally insufficient in Iraq. Moreover, no detailed dietary survey has even been carried out in rural areas. However, according to the limited available data collected, diet of bulk of population, particularly the rural inhabitants, depends upon one of the three cereals, wheat, barley and rice which at the same time provide most of the total calorie and protein intakes. Other food components have less nutritive value since they enter the diets in relatively small quantities.

Until very recently the cultivator's share of the major three cereal crops (wheat, barley and rice) in Amara ~~were~~ were 127 kg. 346 kg. and 273 kg. respectively (Chapter II page 61). Since the average family in this region contains about five persons and the other cereals constitute only a minor part of the cultivator's share, the annual per capita intake of these cereals was about 25 kg. 69 kg. and 55 kg. respectively. Thus, the combined annual average intake per capita of these crops was only 149 kg. which is lower than the national estimated average. But it should be remembered that this total of cereals was for the three major crops and they were rarely consumed together in any part of the region. Wheat and barley, for example, are the major cereal crops outside the marshy lowlands while rice is the major crop in these areas.

(i) Calorific Value of Diets:

In Amara the average consumption of rice per person is about 55 kg. or 55,000 gm. per year. Assuming there are 718 calories for every 200 gm.⁽²⁾ of both home pounded and parboiled rice, the most common kinds in rice producing areas of Amara where the inhabitants prepare bread from the first kind and rice meals from the second, the average calorie consumption from rice per person would be 197,450 per annum. The annual calorie requirement in temperate lands is reckoned to be about 1,152,000 for a man and 828,000 for a woman respectively.* Under the average conditions in Amara the annual calorie requirement may be reckoned to be less - 1,071,360 and 769,680 for a man and woman respectively.** It is clear, therefore, that even if the increased share of the cultivator since 1959 (50 percent) is considered the annual and daily intake per person in rice producing areas of Amara is not only very much lower than the normal needs, but even lower than the national level for Iraq as well. Of course crops other than cereals do contribute some calories but these are unimportant compared with cereals and the contribution of the latter is in any case far below 70 percent already mentioned.

* Assuming a normal man weight 65 kg. and woman 55 kg. aged 25, mean annual temperature of 10°C.

** The standard weight of normal man and woman in Amara is also 65 kg. and 55 kg., but the mean annual temperature is about 24°C, so that the total calorie requirement can be estimated as 2,976 and 2,138 per day, on assumption that the requirement assigned to the normal man and woman, all other factors being equal, should be decreased by five percent for every 10°C of the mean annual temperature above the reference temperature (see Appendix J).

In the areas where wheat and barley constitute the major cereal crops the total calories derived from these crops is higher than that in rice areas. However, since the annual average of wheat consumption until 1959 was 25 kg. or 25,000 gm. per head and assuming 350 calories for every 100 gm. of wheat,⁽³⁾ the annual total of calories supplied by this crop can be estimated as 87,000. The total of calories provided by barley is usually higher than that of wheat because the annual share of cultivator was higher. But barley is rarely consumed by itself, the annual average consumption being about 69 kg. or 69,000 gm. per person. The calorie supply of this crop is 346 per 100 gm., so that the total annual calorie intake will be 238,740 per capita.

The above figures give some idea of the calorie intake in the rural areas of Amara by all members of the family regardless of the particular needs of each member such as pregnant and lactating women, age composition and occupation. During pregnancy for example, additional energy is required. This increase is estimated at about 40,000 calories. Such allowance can be faced however, either by decreasing the mother's output of energy which is difficult in Amara since she often has many children to look after besides the home and farm work, or by increasing her food intake which is almost impossible under the existing social and economic possibilities, for according to the interviewed families in Amara, a woman's food during both pregnancy and lactation does not differ from that of the rest of the family. Similarly the quantity of breast-milk during the lactation period depends directly upon the health of the mother. She needs about another 1000 calories per day to provide the required amount of milk during this period.⁽⁴⁾

The average per capita requirements in Amara where the mean annual temperature is about 24°C, the weights of healthy active

male and female adults at the age of 25 years are 65 kg. and 55 kg. respectively, and the age/sex compositions of a young population with high birth and death rates can be estimated as 2,232 calories per day. This average is again higher than the actual averages in Amara.

Since the activity of the population differs from one country to another and within the same country, and since it is difficult to know the exact number of employees in each occupation, a daily range between 2,400 and 4,000 calories for a man and 1,600 to 3,000 calories for a woman has been found applicable. These figures, however, are still higher than the number of calories provided by the cereals.

(ii) Protein Supply:

Since cereals constitute the major source of food in Iraq, it can be said that they provide also the bulk of required protein, while animal products provide only a small proportion (Table 5.2). Although recent and detailed data about sources of protein supply in Iraq are not available, data from Syria and other Middle Eastern countries are useful since there are small differences in food supply between these countries. Cereals in Syria provide 64 percent of the total protein. The same is true in Libya, Turkey and U.A.R. where the cereals constitute 64 percent, 68 percent and 67 percent respectively of the total protein supply.⁽⁵⁾ In Turkey, Iran and E. Pakistan where wheat and rice provide the staple diet meat, pulses, eggs and milk provide additional sources of protein.

The proportion of protein in cereal crops is low compared with that in pulses, meat, fish, milk and milk products. However, these items are almost unknown in the diets of the rural inhabitants of Amara, while the protein supply from the three major

TABLE 5.2.

DAILY INTAKE OF TOTAL PROTEIN AND ANIMAL PROTEIN TO PER CAPITA IN
SELECTED COUNTRIES.

COUNTRY	ANIMAL PROTEIN	TOTAL PROTEIN
Iraq	13	59
Syria	11	73
Turkey	17	88
U.A.R.	13	76
Sudan	17	67
Algeria	15	63

SOURCE:
U.N., F.A.O. : State of Food and Agriculture, 1964.
Rome (1964), pp.112-113.

sources of protein wheat, barley and rice, is 8.3 gm, 17.2 gm. and 21.4 gm. per capita per annum respectively. These amounts are less than the protein requirements for the normal adult man and woman which is about 46 gm. and 39 gm. per day respectively⁽⁶⁾ and much less than the national daily intake shown in Table 5.2.

Protein deficiency becomes worse in pregnant and nursing mothers when their food does not differ from that of other members of the family. The total number of pregnant women in Amara is unknown but it can be concluded on assumption that there are 10 percent more pregnant women than infants of less than one year of age.⁽⁷⁾ As there were 6,956 infants in this age group in 1957, the number of pregnant women will be $6,956 + \frac{6956 \times 10}{100} = 7,652.$

An additional allowance of six grams of protein per day has been recommended during the last six months of the pregnancy. The total

of women in this group will be $\frac{7,652}{2} = 3,826$ and the additional protein required in Amara will be $3,826 \times 6 = 22,956$ gm. per day in this year. But certainly in Amara no supplementary protein ration is available for pregnant women.

Another allowance should be given to lactating women, whose numbers can also be deduced from the number of infants and the period of lactation. The lactation period in Amara lasts about two years on average, although sometimes it is longer than that. The available demographic data for Amara show the number of infants of 0 - 12 months of age and between one and less than five years of age. If the number of children under one year of age of both sexes was 6,956 in 1957 and those between one and four years was 50,286 of both sexes, the approximate total of lactating women can be calculated as follows : $6956 + \frac{50,286}{2 \times 4} = 13,242$. Since the allowance of protein in such cases is 15 gm. per day the total additional protein needed per day in this region will be $13,242 \times 15 = 198,630$ gm. The number of lactating women means that there were 13,242 breast-fed children in Amara of one to four years of age and in turn the number of non breast-fed children was $50,286 - 13,242 = 37,044$ in this age group. The large number of non breast-fed children in Amara is usually due either to the short period of lactation where women have another child in less than two years, or to the insufficient amount of breast milk because of malnutrition. If the protein supply is insufficient to produce enough milk for the infant the protein requirement will be derived from the mother's body. Consequently, protein requirements are more urgent in the case of mothers and children, who constitute the most vulnerable group of population.

Climate also affects protein content in the human body. When the temperature ranges between 27°C and 28°C and humidity is between 43 percent and 45 percent - conditions resembling those in Amara, the nitrogen loss by perspiration will be 0.36 gm. per day for an adult⁽⁸⁾ which seems a high amount compared with the daily intake of protein. Thus, greater protein allowance should be made available for the dwellers in this region to compensate for such losses.

There is an undoubted relationship between protein deficiency and disease incidence, which raises the mortality rate. Child mortality between one and four years of age in countries suffering from protein deficiency is 20 to 50 times higher than in U.S. and Western Europe. Children's diseases like diarrhoea and measles which are common in Amara, normally reduce the protein quantity in the children's bodies. Death from diarrhoea is also more common in case of protein shortage.

(iii) Calcium Supply:

The contribution of cereal crops to other diet elements such as calcium is not very important for wheat, barley and rice provide 24 mg., 20 mg., and 14 mg. per 100 gm. respectively. Calcium requirements for healthy children and adults range between 300 mg. and more than 1000 mg. per day,⁽⁹⁾ or between 108,000 mg. and more than 360,000 mg. per annum. The annual calcium supply from the three major cereals wheat, barley and rice in Amara before 1959 were about 600 mg. 13,800 mg., and 7,700 mg. respectively. This annual amount clearly equalled only a day's or a few days supply for normal consumers. Vegetables and fruit which are important calcium suppliers are unavailable for the bulk of the rural inhabitants of Amara, particularly in the marshy areas, whilst eggs, meat, milk and milk products, which comprise the major sources of calcium, are considered luxurious commodities.

It is clear, however, that the food supply and, in turn, the nutritional intake in Amara is much lower than standard requirements. Such widespread malnutrition in the region has affected the health of the population and assisted considerably in the spread of various kinds of diseases. By contrast the nutritional levels of the population in Baghdad especially of rural migrants, is much higher than in their former villages, for they can find a variety of low-prices foodstuffs. This facet also has contributed to the attractiveness of Baghdad for poor and under-nourished inhabitants of Amara. The interviewed migrant families in Baghdad pointed out that information about the plentiful, cheap foodstuffs, especially meat, vegetables and fruit, was a considerable incentive to their movement to the city.

5.2. HEALTH.

Health in Amara is poor because of both social and environmental factors. Low levels of income mean poor diet and inadequate clothing and housing, while medical facilities and social services are totally inadequate throughout the region. All these factors have contributed to the prevalence of disease and low level of vitality in Amara.

Furthermore, this region contains within its boundaries vast areas of permanent and seasonal marshes and represent at the same time one of the major paddy rice producing areas in Iraq. Since rice cultivation depends almost entirely upon flow and flood irrigation, an intensive network of irrigation canals is found throughout the region. Thus, most of the land is covered with flood water in spring and paddy rice irrigation water during summer. Such conditions associated with lack of drainage and high temperatures and high humidity in summer and low temperatures in winter have made Amara a favourable habitat for many diseases and insects in Iraq.

Diseases in the Amara region can be classified into two categories, the endemic diseases which include chiefly, Ankylostomiasis, bilharziasis, trachoma and malaria, and the infectious diseases such as dysentery, tuberculosis, leprosy, measles and whooping cough.

5.2.1. Endemic Diseases:

(i) Ankylostomiasis or Hookworm:

This disease is widespread throughout Amara. It has two major effects on a human body; it causes unnatural drowsiness and inactivity and, because the ankylostomiasis worm lives in the human intestine from which it absorbs blood it causes anaemia or a deficiency of red corpuscles in the blood. The worm enters from earth into the human body through the skin of the feet.

Many factors help to make this disease widespread in Amara. Absence of sanitation and public or private toilets, especially in rural areas helps the stagnant water to collect in holes and ditches throughout the region for most of the year. In addition because of low standards of living and ignorance most people are unshod and cannot recognize the dangers of this disease.

Figures of registered treated cases and those confirmed bacteriologically in hospitals and other health establishments constitute the main available source of data, but for many reasons these figures vary considerably from one year to another and do not reveal the real cases of disease (Table 5.3). Poor communications for instance prevent infected people from distant parts of the region from reaching medical services in towns. In addition, because of social taboos people, especially women, keep the disease secret, so that the number of treated and confirmed cases of ankylostomiasis in Amara is higher among males than females.

TABLE 5.3.*

TREATED AND CONFIRMED CASES OF ANKYLOSTOMIASIS AND BILHARIZIASIS IN AMARA DURING
1955 - 1964

DISEASE	Y E A R									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Ankylostomiasis	4082	2038	831	816	587	803	615	121	209	184
Bilharziasis	3008	2220	3387	3368	2367	1958	2070	451	587	510

* Figures until 1960 show the treated cases, while these after this year show the cases confirmed.

SOURCE:

Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1955-1964.

In 1958 the total treated cases in Iraq numbered about 23,230 with about five percent and four percent, treated in Baghdad and Amara respectively. In the same year about 6,800 cases were confirmed bacteriologically in Iraq. Of these about 30 percent were confirmed in Baghdad and five percent in Amara. The low proportion of treated and confirmed cases in Amara partially reflects the deficiency of medical services there compared with those in Baghdad.

(ii) Bilharziasis, Schistosome:

Bilharziasis is the most dangerous endemic disease in the southern part of Iraq particularly in marshy areas. It decreases from the marshy plains in the south northwards until it disappears in the mountainous and the rain-fed areas in the northern parts.

This disease caused by a fluke which usually develops in a kind of snail which lives in stagnant water. The vector develops in large numbers within a short time. One snail can create a considerable colony in 40 days and these are ready to transfer in about 60 days.⁽¹⁰⁾ The fluke enters the human victim through the skin of his toes. After a cycle of development it resides chiefly in the bladder, and by causing bleeding from the bladder it causes anaemia and reduces human immunity to other diseases. At the same time treatment of bilharziasis is very difficult if not impossible.

Factors which assist the spread of this disease in Amara are almost the same as those of ankylostomiasis, for the paddy rice cultivation and the vast network of irrigation canals provide an optimal habitat for bilharziasis snail. In 1958 the health authorities examined 194 rivers and canals in different parts of the region and found that about 54 percent of them were infected by the bilharziasis snail. In this year also of 6,831 students examined in Amara about 40 percent were infected by bilharziasis.⁽¹¹⁾

The highest proportion of both ankylostomiasis and bilharziasis infections are among those between 10 and 50 years of age who represent, in fact, the economically active section of the population in the region. Nevertheless the total number of treated and bacteriologically confirmed cases in the health institutions during 1955-1964 do not show the true extent of this disease (Table 5.3).

(iii) Trachoma:

Trachoma is the dangerous endemic eye disease which normally causes blindness. Children are the main victims of the disease because it attacks at an early age, so that trachoma is called the disease of childhood.⁽¹²⁾ The fly is the major vector or carrier of the disease. It transfers also by the contact with the infected person or using his private possessions. Optimum conditions for the disease are found in Amara. The high temperature, the high humidity associated with the frequency of dust storms during the hot season and the absence of public hygiene and sewage systems provide perfect breeding conditions for the flies. In addition, since the rural inhabitants live in overcrowded villages and dwellings and all members of the family use almost the same possessions transmission of trachoma through contact becomes easier. Trachoma is, therefore, called the disease of overcrowding and poverty.

The figures of trachoma infections issued by the health authorities do not reveal the serious nature of the disease and are unreliable (Table 5.4). However, the available data gives some idea in this connection. Of about 431,250 trachoma cases treated in Iraq in 1956 about 141,360 treated in Baghdad and about 20,000 in Amara. In 1958 the number of treated cases was 44 percent lower in Iraq and 33 percent lower in Baghdad than in 1956. In Amara the decrease was only about 12 percent. The greater decrease in Iraq and Baghdad compared with that in Amara may be due to greater improvement in the standard of living, public health and educational status throughout the country.

TABLE 5.4

REPORTED CASES OF INFECTIOUS DISEASES IN AMARA, 1955 - 1964.

DISEASE	Y E A R									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Trachoma	24299	20399	19322	17921	21664	-	-	-	-	-
Malaria	-	4740	2559	17	38	-	2	-	7	191
Tuberculosis	198	686	-	-	869	1004	474	589	558	907
Dysentery	2431	1468	-	-	337	392	559	1483	1076	1023
Leprosy	-	-	-	-	-	61	-	27	12	1
Measles	499	275	-	-	610	2096	2226	2608	1638	3382
Mumps	2586	228	-	-	2001	1769	1615	983	2959	1557
Whooping Cough	678	765	-	-	819	2284	482	623	1793	157
Acute Ophthalmia	1041	1032	-	-	171	560	1429	5207	4747	3059
Gonorrhoea	120	31	-	-	-	176	207	123	109	111
Syphilis	293	1	-	-	-	-	-	-	-	-
Chicken pox	113	125	-	-	17	61	118	951	276	342
Typhoid fever	-	-	-	-	60	35	53	111	221	66
Anthrax	-	-	-	-	-	35	21	-	101	29

SOURCE: Derived from
Ministry of Planning, Central Bureau of Statistics :
Statistical Abstracts, 1955-1964.

(iv) Malaria:

Malaria was the greatest endemic disease in Amara, but it has been almost totally eradicated through the large scale campaigns carried out by the health authorities with the aid of the U.N.I.C.E.F. and W.H.O. organizations. Official figures of the incidence of malaria show that there has been an astonishing decline of the disease in Amara, with about 4,800 cases in 1956, about 2,560 in 1957, 17 in 1958 and only seven in 1963 (Table 5.4).

5.2.2 Infectious Diseases:

In addition to the endemic diseases, there are many infectious diseases, distributed on a large scale throughout the region. As with the endemic diseases figures of infectious diseases do not show the true number of normal cases because of the inadequate medical services. The most important of these diseases are tuberculosis, dysentery, leprosy, measles, mumps and whooping cough.

(i) Tuberculosis:

Tuberculosis is a disease which affects human lungs, and is contagious by direct contact between the agent and the victim. Undoubtedly, the disease is widespread in Amara since almost all required conditions are available. There is a direct relationship between low standards of living, depressed economic conditions and tuberculosis infections. Deficiencies in the diet especially of animal protein, calcium and vitamin D, which are common deficiencies in rural Amara, have reduced the immunity of the population to this disease. Compact rural settlements and overcrowded houses also facilitate the transmission of tuberculosis. Long periods of rest and improvement in the nutritional status are important factors in tuberculosis treatment, but the cultivator using the traditional means of cultivation cannot find time for rest and usually works all the year round. In 1955 there were 198 recorded cases of

tuberculosis in Amara (Table 5.4), increasing to about 870 in 1959 and to about 910 in 1964, but in spite of the high incidence in the region there is only one hospital for chest diseases with not more than 90 beds.

(ii) Dysentery : (all forms).

Dysentery is an abnormal function of the intestines. Human intestines are the ideal hosts of dysentery parasites, which in certain cases produce a toxin which can be fatal.⁽¹³⁾ There is almost no natural immunity to dysentery infection and it can affect anybody. The fly is the main carrier of the dysentery parasite from one host to another and thus there is a combination between both the vector and the environment. An optimal environment for fly breeding is found in Amara, so that dysentery is a prevailing infectious disease mainly among children.

Factors important in its distribution in the region are both climatic, cultural and social. The climate in Amara is characterised by high temperatures in the hot season with the mean July temperature usually over 30°C. The hatching period for the house fly is only ten days at 30°C. Humid soil, heaps of animal dung and decaying refuse constitute favourable places for fly breeding. Besides, the poor socio-economic conditions of the majority of the population assist the spread of this disease. People in rural areas live with their animals in dark and congested lodgings. Heaps of animal dung, which constitute the major source of fuel in rural areas, lack of sewage and drainage systems and absence of toilets offer very suitable conditions for the breeding of the dysentery vector. Reported cases of dysentery are far below the actual numbers. In 1955 there were about 2430 cases of dysentery in Amara decreasing to about 1480 in 1962 and to about 1,020 in 1964 (Table 5.4).

(iii) Leprosy:

Leprosy is usually caused by a micro organism. Humans are the main victims, while most animals have natural immunity to leprosy. The disease has many effects on the human body. It changes the natural colouration of the tissues and forms small grains in the skin with rough and gritty surfaces. Nerves, bones and other internal organs of the body are also habitats of leprosy. Normally leprosy organisms find their way to the body through grazed parts of the skin or through the mucosa of the nose.⁽¹⁴⁾ Germs of some kind of leprosy, called bacillus can enter the body without any abrasion. Children, therefore, are most vulnerable to leprosy since many changes occur during the growth of their skin and nerves. Contact with an infected person is necessary for leprosy to take place. There is also a relationship between leprosy and tuberculosis in general and immunisation for both of them is the same. Thus, factors which encourage tuberculosis infections are the same for leprosy.

This disease is widespread in Amara and especially prevalent in the Butaira area some 18 km. north of Amara town in which the only leprosy hospital in Iraq has been built. An official in this area has stated that leprosy is very common in the Butaira and surrounding areas but it is difficult to know the true number of cases, since it is not easy to identify in the initial stages and because people rarely ask for medical assistance. He added that the disease is dominant among children.⁽¹⁵⁾ However the new leprosarium was built in 1960; previously there were small colonies consisting chiefly of mud huts.

The high temperature and humidity in Amara assists the breeding of different kinds of insects which are the main causes of abrasion in skin through their bites and thus help the leprosy germs to enter the hosts through the skin abrasion. Crowded houses

and villages in rural areas also assist leprosy infections since they facilitate direct contacts.

The figures of cases of leprosy published by the health authorities after the establishment of the leprosia must be regarded with caution for the same reasons as have been mentioned in connection with other diseases. In 1960 there were 61 cases of leprosy in Amara, the highest number in Iraq (Table 5.4). In 1961 and 1962 recorded totals of leprosy in Amara were the highest in the country after those recorded in Baghdad in 1961 and Basra in 1962. In 1963 the total of leprosy infections was the highest after those recorded in Basra and Baghdad respectively.

(iv) Measles :

This is an acute disease caused by a highly infectious virus. Measles apparently affects the whole of mankind and there is no natural immunity to it. Measles produces coloured spots which cover the body. Children of less than 15 years of age are usually the main victims of the disease. This may be due to its quick transmission by sneezing and coughing. No immunity is produced after measles infection.

This disease is also common in Amara. Geographical factors both social and physical provide a fertile home for it in the region. Congested hutments and overcrowded settlements help the direct contact and facilitate the transfer of the disease. It occurs in Amara during the cold months, in winter and spring, and usually causes the death of many children during this period of the year. Cases of measles are not usually reported though the increased number of recorded cases over the years suggests that more sufferers are seeking medical advice. In 1955, 499 cases were reported and this had risen to 3382 cases in 1964.

(v). Mumps :

This is a common infectious disease in Amara. Mumps usually affects children and adolescents. Optimum conditions of mumps infections are found in this region such as congested villages and unhealthy crowded houses and schools. In addition mumps spreads during the winter when the reed and mud huts become damp and cleanliness is more difficult. Such conditions also provide possibilities of direct contact between infected and healthy people.

Reported figures during the period 1955-1964 show that there was high incidence of the disease in Amara. In 1955 the total number of reported cases was 2,586 increasing to 2,959 in 1963 (Table 5.4).

(iv). Whooping Cough:

This disease usually attacks children and a large proportion of them suffer from it in Amara. Figures of whooping cough cases are considerably high inspite of their unreliability and the remarkable gaps. In 1955 the total was 678 increasing to 2284 cases in 1962 (Table 5.4). Even in 1963 the total number of recorded whooping cough cases was the second highest in the provinces of Iraq.

Other important diseases in Amara are acute ophthalmia, gonorrhoea, syphilis, chicken pox, typhoid fever and anthrax.

The discussion of diseases in Amara shows that this region is one of the largest breeding grounds for various kinds of diseases in Iraq, especially those which affect human activity and reduce economic productivity.

5.2.3 Medical Institutions:

In spite of poor health throughout Amara and the many endemic and infectious diseases medical establishments are still limited and inadequate. Most of the few medical services, are, moreover, concentrated in the provincial capital and a few other small towns. Rural areas which constitute a fertile home for different diseases and where the majority of population lives suffer from a tremendous lack of such vital facilities. Most of the medical institutions were distributed in other provinces or in Baghdad. In 1954, for example, there were about 48 new hospitals, clinics and dispensaries in Iraq either completed or under construction but none of them was in Amara.⁽¹⁶⁾ It is worth considering what medical services were available in the region in the period 1955-1964 since the general inadequacy of services compared with other parts of Iraq (particularly Baghdad) not only help explain the high incidence of disease but also provides a further explanation of migration from the region.

(i). Hospitals :

Hospitals in Iraq can be divided into two categories. First, the public or government hospitals which belong to the Ministry of Health and other government administrations. Second are the private hospitals owned by private individuals. Only government hospitals are found in Amara. They include general hospitals, a chest hospital, a children's hospital and a leprosarium.

The number of hospitals increased during the ten year period 1955-1964 in all provinces of the country except Amara. In 1958 of 123 hospitals in Iraq 34 were in Baghdad and only six in Amara. Four of these were in or near the capital town, the other

two hospitals were in Ali Al-Gharbi and Maimouna towns, while hospitals are unknown in the remaining parts of the region (Table 5.5). In 1964 the total number of hospitals in Iraq rose to 142, 40 of them in Baghdad and still only six in Amara (Fig 27).

TABLE 5.5

HOSPITALS AND DISPENSARIES IN AMARA AND BAGHDAD DURING 1958-1964.
(PERCENT OF NATIONAL TOTAL.)

YEAR	AMARA			BAGHDAD		
	HOSPITAL		DISPENSARY	HOSPITAL		DISPENSARY
	Govern ment.	Private		Govern ment.	Private	
1958	5.7	-	2.8	22.0	61.1	18.4
1959	5.7	-	3.4	22.0	58.3	18.1
1960	5.5	-	2.9	26.4	60.0	16.6
1961	6.1	-	2.7	25.4	57.1	16.5
1962	6.1	-	2.6	23.5	53.3	16.3
1963	5.2	-	2.9	23.3	53.3	14.0
1964	4.8	-	3.5	23.2	61.1	13.8

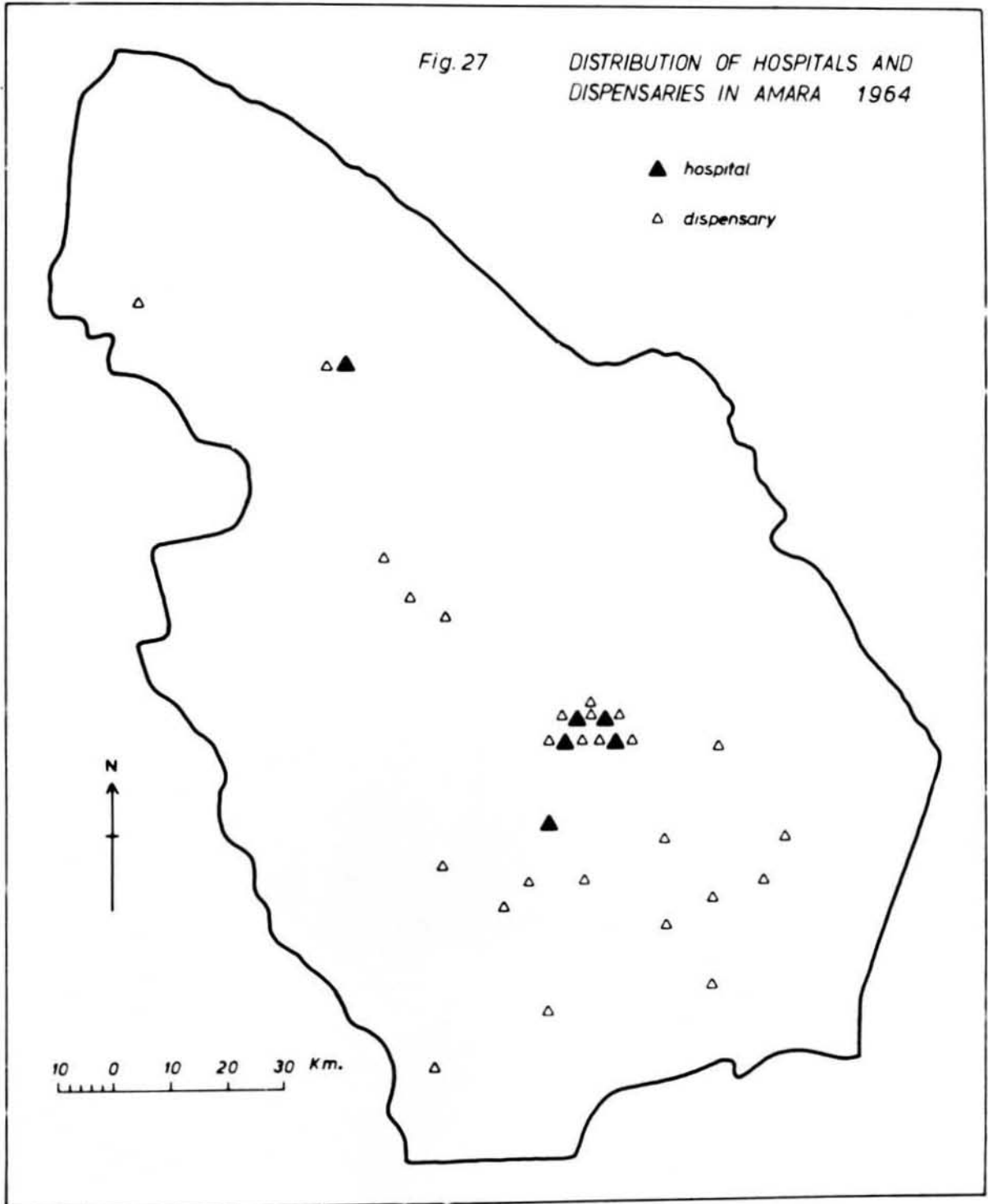
SOURCE: Calculated from -
Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1958-1964.

It is clear that the total number of hospitals in Amara is not only very small compared with that in Baghdad, but since about 70 percent of the hospitals are concentrated in the provincial centre of the region, there was one hospital for every 13,000 persons in Amara town and one hospital for more than 55,000 persons of the total population of Amara province during 1955-1964. By

Fig. 27

DISTRIBUTION OF HOSPITALS AND DISPENSARIES IN AMARA 1964

- ▲ hospital
- △ dispensary



contrast there was one hospital in Baghdad for every 39,000 persons in 1958 and 40,000 in 1964.

The total number of beds is also significant. In 1958 hospital beds in Baghdad equalled about 42 percent of the total beds in Iraq, while those in Amara constituted only about seven percent. In 1964 the proportion of beds in Baghdad increased to about 47 percent but decreased in Amara to about only four percent. It is important to remember, moreover, that about half of the beds in Amara are in the leprosy hospital and the remaining beds are distributed among the other five hospitals. Therefore, it can be said that there was one bed in Amara for 507 persons in 1964 compared with one bed for every 228 persons in Baghdad.

(ii). Dispensaries:

Dispensaries constitute the only medical establishments in most rural areas and small towns in Amara (Fig 27), but these important establishments are found only in limited numbers, and their services are not easy to obtain. Dispensaries are usually reed or mud huts in rural areas and rarely built of bricks. They are poorly equipped or staffed, for they commonly are supplied with only very limited facilities and medicines and the staff consists of not more than three members. Dispensaries are usually under the supervision of a health official or a dresser, but rarely both, with an unqualified assistant. It is usual to find in many of the dispensaries only one official directing the whole of the duties by himself. These defects together with the lack of good communications have made the services of the dispensaries far from adequate.

The total number of dispensaries in Amara province was the lowest of any province of Iraq during the six year period 1958-1963, except in 1959 when it was the second lowest. In 1958 there were 14 dispensaries in Amara out of 498 in Iraq or about three percent, whereas there were 90 dispensaries in Baghdad in this year.

The total number of dispensaries in Iraq rose to 809 in 1964. In Amara the total increased to 28 with 112 in Baghdad in 1964. (Table 5.5). The provision of new dispensaries occurred more swiftly outside Amara province in this period.

Furthermore, dispensaries in the Amara region itself are not evenly distributed. In 1964 there were eight dispensaries out of the 28 in Amara town, while the remainder were distributed throughout the other eleven sub-administrative units of the region (Fig 27). There was, therefore, one dispensary for more than 20,000 persons in Mijar Al-Kabir Nahia, while there was one dispensary for less than 10,000 people in Amara Qadha Centre which was already relatively well provided with hospitals.

(iii). Clinics:

There are two kinds of clinics in Amara; public or government and private. The first kind are usually found in public hospitals while the others are in private hospitals or belong to individual doctors. Public clinics offer freely their medical services to people who are out-patients during the official duty hours, while the services of the other kind belonging to doctors working in private clinics and are not free.

Public clinics provide the out-patients with all kinds of medical services as they are available in the public hospitals for the in-patients. In each clinic there is one doctor or more with a pharmacist, dressers and nurses. In rural areas there is usually a health official or a dresser in the clinic instead of the doctor and the pharmacist.

The government clinics are important and play a major role in national health. Their services are especially valuable to those who can not afford to visit the private clinics; in 1954

about 791,000 patients attended clinics in Amara.⁽¹⁷⁾ In spite of the obvious need for more clinics no new ones appeared in Amara from 1955-1964. Once again most of the clinics in Amara are concentrated in the capital town where most of the hospitals and dispensaries of the region are found.

(iv). Pharmaceutical Establishments:

Pharmaceutical establishments in Amara were until 1964 of two kinds; first the public or government drug stores and pharmacies, which were usually attached to government health institutions and provided free services to both in and out-patients. The second kind consisted of the drug stores and pharmacies owned by private firms or individuals. In 1964 the government nationalized all types of pharmaceutical services in Iraq. At present they are under the control and supervision of a government administration called the General Establishment of Pharmaceutical Materials. It took over all private drug supply stores and it is now the only importer and distributor of these materials to all medical institutions whether in the public or the private sectors. It is important to say that the pharmaceutical establishments constitute the only nationalized sector of medical services in the country.

Nevertheless, the drug stores and the pharmacies, like other medical services are poorly distributed among different parts of Iraq. In 1955 of 93 private drug stores in Iraq 91 were in Baghdad, with none of this type in Amara. Also, there were 189 private pharmacies in Iraq, about 57 percent of them in Baghdad where as there were only four of these pharmacies in Amara.⁽¹⁸⁾ Furthermore the pharmaceutical services are restricted to Amara town where all the five private pharmacies in 1966 for example are found,⁽¹⁹⁾ so that pharmaceutical facilities are almost unknown in rural areas. Lacking these facilities, rural dwellers still depend

upon private and locally made medicines which can in many cases be positively harmful.

5.2.4 Medical Staff :

Although at present it is not very difficult to erect a hospital or other medical institution in Iraq within a short time, it is not easy to provide adequate well-trained staff, and the number in Amara falls short of the requirements of institutions already in use and is totally inadequate for the needs of the present population.

(i). Doctors :

The ratio of doctors in Iraq to the total population seems high compared with other developing countries, for most of Africa has only one doctor for every 20,000 people⁽²⁰⁾, compared with one doctor for less than 6,000 in Iraq during 1955-1964. But this ratio differs widely from one part of the country to another. As a rule more than half the doctors are concentrated in Baghdad with about 60 percent in 1955 or one doctor for about 1600 people of its total population. By contrast in Amara there was one doctor for about 14,000 persons (Table 5.6). In the five year period 1955-1959 the total of doctors in Iraq rose to 1245 on an average of about 63 doctors per annum, so that there was one doctor for about 5,000 persons. Nevertheless the total of doctors in Amara in 1959 remained at 22, the lowest number in all the provinces of Iraq. Hence, the number of doctors to the total population was still very low compared with that of Iraq and Baghdad, for there was one doctor for over 15,000 people. The same can be said until the end of the period under discussion (Table 5.6).

Twenty three out of the twenty six doctors in 1964 were in Amara town the rest were in three other towns; one in Maimouna hospital, one in Ali Al-Gharbi hospital and the third in the Leprosarium of Butaira, but even they live in the capital centre

TABLE 5.6

NUMBER OF DOCTORS PER HEAD OF POPULATION IN AMARA, BAGHDAD AND
IRAQ 1955 - 1964.

YEAR	AMARA	BAGHDAD	IRAQ
1955	14,057	1,577	5,142
1956	15,507	1,511	4,642
1957	16,492	2,016	5,695
1958	19,442	1,902	5,235
1959	15,237	1,928	5,152
1960	15,445	1,997	5,226
1961	17,755	1,895	4,880
1962	14,032	1,960	4,912
1963	14,666	1,718	4,831
1964	13,038	1,702	4,764

SOURCE: Calculated from :

- a). Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1955-1964.
- b). Ministry of Health, Statistical Section :
Statistical Books, Numbers of Medical Staff 1954-1962.
(Unpublished).

most of the time and their services are thus further restricted. The rural dwellers, therefore, have to travel to Amara town to see a doctor, but because of inadequate transport and lack of cash most are unable to do so.

Doctors also work only six hours per day in the government hospitals and clinics after which they work in their private clinics, and it may be fair to say that few have any sense of public service or humanitarian motives for their work.

Further evidence of the inadequate medical facilities was the proportion of doctors compared with the total number of beds in hospitals. In 1958 there was one doctor for about eight beds in Iraq, whereas in Baghdad there was one for every six beds. The proportion decreases in Amara to one doctor for about 39 beds (Table 5.7). However as has been mentioned before, about half of the total beds in Amara are in the leprosy hospital alone with only one doctor, so that the proportion of doctors to the total beds would be correspondingly modified.

(ii). Dentists :

Since 1956 when the first group of dentists graduated from the College of Dentistry the number of dentists in Iraq has increased. Like doctors they practice in government hospitals during duty hours and afterwards in their private clinics. Their total number is also unevenly distributed among the different parts of the country. In 1958 there were 112 dentists in Iraq, more than 60 percent of which were in Baghdad, while there was only one dentist in Amara (Table 5.8). In 1963 the total number of dentists rose to 231 in Iraq with about 62 percent in Baghdad, but in Amara there were not more than four. This means that there was one dentist for about 84,000 persons in Amara. Three of the four dentists, moreover, were in the provincial capital.

(iii). Other Medical Personnel:

Other categories of medical personnel are poorly represented in Amara. The region had only between three and eight pharmacists during the period 1955-1964 (Table 5.8), decreasing to five in 1966 and none of these was outside Amara town.

TABLE 5.7

NUMBER OF DOCTORS TO TOTAL BEDS IN AMARA, BAGHDAD AND IRAQ 1958 - 1964.

	Y E A R						
	1958	1959	1960	1961	1962	1963	1964
Amara	39	26	27	35	28	29	26
Baghdad	6	6	9	8	8	7	7
Iraq	8	8	10	10	10	10	10

SOURCE: Calculated from

a). Ministry of Planning, Central Bureau of Statistics: Statistical Abstracts, 1958 - 1964.

b). Ministry of Health, Statistical Section : Statistical Books, Number of Medical Staff 1954-1962 (Unpublished).

TABLE 5.8

MEDICAL STAFF, EXCLUDING DOCTORS, IN AMARA 1955-1964.

MEDICAL STAFF	Y E A R									
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Dentists	1	1	-	1	1	2	3	8	4	2
Dental practitioners	2	2	-	1	3	4	1	1	2	-
Pharmacists	5	1	-	6	7	7	6	3	8	3
Pharmacists assist.	-	2	-	2	2	3	4	8	7	8
Health officials	21	21	-	21	25	28	31	35	45	38
Dressers	36	32	-	24	26	30	42	55	65	54
Nurses	22	22	-	19	16	20	36	34	39	37
Radiographers	3	2	-	3	2	3	5	6	6	6
Laboratory assist.	1	1	-	1	1	1	2	11	7	7
Health inspectors.	-	4	-	1	2	3	3	7	5	7
Midwives	17	17	-	15	19	15	12	13	10	-

SOURCE:

- a). Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1955-1964.
- b). Health Authority of Amara: Medical Statistics.
Amara (1966) (unpublished).

Health officials are, generally, the most important section of medical staff after doctors, dentists and pharmacists. Dispensaries are usually under their direct supervision, and since dispensaries constitute the major medical institutions in rural areas of Amara, health officials comprise the most important group of medical personnel. The proportion of health officials in Baghdad is thus lower than that of doctors and many other staff classes, while the proportion is considerably higher in other parts of the country. However, in 1955 and 1958 there were only 21 of them in Amara or apparently one for about 15,000 people and about 16,000 people in these years respectively.

Dressers are of great importance to the medical services especially in rural areas. A large number of dispensaries are under their direct charge, so that the total number of dressers is higher than any other medical category throughout Iraq, except that of doctors. But the greatest number of dressers is concentrated in Baghdad, while that in Amara is among the lowest. In 1958 there were 1082 dressers in Iraq 374 of them in Baghdad but there were only 24 in Amara or one dresser for about 14,000 people (Table 5.8). In 1963 the number of dressers increased in Amara to 65 but decreased slightly in Baghdad, which shows the increasing importance of dressers outside Baghdad.

Nurses perform similar duties to dressers but, normally nurses work with women. Also their numbers is limited in rural areas. As a whole there is a remarkable shortage especially of well-trained and qualified nurses. It is astonishing that in the whole of Iraq there were only 373 nurses in 1955. In Amara in that year there were apparently only 22 nurses staffing four hospitals which may be regarded as worse than the ratio of doctors to the total population.

Health inspectors, whose major duties are to supervise public hygiene in public places such as markets, slaughter-houses, shops and coffee houses, are also very few in view of the low standard of health in the region. In 1958 there was only one inspector, increasing to seven in 1964. The figures between 1958 and 1961 were the lowest in the provinces of Iraq.

There was, moreover, a general decrease in the number of midwives from 17 in 1955 to 15 in 1958 to ten in 1963 and to none in 1964. However the midwives as well as health inspectors, are entirely unknown in rural areas, unqualified women usually performing the midwives' duties.

The discussion of health in Amara during 1955-1964 shows how serious the diseases and how depressed the health services are compared with other parts of Iraq. This is clear in the proportion of medical institutions and staff to total population and the general state of health in the region where, unfortunately both the physical environment and social factors have made ideal habitat for various diseases. Such miserable conditions constitute another obstacle for further economic and social advancement since the majority of people experience diseases which reduce human activity, such as bilharziasis and ankylostomiasis. By contrast the concentration of health services in Baghdad has made it an attractive centre for sick and poor rural inhabitants of Amara, who are anxious above all to protect their children from the many endemic diseases. This was stated many times by migrants interviewed in Baghdad.

Chapter V : References :

1. U.N., F.A.O. and W.H.O. : op.cit., p.7
2. U.N., F.A.O. : Food Composition Tables (Minerals and Vitamins for International Use), Nutritional Studies No.11, Rome (1964) p.10.
3. Ibid, p.10.
4. U.N., F.A.O. : Calorie Requirements, Nutritional Studies No.15 Rome (1957), p.14
5. U.N., F.A.O. and W.H.O. : Protein Requirements, Nutrition Meetings Report Series No.37, Rome (1965), p.71.
6. Ibid, p.51.
7. Ibid, p.51.
8. Ibid, p.26.
9. U.N., F.A.O. and W.H.O. : Calcium Requirements, Nutrition Meetings Report Series No.30, Geneva (1962), p.8.
10. L.D. Stamp : Some Aspects of Medical Geography, Oxford University Press, London (1964), p.23.
11. Health Authority of Basra : Report on Bilharziasis in the Southern Iraq, Basra (1958). (Unpublished).
12. J.M. May : The Ecology of Human Diseases, MD Publication Inc., N.Y. (1958), p.274.
13. Ibid, p.152.
14. Ibid, p.149.
15. Personal Interview in September, 1963.
16. Lord Salter : op.cit., p.278.

17. Ministry of Economics, Central Bureau of Statistics :
Statistical Abstract, 1954, Al-Zahra Press, Baghdad (1955),
p.281.
18. Ministry of Economics, Central Bureau of Statistics :
Statistical Abstract, 1955, Al-Zahra Press, Baghdad (1956),
p.305.
19. Health Authority of Amara : Medical Statistics, Amara
(1966), (Unpublished).
20. The Guardian, No.37,268, 5th May, 1966.

CHAPTER VI

NATURE OF MIGRATION

An examination of the nature of the rural migration from Amara in the decade 1955-1964 is of great importance, since it furthers our understanding of the causes of the movement discussed in the previous chapters. In particular, it provides more evidence to show how emigration from Amara was due chiefly to the inadequate social and economic conditions and to the attractiveness of Baghdad. At the same time the effect of the exodus of cultivators on the demographic structure of the region and in turn its impacts on agricultural production will be appreciated. The shortage of active people in the agricultural sector is one of the most serious obstacles facing development of agriculture in this region at present.

6.1 HISTORICAL BACKGROUND.

The problem of rural migration from Amara which is facing Iraq at present is not a new phenomenon. Historically the movement of rural dwellers to urban centres started in Iraq, as in most of the Middle East, during the British Administration (1917-1921) and accompanied the large scale economic activities which took place in these areas. During the two World Wars and the inter-war period new economic activities and more employment opportunities were established in the major urban centres of Iraq, particularly Baghdad and Basra, which encouraged the movement of a large number of rural dwellers from southern Iraq and especially from Amara. The development and improvement of transport facilities, helped in creating a direct contact between the isolated rural areas and big urban areas. Construction of railways, in particular, and

the ports enabled a large number of tribesmen to move out of their villages to towns, where they sought employment as labourers, policemen and in the lower grades of the civil service.

The remarkable increase in the number of irrigation pumps in the flood plain after 1918 also increased agricultural production and facilitated the diversification of cultivated crops. Consequently, the total yields of different crops outstripped the local demand and the economy of Amara began to change from the centuries old subsistence farming to commercial farming. Since then the agricultural products of Iraq entered the international markets almost for the first time. Through the new commercial activities greater contact has been made with the outside world and new sources of wealth created. This has helped greatly economic development in the urban areas, since a large proportion of the irrigation pumps were installed by rich urban merchants.

In addition during the First World War local armed forces were established and recruited mainly from the tribesmen of Amara and other southern provinces of Iraq. Soon after the war the National Iraqi Army was founded and attracted hundreds of rural inhabitants to cities and towns. The same was true of the British Levies, who provided the internal security force during the mandatory period (1922-1932) when the Iraqi army was being formed, and lasted until 1941.

Modern transport services have helped the rural dwellers to visit towns and cities, particularly the holy places in Iraq and in the neighbouring countries. This has to some extent increased the contact and broken down the barriers between the rural and urban societies. People from the country-side, through their contacts with people enjoying a higher standard of living, began to realise what they were missing and in time some of them gradually moved to urban places and sent for their families and friends.

However rural-urban migration during the First World War and until the end of the 1930's was on a small scale and took the form of a steady and slow movement over a long period; in fact neither in Amara nor in Baghdad was migration regarded as a problem. In the 1940's and early 1950's, more capital both from oil royalties and the agricultural output, became available for investment. More industrial and commercial activities were established, more modern roads were built and more medical and social services were founded which opened more opportunities for employment and encouraged the movement of rural dwellers to cities.

However, the most important change which took place in the rural villages was that the landholders and the shaikhs became increasingly at odds with the ordinary members of their tribes and followers, who they had co-operated with for generations. They began to take full advantage of the numerous new profitable economic opportunities. Wider commercial contacts between Iraq and Western Europe in particular and the comparative improvement of the standard of living increased both the external and the internal demand for agricultural products and many urban speculators began to invest in the agricultural sectors mostly by installing water-pumps and sub-letting vast areas of the state's land. In time the tribal shaikhs and this urban group with high socio-economic status acquired immense economic and political powers in the country. They owned or held the largest estates both in rural and urban areas, most of them living in Baghdad and other large cities in the classic style of absentee landlords. Clearly, as the standard of living improved in the towns the discrepancy between rural and urban standards of living became greater and the argument for migration became stronger.

The distribution of the annual rate of population increase in the different regions of Iraq shows, to some extent, the acceleration of rural migration from southern Iraq, especially from Amara, in the late thirties and the forties. During the period 1935-1947 the annual rate of increase in the northern region of Iraq was 2.2 percent while it was 3.7 percent and 1.1 percent in the central and southern regions respectively.⁽¹⁾ Since there are no adequate or complete estimates of the vital statistics such as rate of mortality and births in Iraq, it can not be said that this regional difference in the rate of increase was due to the difference in the birth and death rates. Thus, the low rate of increase in the southern region can be attributed chiefly to migration, since the **central** region where Baghdad is, had the highest rate in the country.*

After 1950, although the oil royalties increased and more development schemes were adopted in Iraq, the ~~same~~ *laissez-faire* attitude to rural planning persisted as in the previous years, most of the projects concentrated in the big cities particularly Baghdad to the detriment of rural areas, indeed there was total ignorance of the needs of country dwellers. The concentration of most social and economic development projects in Baghdad, in fact, increased its attractiveness to the poor cultivators of Amara. Thus, both the "push" factors in Amara and the "pull" factors in Baghdad became stronger than in any time before, and the rural dwellers of Amara were induced to move from their home villages in much larger numbers searching for better opportunities in Baghdad.

* The northern region of Iraq consists of the Mosul, Kirkuk, Arbil and Sulaimaniya provinces; the central region comprises of the Baghdad, Diyala, Kut, Hilla, Kerbela and Ramadi provinces, whereas the southern region includes the Basra, Nasiriya, Diwaniya and Amara provinces (Fig.1).

The movement of cultivators from the region continued in the 1950's and the early 1960's inspite of the measures such as the Laws of 1952, 1955, and 1958, introduced to deal with the land tenure system and its related problems. Unfortunately, most of these laws were fruitless because migration was already vigorous. According to some writers migration actually appears to have reached a peak after 1955. J. Dauphin pointed out that the immigration of rural people from the outskirts of the marshes of Amara became acute after 1953.⁽²⁾ He also found that about a third of the Albu-Mhammad tribe, whose members constitute the largest proportion of rice cultivators in the region, left rice cultivation in the marshes between 1953 and 1956 because of the feudal conditions in the area. W. Thesiger, visiting the Amara region in 1956, mentioned also how the cultivators and their families particularly from rice producing areas, left for Baghdad in hundreds and thousands with their necessary things by lorries or buses, for they had no intention of returning to their villages.⁽³⁾

The period covered in this thesis was, in fact, the period in which the contrast between the socio-economic conditions of the dwellers in Amara and Baghdad was at its worst and the rural exodus from Amara reached its peak. Also, it was the period in which the impact of the cultivators' movement on the economy of the region and the country as a whole became clearer than in the previous decades. However, only a little was done to deal with this problem in this period and most of the work was concerned either with the problem of migration in Iraq as a whole or on its impact upon Baghdad.⁽⁴⁾

6.2 MIGRATION DURING 1955 - 1964.

It is not easy to examine this problem with the available data. In Iraq, as in most developing countries, the demographic statistics are either very scarce or unreliable. One difficulty is simply how to define the migrant. Is he any person who moves across the boundary of an areal unit within a specific period or is he a person who travels ?. But neither all travellers nor every one who crosses the administrative boundary is a migrant. Also, is there a minimum period of residence necessary for the traveller to be classified as a migrant or is the change of occupation sufficient criterion for this purpose ?. It is difficult also to fill in the gaps by analogy since some of the laws governing migration in Iraq and other countries differ to some extent. Nevertheless, the migrant from Amara can be defined, roughly for the purpose of this study, as any person who was born in Amara and today lives permanently in Baghdad.

6.2.1 Population Data and Rate of Migration:

The question arises as to the scale of migration over the period under discussion. It will be seen in the next chapter that migration had had a considerable effect on agricultural production while in chapter eight the impact of migrants on Baghdad is implied. It is a matter of opinion as to whether the estimated total number of migrants which is discussed in this chapter is great or surprisingly small, many examples could be found of larger migrations, but it is doubtful whether many regions have been so markedly affected by the phenomenon as Amara.

Before the first general census of population in 1947, there were only estimates of population from 1867 made at intervals made by different authorities. But, the estimates of

population for the period 1919-1965 are the most interesting because they include the figures for Amara during the British Administration and until the present time. The 1919 estimate by the British administration, assessed the total population of Iraq to be about 2,849,000, excluding the nomads and military personnel.* The total population of Amara was estimated at about 300,000. (5)

In 1930, Sir Ernest Dowson estimated the total population of Iraq at 2,824,000 and the total population of Amara at 238,000. (6) This suggests a decrease of about 62,000 persons in the population of Amara since 1919. The Iraqi population was classified in this estimate into two categories, the nomadic and the rural population. The latter was in turn sub-divided into another two groups, the settled population and the tribal. The total of the nomadic people was 234,000, while totals of those settled and tribal groups were 895,000 and 1,351,000 correspondingly. The total settled population in Amara was only 36,000 whereas the tribal was 202,000 or about 85 percent of the total population.** In this year also, the density of population in the cultivated area of Amara was 36 persons per sq.km.

An enumeration was also carried out by the Directorate of Census in 1935, but the data was not tabulated or published. The population of Iraq was about 3,213,000 excluding the nomads whilst the population of Amara was about 236,000, so that the total seems to have decreased once again since the previous estimate.

* Before 1919, the total population of Iraq was estimated in 1876 as 1,280,000, in 1890 as 1,726,000 and in 1905 as 2,250,000 persons.

**The settled population, in fact, constituted the town dwellers, while the tribal population represented the country dwellers.

However, the general census of 1947 can be considered the first systematic official census. But, it also did not cover both the settled and nomadic tribes and Iraqi nationals abroad. Some of the officials estimated the unregistered population at about a million, so that the results of the census of 1947 were very inaccurate. The population of Iraq was put at 4,826,185 of which 53.2 percent were females and 46.8 percent males. According to this census the total population of Amara was 307,021.

The general census of 1957 was, in fact, the most successful census in Iraq. The total population of the country had increased to 6,538,109 of which about 50.4 percent were male and about 49.6 percent female; while the total population of Amara was 329,840 persons (Table 6.1).

Finally, in 1965 a new general census of population was made by the Directorate General of Civil Status. The preliminary result showed that the total population of Iraq was 8,261,527 of which the males constituted 50.9 percent. The total population of Amara had increased only slightly over that of 1957 to about 346,663, of which 174,963 were males and 171,700 females.

In addition to the general population census and estimates of population some information can be obtained from other estimates and censuses published or compiled by different government departments. The most important of these sources are the Statistical Abstracts, published annually by the Central Bureau of Statistics in the Ministry of Planning; information published in other publications such as the Agricultural and Livestock Census of 1952/53 and 1958/59 issued by the Central Bureau of Statistics and the Bulletin of Civil Status issued by the Directorate General of Civil Status, and finally, the Monthly Books of Statistics, particularly those concerning the migration records and the population of sub-administrative units. These unpublished data are

TABLE 6.1

POPULATION OF AMARA BY TOWNS AND RURAL AREAS, 1957 (PERCENT).

Sub-administrative unit.	Town dwellers	Rural dwellers	Total	
			Male	Female
<u>AMARA QADHA</u>				
Amara Qadha Centre	85.6	14.4	51.0	49.0
Kumait Nahia	10.4	89.6	47.9	52.1
Msharrah Nahia	10.4	89.6	47.8	52.2
<u>QALAT SALIH QADHA</u>				
Qalat Salih Qadha Centre	23.8	76.2	50.3	49.7
Kahla Nahia	6.9	93.1	48.5	51.5
Mijar Al-Kabir Nahia	17.5	82.5	50.3	49.7
Misan Nahia	11.8	88.2	49.5	50.5
<u>ALI AL-GHARBI QADHA</u>				
Ali Al-Gharbi Qadha Centre	22.4	77.6	47.1	52.9
Shaikh Sa'ad Nahia	26.4	73.6	47.3	52.7
*Ali Al-Sharqi Nahia	-	-	-	-
<u>MAIMOUNA QADHA</u>				
and Al-Salam Nahia	2.3	97.7	49.0	51.0
Total	25.3	74.7	49.2	50.8

SOURCE:

Calculated from Ministry of Interior: Directorate General of Census : Statistical Abstract of the Population Census of 1957. Amara and Basra Provinces. Al-Tamadun Press, Baghdad, 1962. pp. 14-24.

* Figures of this sub-administrative unit are included with these of Ali Al-Gharbi Qadha Centre because it was a part of it in this year.

compiled and kept by the Directorate General of Civil Status.

Although all the above source materials are official and derive the population data almost entirely from one major office, the Directorate General of Civil Status, many discrepancies can be found between them. The most obvious example of these discrepancies is that related to the estimates of the total of migrants from Amara. According to the Agricultural and Livestock Census of 1958/59 the total number of cultivators who left Amara in 1957 was only 8,675;⁽⁷⁾ while the total of migrants from Amara was estimated by an official at about 85,000 between 1947-1957, and was only 49,304 persons between 1955-1964 in the Statistical Books of the Directorate General of Civil Status (Table 6.2), although it is obvious from other sources that the movement of rural dwellers from Amara intensified during this decade. The Ministry of Housing, for example, estimated in 1960 the number of migrants in the shanty towns of Baghdad to be around 400,000 and about 80 percent of the shanty dwellings were occupied by those who emigrated from Amara.⁽⁸⁾ More evidence of the acceleration of emigration from Amara is that in 1959 the General Military Officer in Iraq issued a confidential proclamation to the governors of the provinces telling them that the migration of cultivators to Baghdad, from (Amara) in particular, had increased. Furthermore, the population of Baghdad grew at a higher rate between 1947 and 1957 than the total population of Iraq as a whole, due chiefly to the rural influx. The total population of Iraq increased in the decade 1947-1957 by 31.5 percent, while the total population of Baghdad increased by about 61 percent.*

* In 1947 the total population of Amara constituted 6.4 percent of the total population of Iraq, but this proportion decreased to 5.1 percent in 1957 and to 4.2 percent in 1965. On the contrary, Baghdad's proportion of the total population of Iraq increased from about 17 percent in 1947 to about 21 percent in 1957 and to about 26 percent in 1965.

TABLE 6.2.

POPULATION OF AMARA AND NUMBER OF EMIGRANTS 1955 - 1964.

YEAR	TOTAL POPULATION		TOTAL MIGRANTS
	Published ^(a) by Central Bureau of Statistics.	Estimated ^(b) by Directorate of Civil Status.	Estimated by ^(c) Directorate General of Civil Status.
1955	309,247	307,062	2,648
1956	310,141	310,264	3,236
1957	329,840	322,881	3,587
1958	330,510	325,893	4,330
1959	335,209	329,028	12,373
1960	339,799	339,501	9,819
1961	337,350	347,162	2,467
1962	336,763	348,875	5,659
1963	337,314	352,577	3,787
1964	338,975	351,625	1,398
TOTAL			49,304

SOURCE:

(a). Ministry of Planning, Central Bureau of Statistics : Statistical Abstracts, 1955-1964.

(b & c). Ministry of Interior, Directorate General of Civil Status: Monthly Statistical Book of Amara, No.14 1955-1964 (Unpublished).

The discrepancy in figures of the migration may be due to the principles upon which they are compiled. The figures which are available chiefly in the unpublished Statistical Books are based chiefly on the change of the present place of residence. This basis, however, is difficult to rely on because although people should inform the Census Offices when changing their place of residence they rarely do, except when compelled. Furthermore, the length of the period for qualification as a permanent resident in the city differs greatly; so that people have an indefinite time in which to inform the local authorities. In some cases a large number of rural dwellers moved secretly from Amara and in other cases the movement of rural migrants was not directly to Baghdad but some of the migrant families remained for a considerable time in other places "stepped migration" before proceeding to the city. Consequently, it is difficult to determine the time-lag between departure and arrival. Since the bulk of migrants in Baghdad from Amara have a reputation for poverty they are not inclined to mention their place of origin. Some of the interviewed migrants, for instance, mentioned places in Amara but claimed to come from other provinces in southern Iraq.

In addition to the official figures of migration from Amara during the decade 1955-1964, the total number of emigrants from Amara and immigrants to Baghdad was estimated from the difference between the annual natural rates of increase in Iraq and those in Amara and Baghdad during the intercensal period, 1957-1965. According to U.N. Demographic Year Books of 1964 and 1965 the natural rates of increase were 2.8 percent and 1.7 percent for the periods 1947-1957 and 1958-1964 respectively.⁽⁹⁾ The U.S. Department of Agriculture put it at 2.5 percent in 1965,⁽¹⁰⁾ while K. Haseeb quotes 1.9 percent between 1947 and 1957.⁽¹¹⁾ However by using a formula of the

compound rate of increase,* the average annual percent rate of population increase was calculated for Iraq, Baghdad and Amara as follows:

	Population at the end of 1957.	Population at the end of 1965	Compound annual rate of increase (percent)
Iraq	6,538,109	8,261,527	3.00
Amara	329,840	346,663	0.63
Baghdad	1,306,604	2,124,323	6.30

Since there was no reason such as abnormal changes in fertility, mortality or the trend of population movement which would make the above annual rates of increase invalid for the period before 1957, they can be used to cover all the period under investigation from the beginning of 1955 and the end of 1964. Thus, the difference between the expected population and the actual population in Amara and Baghdad was calculated as follows:

	Expected population at end of 1964(calculated by the national rate of increase 3 percent)	Actual population at end of 1964.	Difference
Amara	436,000	344,660	-91,340
Baghdad	1,466,000	2,003,913	+537,913

*

$$r = \left(\frac{P_1}{P_0} - 1 \right) \times 100, \text{ or } P_1 = P_0 (1+r)^t \text{ where :}$$

P₀ is the population at the end of 1957. P₁ is the population at the end of 1965. t is 8 (years between 1957 and 1965). r is the annual percentage rate of change.(12)

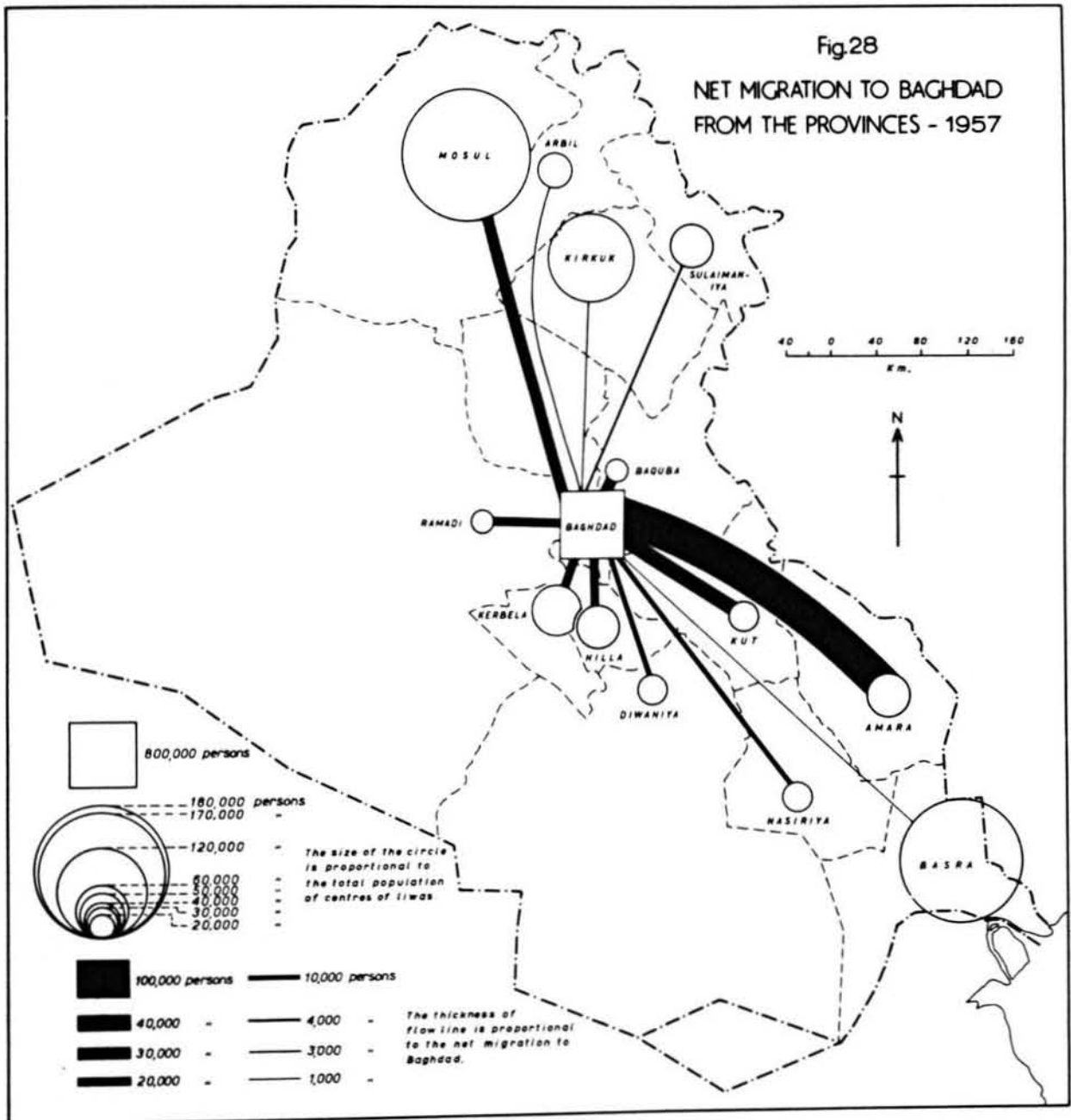
It is clear that the actual total population of Amara at the end of 1964 was less than the expected population by about 91,000 people. This figure represents the number of people who should be found in Amara at the end of 1964 but supposedly have migrated during the studied period. On the other hand the actual population of Baghdad at the end of 1964 was higher than the expected total population by about 538,000 persons. This surplus total represents the people who supposedly have migrated to this area from outside between the beginning of 1955 and the end of 1964.

Further evidence of the large scale migration from Amara can be seen from the fact that of the 501,554 persons living in Iraq in 1957, who were born in Amara, 171,714 persons or about 34 percent were living in other provinces. Of the 171,714 migrants from Amara about 67 percent were living in Baghdad and about 25 percent in Basra, 92 percent in these two places. The migration to Basra can be explained by its proximity to Amara, the demand for labour in the date industry, the port and the oil industry. Those who were born in provinces other than Amara and living in Baghdad constituted only a small proportion, except those from Kut province (Fig. 28). Even so the majority of the migrants apparently from Kut were in fact originally from Amara itself engaged in some kind of stepped migration.

According to the various estimates discussed above, it appears that the total number of migrants during 1955-1964 was between about 49,000 and about 91,000. To the present writer the most appropriate and reasonable figure seems to be not less than 80,000 persons. At the same time it must be kept in mind that movement of population from Amara has been continuous since the early decades of this century. The total population of Amara which was estimated at about 300,000 people in 1919, increased to only 347,000 in 1965, a very low average increase of about one thousand

Fig.28

NET MIGRATION TO BAGHDAD
FROM THE PROVINCES - 1957



persons per annum during 46 years. If the total of migrants during the period preceding 1955 is to be considered the total number of people who left the region would, therefore, obviously be considerable. However, what is more important than the bare total number of migrants is the remarkable impact of the movement locally, nationally and in the capital city.

6.2.2 Migration Trends :

It is difficult to identify the trends of migration from Amara which was not uniform or regular in 1955-1964. It included both sexes in various rates and involved all parts of the region in various degrees (Figs. 29 and 30). However, the course of migration year by year is interesting since it shows the changing balance of both "push" and "pull" factors in both Amara and Baghdad.

It is clear from (Table 6.2, Fig 30 and Appendix K) that there has been a continuous increase in the rate of migration since 1955. In this year and in 1956 the movement of rural dwellers began on a large scale not only because of the normal motives of migration in Amara and the attractiveness of Baghdad, but it followed also the failure of the 1952 and 1955 measures of the government to solve the acute problems of the land tenure system in the region and resulted from the catastrophic flood of the Tigris river in 1954. During the flood season of this year almost all the winter crops were damaged and the high water which lasted throughout the summer prevented the sowing of summer crops especially rice in the marshy lowlands. As a result the normal exodus of cultivators intensified because they lost both confidence in the land reform measures and their cultivated crops.

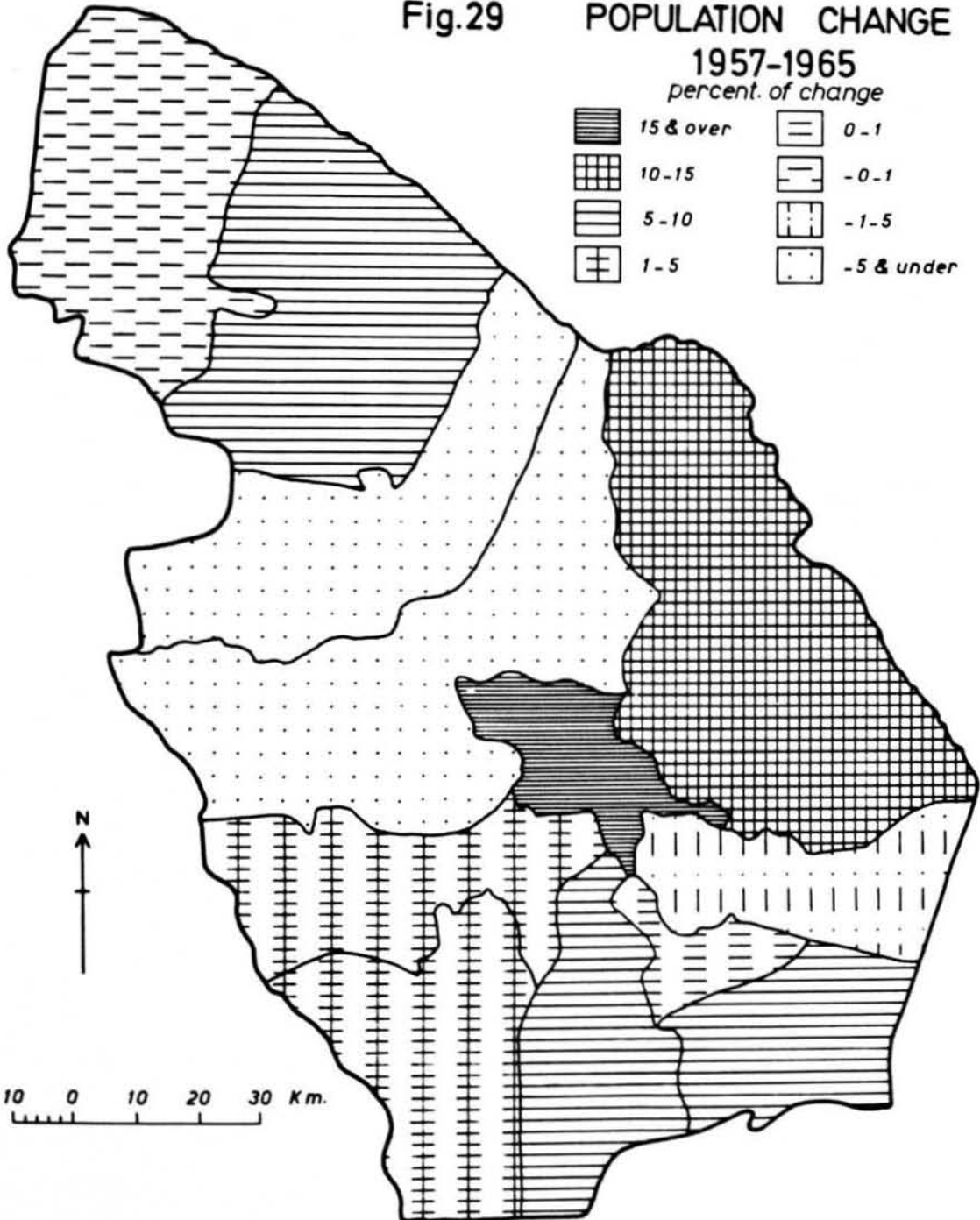
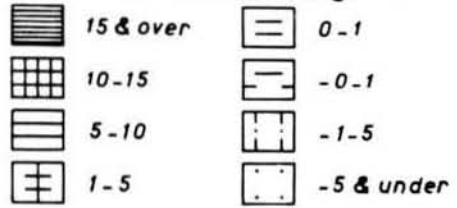
In 1957 and 1958 the migration continued on a larger scale and the total number of migrants in 1958 almost doubled that of 1955. But the high tide of the migration was reached in 1959, when

Fig.29

POPULATION CHANGE

1957-1965

percent. of change

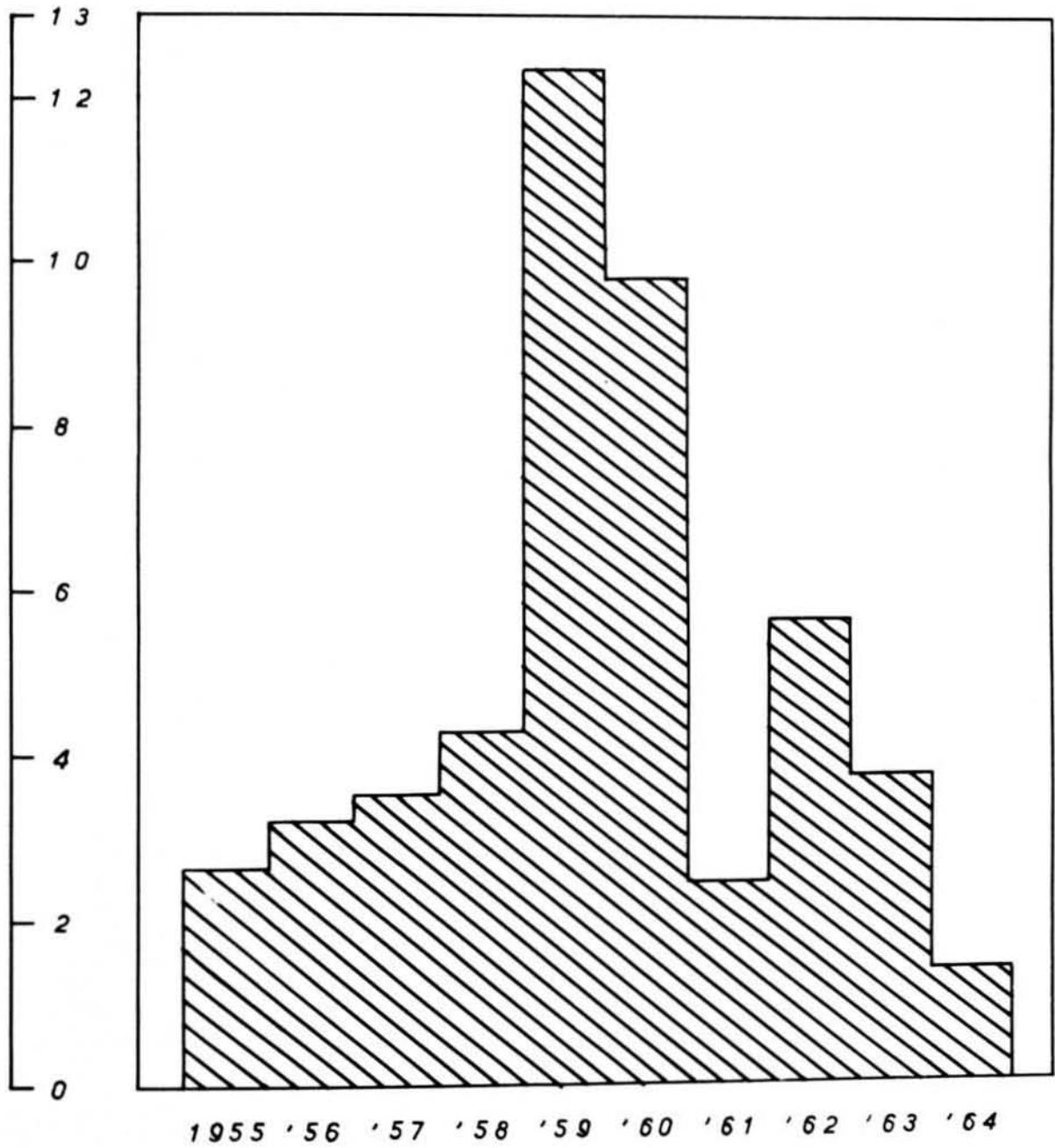


the number of migrants rose by more than five times in the five year period since 1955. This was, moreover, the first and highest peak of migration from Amara in the period 1955-1964. It followed, in fact, rumours of new economic and social development projects in Baghdad to help the shanty dwellers and poor people in the city during 1958 and after. Thousands of rural inhabitants from the Amara region moved to Baghdad hoping to enjoy higher incomes from the new employment opportunities and to escape from the miserable socio-economic standards in their villages. The summer crop, especially rice, failed that year, and the failure in turn contributed to the acceleration of the mobility of cultivators. What is more important is that this swift current of migration in 1959 took place just after the declaration of the law of agrarian reform at the end of September, 1958. One of the Law's major aims was to stop the exodus of cultivators from the country-side, but since the application of this project was going on very slowly and the poor cultivators in Amara expected a total improvement of their acute problems in a very short time, they also lost their faith in the agrarian reform and began to leave their villages. At this stage the increasing number of migrants in Baghdad constituted in turn a strong attracting factor in Baghdad for their relatives and friends who were still living in Amara.

On the other hand in 1959 and 1960 the government, seeing the country facing economic troubles because of the deterioration of agricultural production, took many urgent steps to reduce the scale of migration from rural areas. In the first place, the Ministry of Agrarian Reform began to let, temporarily to the cultivators, the confiscated land and the state land in Amara, against a small proportion of the annual yields. Moreover, it supplied the cultivators with long term and interest free agricultural loans. Finally, it installed a large number of irrigation pumps in cultivated

Fig. 30

NUMBER OF MIGRANTS FROM AMARA
1955-1964 (000 persons)



areas and provided the cultivators with the necessary equipment, machines and seeds with plans to establish agricultural cooperative societies.

As a result of these measures, the number of emigrants fell in 1961 to about 20 percent of that in 1959. However, the decline of the rate of migration in this year was, unfortunately only temporary, because a new wave of migration started again and reached the peak in 1962. This new movement was on a smaller scale than the previous one, as the total of migrants rose only to about twice that of 1961, and also lasted for a shorter time. In addition to the slow process of land distribution to the landless cultivators and the little attention given by the agrarian reform authorities to land distribution in Amara as in the previous years, some other factors help to explain this tide of rural movement. The weakness of the official agricultural administration and supervision in the newly rented lands had a very great effect upon agricultural production in the region. The Ministry of Agrarian Reform, which is at present the owner of all land in this region and in Iraq as a whole according to the agrarian reform law of 1958, could not supervise the whole of these vast land with her existing administrative and technical powers. Many problems arose in rural areas among the cultivators themselves, because of the inadequate and insufficient management which was previously in the hands of landholders and their agents. Furthermore, by contrast with the situation in rural Amara, the centripetal forces in Baghdad were intensifying; many housing schemes and new settlement projects, for instance, were being executed in this city, for poor classes and rural migrants in particular. People in Amara who were always looking for something better left for Baghdad.

Under the pressure of the increasing number of migrants from Amara, the government in 1962 and 1963 applied further and probably more efficient and tough measures to deal with the migration, in addition to the plans which had been introduced in the previous years to help the cultivators and the application of the land reform. One of these new measures was to prevent the movement of rural dwellers, from Amara in particular, to Baghdad by all means, even by use of the army and police. Another measure prohibited the erection of serifa and Kukh camps anywhere within the boundaries of Baghdad. Consequently, by 1964, the rate of migration from Amara fell greatly to about one fifth of that in 1962 (Table 6.2, and Fig.30).

It is clear from table 6.2. that although considerable differences exist in the official estimates of migration from one year to another and although the total number probably may be underestimated by as much as 35 percent the figures taken year by year probably reflect the general trends quite faithfully.

6.2.3 Migrants Activities by Occupations:

The sub-administrative units of Amara province differ greatly both in size and total population, and thus the density of population differs too (Table 6.3). The most densely populated areas are those in the southern part of the region where paddy rice cultivation usually dominates and more water for irrigation is available, while the northern semi-arid

parts are sparsely population and the inhabited areas are confined to the Tigris river valley and the few small irrigation canals (Fig 17). The absolute density in Kahla and Mijar Al-Kabir in the southern part, for instance, is about 45 persons and 38 persons per sq.km. respectively, whilst it is only about six persons and ten persons per sq.km. in the northern units of Shaikh Saad and Ali Al-Gharbi correspondingly.

Although about three quarters of the total population of Amara are rural the proportion of town dwellers and rural people differs also, from one sub-administrative unit to another (Fig 31). The rural inhabitants in Maimouna and Kahla constitute about 98 percent and 93 percent of the total population but they constitute only about 14 percent in the Amara Qadha Centre. However, the density of population in different parts of Amara shows also great discrepancies. The densities in the southern parts of Amara and along the five major irrigation canals, where the largest proportion of cultivated land is concentrated, are higher again than in the ~~northern~~ sub-administrative units where aridity and the need to raise water from river level discourage large scale agriculture (Fig. 32). The proportion of country dwellers in Maimouna, for instance, is about 98 percent of the total population, but it is about 74 percent of the total population in Shaikh Saad.

Fig. 31

RURAL POPULATION
PERCENT OF TOTAL POPULATION
1957

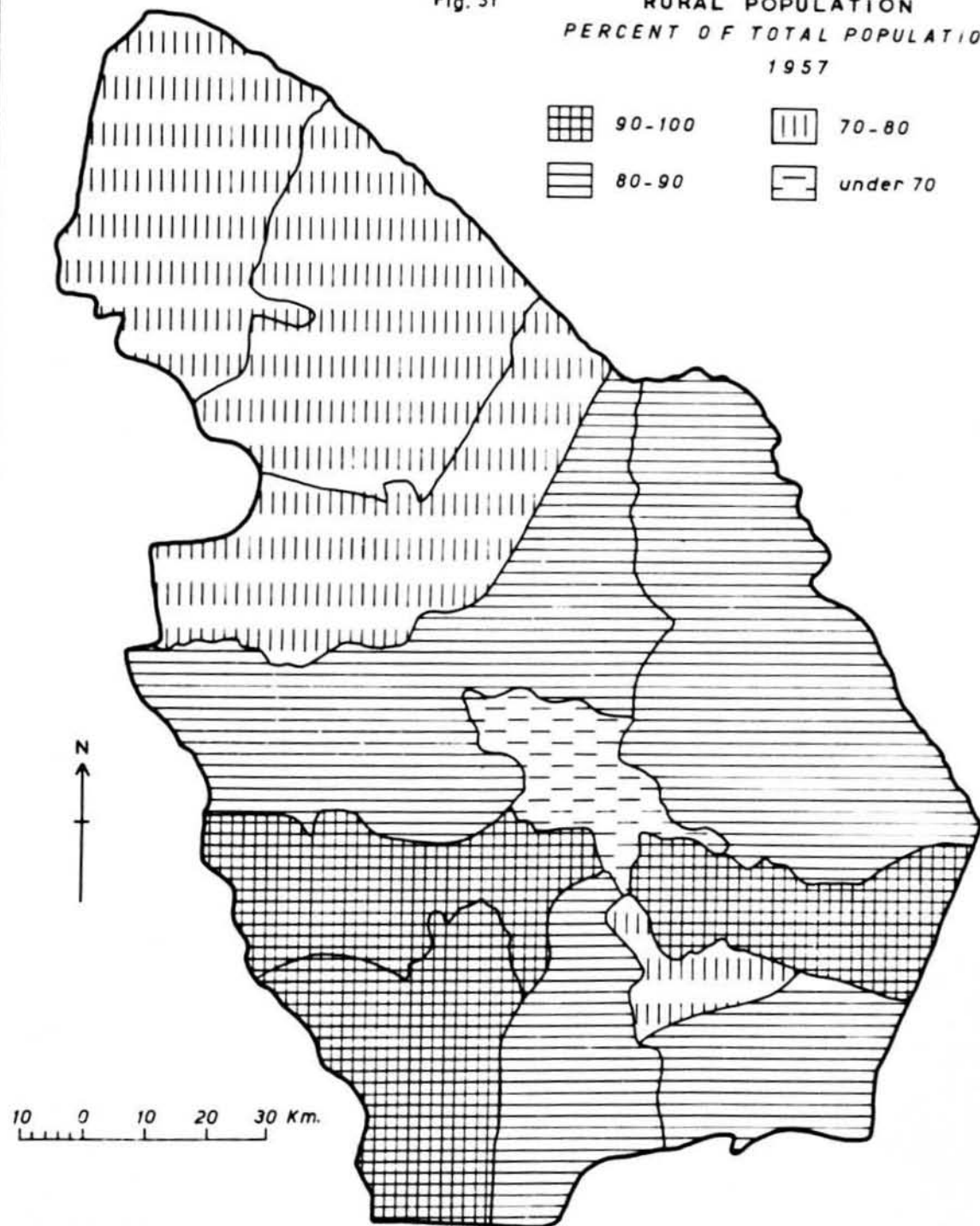
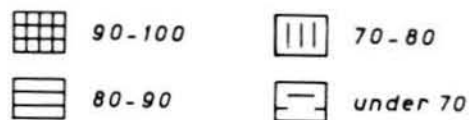
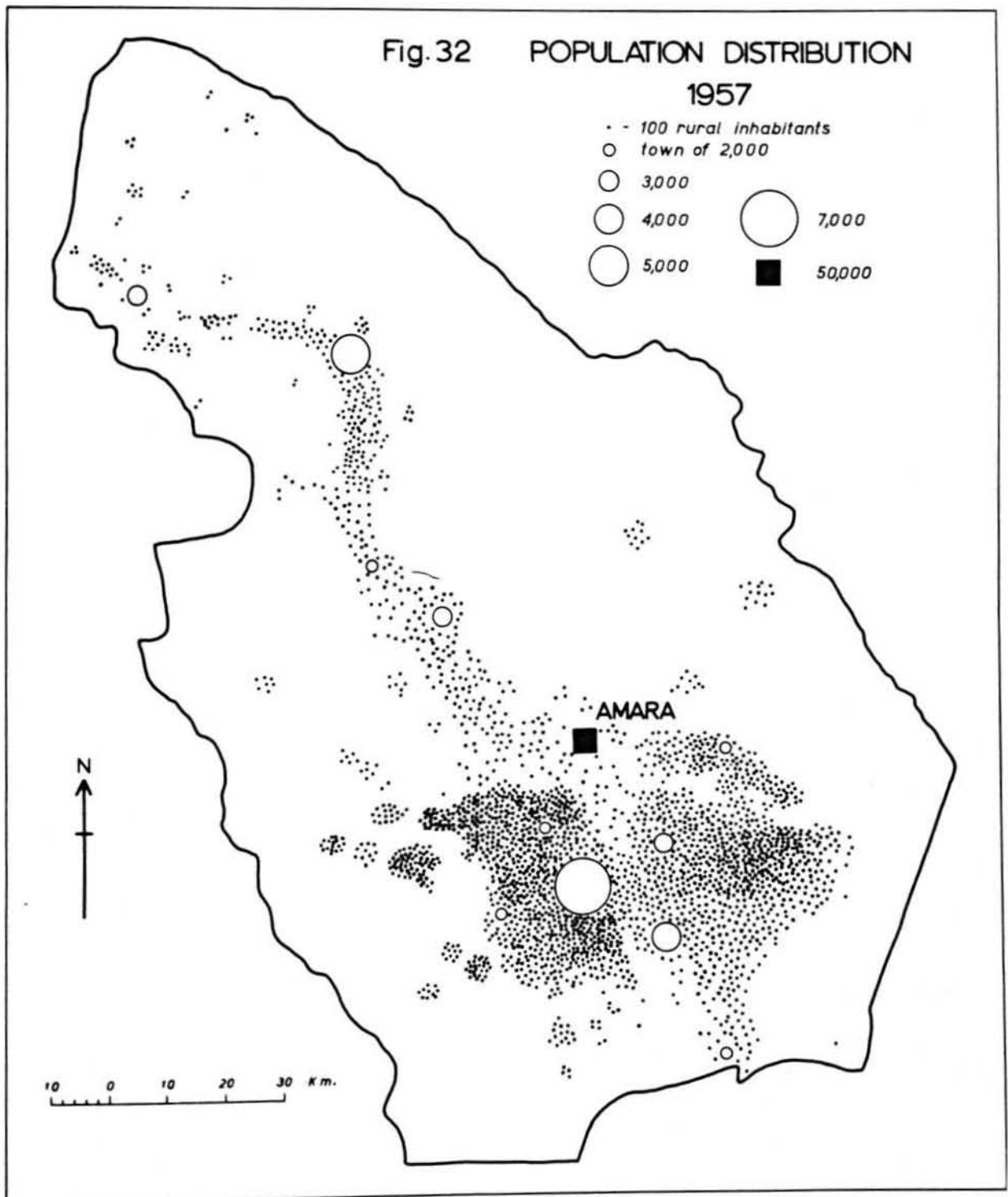


TABLE 6.3.

DENSITY OF POPULATION IN AMARA BY SUB-ADMINISTRATIVE UNITS.

Sub-Administ. U.	1957 and 1965. (PERSON PER SQ. KILOMETRE)	
	1957 ^(a)	1965 ^(b)
<u>AMARA QADHA</u>		
Amara Q. C.	94.5	118.1
Kumait N.	7.3	8.1
Msharrah N.	8.8	5.8
<u>QALAT SALIH QADHA</u>		
Qalat S.Q.C.	-	-
Kahla N.	44.9	43.6
Mijar Al-Kabir N.	37.5	40.9
Misan N.	13.9	14.7
<u>ALI AL-GHARBI Q.</u>		
Ali Al-Gharbi Q.C.	9.7	6.4
Shaikh Saad N.	6.2	6.1
Ali Al-Sharqi N.	-	4.5
<u>MAIMOUNA QADHA</u>		
and Al-Salam N.	31.1	32.2
Total	18.4	14.3
<p><u>SOURCE:</u></p> <p>(a) See <u>Table 6.1</u>, pp. 14-24.</p> <p>(b) Directorate General of Civil Status : <u>Preliminary Results of the Population Census</u> <u>of 1965. Unpublished.</u></p>		

Fig. 32 POPULATION DISTRIBUTION
1957



The areal distribution of the interviewed migrant families shows, also, that a high proportion of these families came from the centres of the sub-administrative units, Amara Q.C., Ali Al-Gharbi Q.C., and Qalat Salih Q.C. This is due very probably to the geographical location of these areas which encourages closer contact with the rest of the country, particularly Baghdad and Basra, than the more remote sub-divisions. The town centres of all Qadhas, except that of Maimouna Qadha, are located on the main road between Baghdad and Basra (Fig. 9). They are, at the same time, the most important river ports on the Tigris between Kut and Basra. Besides, Ali Al-Gharbi town is an important holy place which attracts a large number of people from other parts of Iraq every year and the dwellers of these areas have established strong economic and social relations with the neighbouring areas, especially Baghdad and Basra, for decades. These relations, which helped them to be in close contact with almost all aspects of life in these big cities, made their emigration to them much easier. The number of interviewed migrants from the Maimouna Qadha was smaller than that from the above three units, because of its remoteness from the major roads which lead not only to the big urban centres in central and southern Iraq, but also to other parts of Amara. In addition communication is difficult even between one part of this Qadha and another since the marshes cover a large proportion of its area and it is surrounded by either arid lands or marshy areas of the adjacent provinces. This explains also why almost all the population, in this sub-administrative unit are rural dwellers, whilst town dwellers constitute about two percent of the total population. On the other hand, since the number of town dwellers in the above three Qadhas is higher, it is natural to find the number of migrant cultivators smaller than in Maimouna and other

units where the rural dwellers constitute the bulk of population. The number of cultivator families from Amara Q.C., for example, was only about 41 percent of the total interviewed families, while those from Maimouna and Mijar Al-Kabir constituted 96 percent and 86 percent of the total interviewed families respectively.

Nevertheless, the majority of the migrants were cultivators. Migrant cultivators constituted about 81 percent of the total interviewed families (Table 6.4). If the livestock keepers and the landholders' agents who constituted about eight percent of the total interviewed families are to be included, the proportion will equal those working in agriculture in Amara. Table 6.4. shows that apart from cultivators, migrants had previously been urban labourers, policemen, students, merchants, shop keepers, fishermen and religious men.

It is clear, therefore, that the migration included people of different occupations and with almost the same proportions of these professions as in the place of origin itself. In other words, the conditions in Amara had become unbearable and unprofitable not only for the majority of the population, the cultivators, but for almost every other sector of rural dwellers. This was due to the fact that each of the above groups was dependent on the others. The landholders for example, could not stop their cultivators from leaving the land and could not in turn cultivate large areas because of labour shortage in their holdings. It was true that some of them started to use machinery such as ploughs, cultivators and harvesters, but only on a small scale and mainly in the semi-arid lands. The total yield of crops began to decrease and cultivation was no longer profitable for all partners. Those who engaged in other professions such as shop keepers, traders and labourers had been forced also to leave this region since the cultivators constituted the bulk of their customers.

TABLE 6.4.

INTERVIEWED MIGRANT FAMILIES FROM AMARA BY TYPE OF OCCUPATION,
OF HEAD OF FAMILY (PERCENT OF TOTAL FAMILIES)

OCCUPATION	PERCENT
Cultivator	81.0
Livestock keeper	2.7
Sub-tribal chief (sirkal)	5.1
Landholder and Shaikh	3.1
Worker	3.1
Policeman	1.6
Merchant	1.0
Shop keeper	0.7
Religious man	0.7
Student	0.7
Fisherman	0.3
Total	100.0
<u>SOURCE:</u> <u>Interviews in Baghdad (1964)</u> <u>(See Appendix A Quest.4).</u>	

6.2.4 Motives and Patterns of Migration:

The previous chapters showed the major influences under which the rural dwellers of Amara, generally, were compelled to emigrate. Such factors were usually those related not only to the physical environment of the region but to the depressed standards of income, housing, education and health, and to the strong centripetal forces in Baghdad. However, a discussion of the motives of the interviewed migrant families will throw more light upon these factors and show that the rural inhabitants of Amara emigrated possibly to earn more money, but also to gain access to a wider range of social facilities.

The low economic status of the rural people in Amara was, however, the most important factor contributing to their emigration. The proportion of families who migrated for employment prospects and to improve their standard of living in Baghdad was about 51 percent of the total interviewed (Table 6.5). It is quite usual for the monthly income of the newcomer in Baghdad to equal or even exceed his annual income in Amara. Other families, about 9 percent of the total interviewees migrated for other economic reasons such as when the head of the family had either entered government employment in the new place, particularly as military personnel, or was transferred in the course of the job.

Although the proportion of the interviewed migrant families who left their villages for social and psychological factors (34 percent), was lower than that of those who left due to economic causes, the proportion clearly shows great discrepancies in social welfare between Amara and Baghdad, making the latter very attractive to the rural inhabitants.

TABLE 6.5.

INTERVIEWED MIGRANT FAMILIES FROM AMARA BY MOTIVES OF EMIGRATION
(PERCENT OF TOTAL FAMILIES)

MOTIVE	PERCENT
Better employment and income	51.2
Better social services	33.6
Military service/transferred on the course of the job.	9.2
Health reasons	1.0
Tribal conflicts at home place	1.6
More recreation facilities in Baghdad	1.6
To escape from relatives	1.0
For study	0.7
Total	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

The influence of relatives and friends, or the former migrants in Baghdad, played a great role in the movement of rural people. They provided the dwellers in their original villages with up to date information concerning various aspects of life in the big city. Although, of course, some of them exaggerated this information, they told the poor rural inhabitants much about social advancement and the comparatively easy and comfortable life in Baghdad. Most of the interviewed migrants pointed out that according to this information they were led to believe that money is found in the streets of Baghdad, cheap foodstuffs, new houses supplied with purified water and electricity are available for them. The strong relationships and

constant contact between the rural migrants in Baghdad and their relatives or friends in Amara reflect the real bond between members of a tribal society.

A minority, three percent, migrated in order to be separated from their families and relatives, but such cases are rare in a tribal society. At the same time since the tribal system prevails in rural society and its rules are almost the only laws, many troubles and disputes arise between tribesmen which in turn force some of them to escape from their villages to achieve at least their security in towns. However, about two percent of the interviewed migrants left the region for such reasons (Table 6.5).

Other reasons were given for migration such as those related to defects of climate, natural catastrophies and in a few cases even to personal fancy. The migrants believed the climate of the new place to be more healthy than that of their villages where the hot and humid weather was harmful and unhygienic particularly for their children. The outbreak of livestock diseases was another factor which forced some families, especially the marsh dwellers, to leave their homes. Furthermore, since the state took over all kinds of land in the region, the landholders, who could not find sufficient labour for their holdings, moved also to the urban areas looking for jobs, and naturally their agents and followers moved after them, because they lost their jobs and influence in rural areas too. Although it seems unlikely a few young heads of families claimed that the main reason for moving was the better entertainment available in the capital (Table 6.5).

Although some of the rural migrants from Amara spend a certain period in Kut, which is mid-way between Amara and

Baghdad, the majority usually go directly to Baghdad, a distance of about 400 km. usually by lorry but sometimes on foot. The migration from Amara might be distinguished from that in some other developing countries, for it is not a floating migration with the migrants wandering from one town to another before settling down. In Brazil, for instance, the rural migrants move first to small cities and then to big ones, and in Delhi not less than 65 percent of the migrants have tried their luck in from six to fifteen other towns or even more.⁽¹³⁾ The migration from Amara also differs from that in the United Kingdom in the past century, where, as E. Ravenstein pointed out, the migrant, in search of work wandered from parish to parish settling down at each place for a time until he found himself far away from the place from which he originally started.⁽¹⁴⁾ Nor is a reverse migration practised as in most African countries south of the Sahara, where the migrant goes back to his village after a certain time, but it is a permanent migration except for short visits to relatives in Amara. More than 80 percent of the interviewed families declared that they would never go back to their home villages or any part in Amara in any circumstances.

However, the interviewees in Baghdad included the families who migrated as a whole with their leaders, the families who migrated after their leaders and the single males. The difference from one case to another depends upon various elements. The complete migrant families, where all members moved together at the same time to Baghdad, composed about 80 percent of the total interviewed families (Table 6.6). This type of movement is very rare in other Asian and African countries, where migration of single males is most common. However, the migration of complete families accounted because of the customs whereby the head of the

TABLE 6.6.

INTERVIEWED MIGRANT FAMILIES FROM AMARA BY STATE OF EMIGRATION
(PERCENT OF TOTAL FAMILIES)

STATE OF MOVEMENT	PERCENT
Complete families	79.7
Families following their heads	11.9
Single males, married in Baghdad	8.4
Total	100 .0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

family could collect the essential information about life in the town from his relatives or close friends, particularly concerning accommodation and work. Some civil or military employees were appointed or transferred to Baghdad and they naturally went with their families. It included also those families who endured very depressed socio-economic standards and had no relatives in rural villages to look after them if their heads emigrated. It is significant that many families migrated together simply because they resolved never to return to Amara under any circumstances. Occasionally tribal troubles provided a real incentive for them to migrate permanently.

The families who followed their heads from Amara to Baghdad constituted about 12 percent of the interviewed migrant families (Table 6.6). The movement of these families took place in the following cases; when the family's head had insufficient knowledge about the new place either because he had no friends there, or he lived in remote marshy or arid areas; so that he

usually migrated alone to make full personal investigations of various aspects of Baghdad. This category of families migrated when their socio-economic status was reasonable or when the head of the family had some relatives to look after it while he was living in Baghdad. The head of the family also emigrated alone if he was a government employee who was transferred to or found a better job in Baghdad, but his income was insufficient at first to fulfil the family's needs. As soon as his income improved he sent for his family.

Sometimes the head of the family came to Baghdad on a short visit to his relations, but finding some aspects such as a better job were attractive in the city, in most cases he settled down and sent for his family.

The last group of interviewed migrant families were composed of single males, who constituted the smallest proportion or about eight percent of the total interviewed migrants (Table 6.6). This group consisted of those who moved to the new place for unspecific reasons and stayed for a long time. In such cases they mostly married in Baghdad and settled down. This group also included the single person who migrated to marry one of his relations in Baghdad. This case was quite common among migrants since marriage with relatives is preferable according to the tribal customs. Sometimes the single males had run away from Amara because of both tribal or private troubles, and they usually settled down in Baghdad, since they could not go back to their villages. Finally, many single persons migrated after the death of their relatives in Amara, since they had no reasons to stay in their home villages. The group included also those divorced males who, according to the tribal traditions, could not stay in their tribal community and were forced to leave for a new place.

6.2.5 Population Composition and Migration:

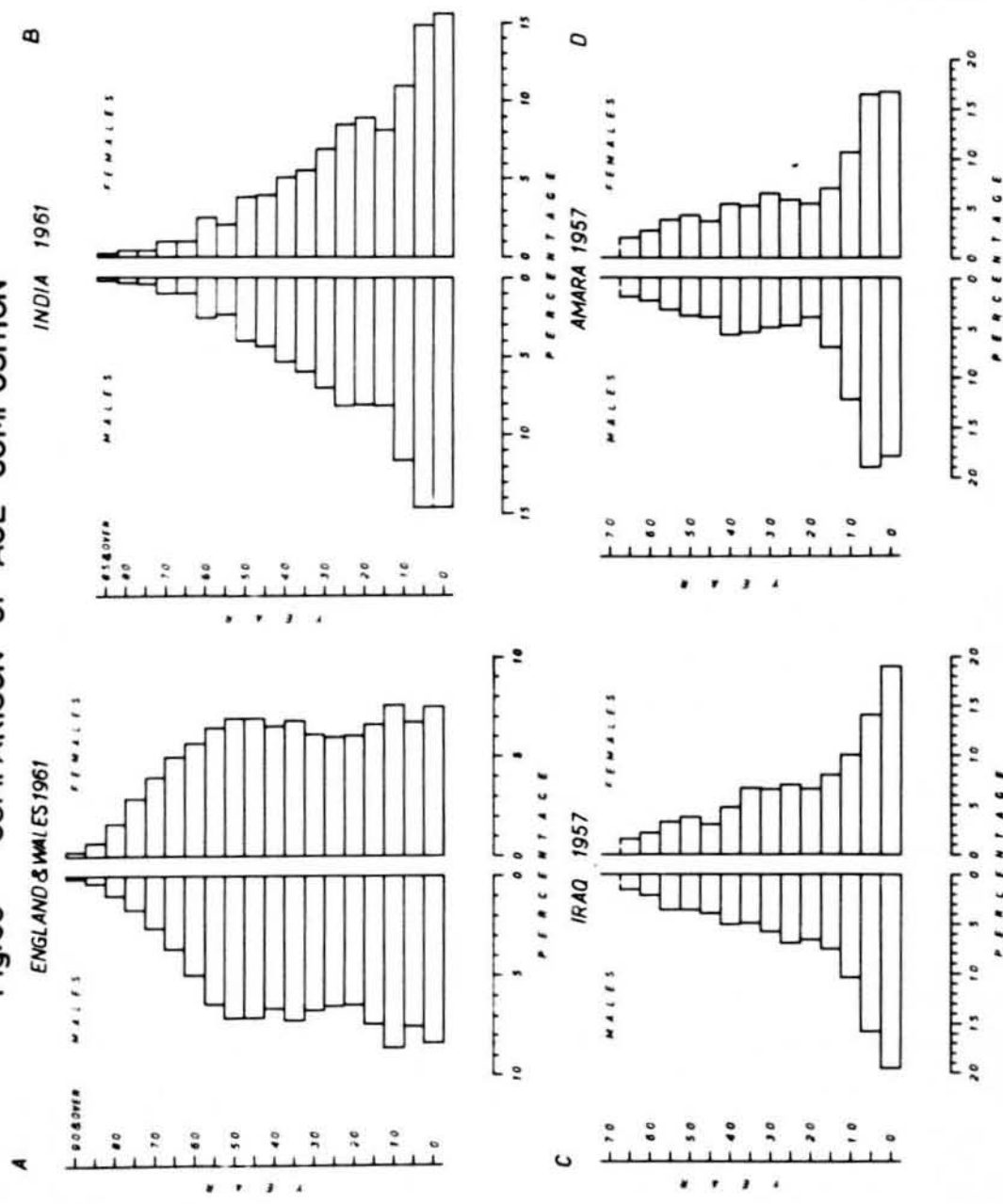
In spite of the defects of the census and estimates, the above mentioned figures of population in Amara show clearly the slow increase, or even a decrease in some years, during the decade 1955-1964. Since no external migration or abnormal changes in fertility and mortality rates are thought to have occurred in Amara, the decline of population can be attributed chiefly to migration. Migration has affected greatly not only the general growth but also the age structure of population and in turn the rate of fertility in Amara, since migration is a process of age selection and includes normally the adults or the reproductive section of population. The fertility ratio in Amara became much lower than that of Iraq as a whole. In 1957 this ratio in Iraq was about 888 per thousand and in Baghdad it was about 848 per thousand. In Amara it was only about 837 per thousand, which is even lower than that of Amara itself in 1947 when it was 981 per thousand.* The high ratio of fertility of Amara has apparently transferred to Baghdad, to which the majority of migrants from this region moved. The ratio in two major shanty towns in Baghdad, for example, was about 966 and 925 per thousand, whereas it was only about 548 and 602 per thousand in two pure urban districts of the city (p.279).

The age profile of Amara shows a remarkable distortion from the normal structure of Iraq as a whole, Baghdad and other provinces which were not affected so much by migration (Fig.33, C & D). It is also unlike the progressive type of the developing countries like India, or the regressive type of the developed countries like England and Wales (Fig.33 A & B). The population structure characteristics of Amara can be illustrated through the discussion of the following age groups :

* Fertility Ratio

■ $\frac{\text{Children under 5 years of age} \times 1000}{\text{Females aged 10-39}}$

Fig.33 COMPARISON OF AGE COMPOSITION



(Beyond age 70, data are unavailable in 5-year age intervals for Iraq & Amara.)

(i) The age group of infants and adolescents, between 0-14 years, constituted in 1957 the highest proportion of Amara's population. Males and females between 0-4 years composed about 17 percent of this childhood group as a whole. This proportion increased in the next five years, age 5-9, to about 18 percent of the whole group (Fig. 33D). Thus, the proportion of infant and adolescent population to the total population of Amara was high (46.4 percent), while it was 43.8 percent in Baghdad (Fig. 34A). Although this age group is regarded as economically inactive in the developed countries, it constitutes an important part of the labour force in Amara, and the rural migrants from the region took their sons, who were able usually to do some profitable work or other, with them to Baghdad in order to increase the family earning. It is common, therefore, to find the migrant boys and even girls in different sectors of employment in the city.

(ii) The adult age group which represents both producers and consumers in Amara, can be divided into two other sub-groups: the early or young adults, between 15 and 34 years and, late or old adults between 35 and 59 years. The impact of migration on the age structure of Amara is very clear in these age groups particularly on the young adults, 15-34, which represent the reproductive and economically active section of population. A high proportion of adults to the total population is favourable to natural increase, because it means more births and less deaths. However, the proportion of females of this age group in Amara is generally higher than that of males. This feature resembles the laws of migration in other developing countries where the male migrants out-number the females. Thus, the female age-structure is closer in this region to the normal type than that of males (Fig. 33D). The slight irregularity in the female population structure can be explained by the fact that some of the female migrants usually do not go with the males at the same time but afte:

them. Nevertheless, the ratio of the adult age group in Amara to the total population in 1957 was 45 percent while it was 49.7 percent in Basra and 49.4 in Baghdad (Table 6.7).

(iii) The aged group includes people of 60 years of age and over who can be regarded as consumers and non-producers. This group shows also the impact of migration on the population composition of Amara. For, inspite of the depressed socio-economic levels of the bulk of Amara's population, the proportion of this group is higher than that in other provinces, of Iraq, which enjoy a better standard of living but are not affected by the displacement of dwellers. In 1957 this group constituted 8.4 percent of Amara's total population but 6.9 percent of the total population in both Baghdad and Basra (Table 6.7).

The proportion of both the infant and aged groups to the adult group, or the dependency ratio,⁽¹⁵⁾ is higher of both males and females in Amara than in Basra, probably because of migration. In 1957 the dependency ratios of males and females in Amara were 133.6 percent and 112.6 percent respectively. In Basra they were 101.2 percent for both sexes. In the same year the old age index or the proportion of aged people to adults was 18.7 percent in Amara compared with 13.7 percent in Basra.

The ratio of males to females in the total population of Amara as a whole shows also the influence of migration on the composition of population. In Iraq, males usually out-number females because of traditional attitudes which prize sons more than daughters, but in Amara the total number of females exceeded that of males in the decade 1955-1964 (Table 6.8).

TABLE 6.7

COMPARISON OF SEX-BALANCE IN AMARA, BAGHDAD, BASRA AND IRAQ, 1957 (PERCENT).

	A G E G R O U P								
	Infants and Adolescents (0 - 14)			Adults (15 - 59)			Aged (60 and over)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Amara	49.3	44.0	46.6	42.8	47.2	45.0	7.9	8.9	8.4
Baghdad	44.0	43.7	43.9	49.4	49.1	49.4	6.5	7.2	6.9
Basra	44.7	42.4	43.5	49.1	50.3	49.7	6.3	7.4	6.9
Iraq	45.7	43.2	44.6	47.4	50.3	49.0	7.3	7.7	7.4

SOURCE: Calculated from:
 Ministry of Interior, Directorate General of Census :
Statistical Abstract of Census of Population of 1957; Iraq
and Iraqi Nationals Abroad. D'ar Al-Tadhamun Press.
 Baghdad, (1962,) pp. 11-26.

TABLE 6.8

COMPARISON OF POPULATION STRUCTURES 1955 - 1964.

YEAR	IRAQ		AMARA		BAGHDAD	
	Males	Females	Males	Females	Males	Females
1955	46.9	53.1	-	-	50.6	49.4
1956	47.0	53.0	45.7	54.3	50.7	49.3
1957	50.4	49.6	49.2	50.8	51.3	48.7
1958	50.0	50.0	49.2	50.8	51.3	48.7
1959	50.1	49.9	49.2	50.8	51.4	48.6
1960	50.2	49.8	49.3	50.7	51.5	48.5
1961	50.2	49.8	49.2	50.8	51.5	48.5
1962	50.4	49.6	49.3	50.7	51.7	48.3
1963	50.5	49.5	49.4	50.6	51.8	48.2
1964	50.5	49.5	49.4	50.6	51.8	48.2

SOURCE: Calculated from :
See Table 6.2 (a).

Nevertheless, in the census year of 1957 the proportion of males in the infant and adolescent groups exceeded that of females in Amara as in other parts of the country (Table 6.7). But this was reversed in the adult group where the adult females usually out-numbered the males. However, the sex-ratio or the number of males to females in Amara as a whole, 98.8 males per 100 females (Table 6.9), seems lower than in most areas affected by out-migration in the Asian and African countries where males, normally, tend to be more mobile than females. This phenomenon can be attributed to the dominant pattern of complete family movement from this region.

TABLE 6.9.

POPULATION OF AMARA : AGE, SEX AND SEX-RATIO, 1957.

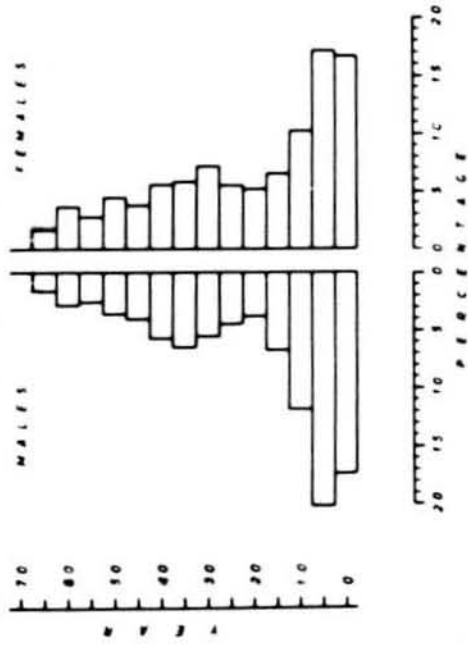
AGE GROUP (YEAR)	MALES	FEMALES	SEX-RATIO (MALE PER 100 FEMALES).
0 - 14	79,944	73,784	108.3
15 - 34	33,796	41,652	81.1
35 - 59	35,677	37,156	96.0
60 and over	12,890	14,941	86.3
Total	162,307	167,533	96.8
<u>SOURCE:</u> Calculated from: See <u>Table 6.1.</u> p.6			

The ratio of adult, or active, to infant or aged inactive population is of obvious importance for any economic development. The proportion of active groups of population, 15-59, in Amara was lower than those of Iraq as a whole and Baghdad too (Table 6.7). But what is more important is that both the "active" male and female groups of these ages, 45 percent, is clearly lower than those in other areas. Furthermore, a considerable proportion of females in the "active" adult group can be regarded as inactive and dependent upon the male group. The burden of inactive or dependent population, therefore, will become heavier in Amara, where they constituted about 55 percent of the total population.

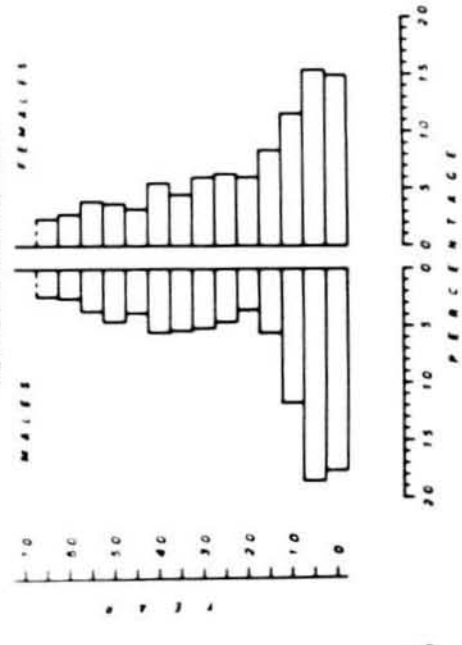
Fig. 34 COMPARISON OF AGE COMPOSITION

B

MAIMOUNA QADHA 1957

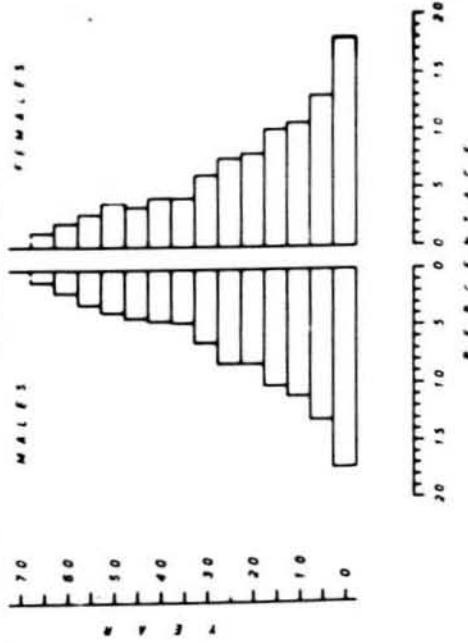


ALI AL-GHARBI Q.C. 1957



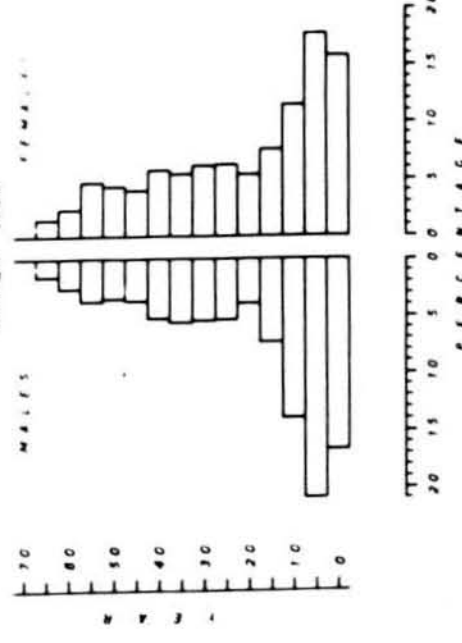
A

BAGHDAD 1957



C

KAHLA 1957



(Beyond age 70, data are unavailable in 5-year age intervals)

6.2.6 Observations on Migration from Selected Sub-Administrative Units:

The scale of rural migration from Amara has been affected for a long time by the local conditions of rural dwellers in different parts of the region. It would be useful, therefore, to select some sub-administrative units to show the areal differentiation of migration in various parts of the region. The selected units will be Kahla Nahia in south-east Amara, the Maimouna Qadha in the south-west corner of the province and Ali Al-Gharbi Q.C. in the north (Fig. 2). Although these examples differ generally in land features, natural vegetation, climatic elements, major field crops, density of population and the nearness to Baghdad, the migration has not been restricted to a particular section or part, but it is a major problem in the Amara region as a whole. Moreover, inspite of different economies and the obvious mobility of cultivators all the year around, it is possible to identify some seasonal fluctuations of migration due to the changeable elements of the physical environment. There was a general migration of cultivators during two remarkable parts of the year. The first starts at the end of summer and the beginning of Autumn and coincides with the normal period of rice harvest during which the water budget of the region is at its lowest. The other is during spring and early summer when the flood water causes a great deal of damage to cropped areas together with outbreaks of both animal and plant disease.

(i) Kahla Nahia:

Kahla is one of the most prominent rice producing areas in Amara and in Iraq as a whole, with permanent and seasonal marshes covering a high proportion of its total area. In spite of the declining total population, the Kahla area still represents one of the most densely populated sub-administrative units in the Amara province. The absolute density of population was about 45

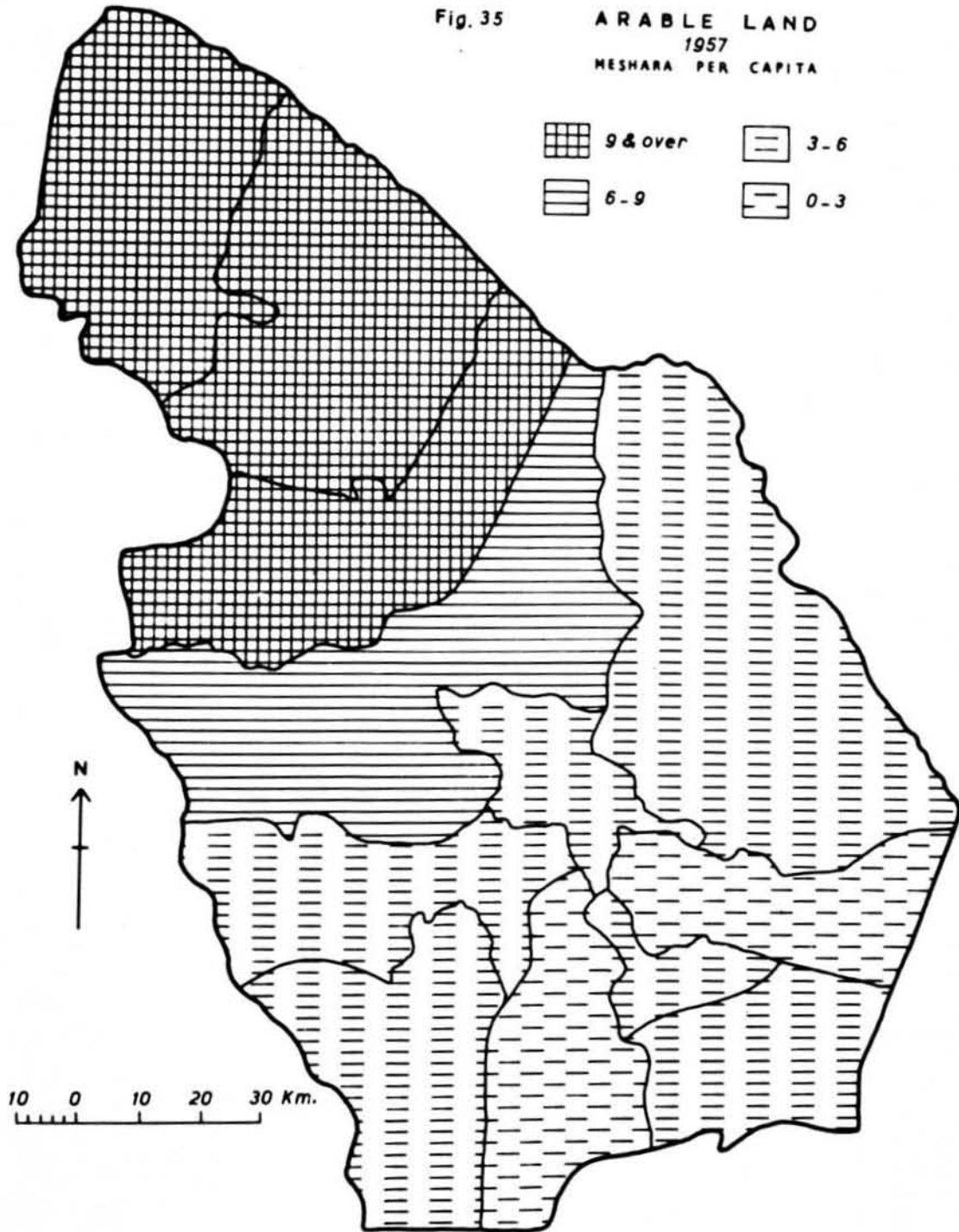
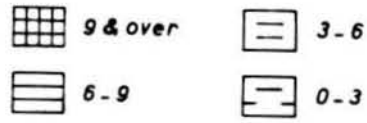
persons per sq.km. in 1957 decreasing to 44 persons per sq.km. in 1965 (Fig. 17). About 93 percent of the population live in rural areas, outside the small town of Kahla, and derive their livelihood directly from either farming or livestock especially water-buffaloes (Fig. 31). The ratio of cultivable land to the total population is about three mesharas per head or over 15 mesharas per family which is regarded a reasonable size for the paddy rice cultivations, where the average size of rice cultivated area per household under the present farming methods, is about five meshara (Fig. 35). However, until the end of 1958 the big land holdings system was a serious problem in Kahla, where only 27 big holdings covered about 54 percent of the total cultivated area, and only two landholders controlled the right to use Kahla river for irrigation in this area. The impact of the land tenure system and its related problems can be seen on various aspects of the inhabitants' lives. The annual income of about 49 percent of the interviewed migrant families from Kahla was less than I.D. 12, and the income of another 23 percent of these families was between I.D. 12 and 24 per annum (Fig. 11).

This area also suffers from very depressed social, educational and medical standards. Illiteracy is widespread in the Kahla Nahia, about 94 percent of the total population, the highest proportion in the Amara province. Furthermore, until 1966 there was not even one doctor or hospital in this area which is inhabited by over 45,000 people, but only four dispensaries (Fig. 27).

Such depressed economic and social conditions made this area the leading source of emigrants from Amara during the decade 1955-1964, and the total number of migrants was the highest in the region, the migrants from Kahla constituting about 20 percent of the total interviewed migrant families from Amara. The great majority of those interviewed, (some 82 percent) had been cultivators, and of these about half put higher wages as the main incentive for migration and about half stressed the importance of

Fig. 35

ARABLE LAND
1957
MESHARA PER CAPITA



social facilities, but many might have been seeking both (Table 6.10) :

TABLE 6.10
MOTIVES OF MIGRATION FROM KAHLA NAHIA (PERCENT OF INTERVIEWED
FAMILIES).

MOTIVE	PERCENT
Better Earning and Employment Opportunities	43.2
Better Social Services	40.5
Military Service or Transferred in the Course of the Job	9.4
Health Reasons	2.7
Tribal Troubles	1.4
More Entertainment	1.4
To Escape from Relatives	1.4
TOTAL	100.0
<u>SOURCE:</u>	
See <u>Table 6.4.</u>	

The large scale movement of population from this area, however, has greatly affected the population composition. In fact, the influence of migration in Kahla was much clearer than in Amara as a whole. The ratio of infants and adolescents to adults in 1957, was higher (107.1 percent) than that of Amara (103.6 percent) which means that about half the population in this sub-administrative unit were under 15 years of age (Fig. 34C). But the ratio of aged group, 60 years and over, to that of adult group 15-59 years, was lower (13.7 percent) than the ratio for the whole population of Amara (18.7 percent). This comparatively low old

age index in Kahla indicates the low level of life expectation due to the very depressed standard of living. Nevertheless, the dependency ratio, 0-14 years and 60 years and over to the adults, was higher in this area (about 125 percent) compared with about 122 percent in Amara as a whole. This ratio shows clearly the shortage of labour in this area and the little opportunity of increasing agricultural productivity since most of the surplus of total yields will be needed to support both the young and old of the population.

The migrants included both sexes, even though the total number of female migrants fluctuated more than that of males in 1955-1964. This may be because a considerable proportion of males, migrated first and then sent for their families. Those who migrated without their families constituted about 18 percent of the total interviewed families (Table 6.11):

TABLE 6.11.

STATE OF MOVEMENT FROM KAHLA NAHIA (PERCENT OF INTERVIEWED FAMILIES)

STATE OF MOVEMENT	PERCENT
Complete Families	82.4
Families Following their Heads	12.2
Single Male Migrants	5.4
TOTAL	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

The mobility of rural inhabitants from Kahla was not uniform or steady. The first peak was in 1955 because of the 1954 flood disaster and the failure of the government measures to deal with the land tenure problems as in other parts of Amara

(Fig. 36A). Thus, after a slight decrease in 1956 the rate of migration began to increase again in 1957 on a much larger scale than in 1955, until it reached the maximum in 1959 and 1960, when the number of migrants rose to 2,738 and 2,755 in these two years respectively. These figures represent an increase of more than five times in two years. This second and higher peak constituted more than 22 percent of the total migrants from the Amara province as a whole in 1959 (see Appendix K). The great increase in the rate of migration affected the level of population which showed a sharp decrease in these years (Fig. 37A).*

After 1960 the rate of migration decreased considerably, although the migrants from Kahla still constituted about 17 percent of the total migrants from Amara. The total number of migrants in 1961 represents the lowest number in the ten year period 1955-1964 except that of 1964. As a result the total population of the area rose slightly compared with the previous years (Fig 37A). Although migration from Kahla rose again after 1961 it was on a smaller scale than before, those who migrated constituting about 15 percent of the total migrants from Amara as a whole. Then the migration declined continuously after that to the end of the decade.

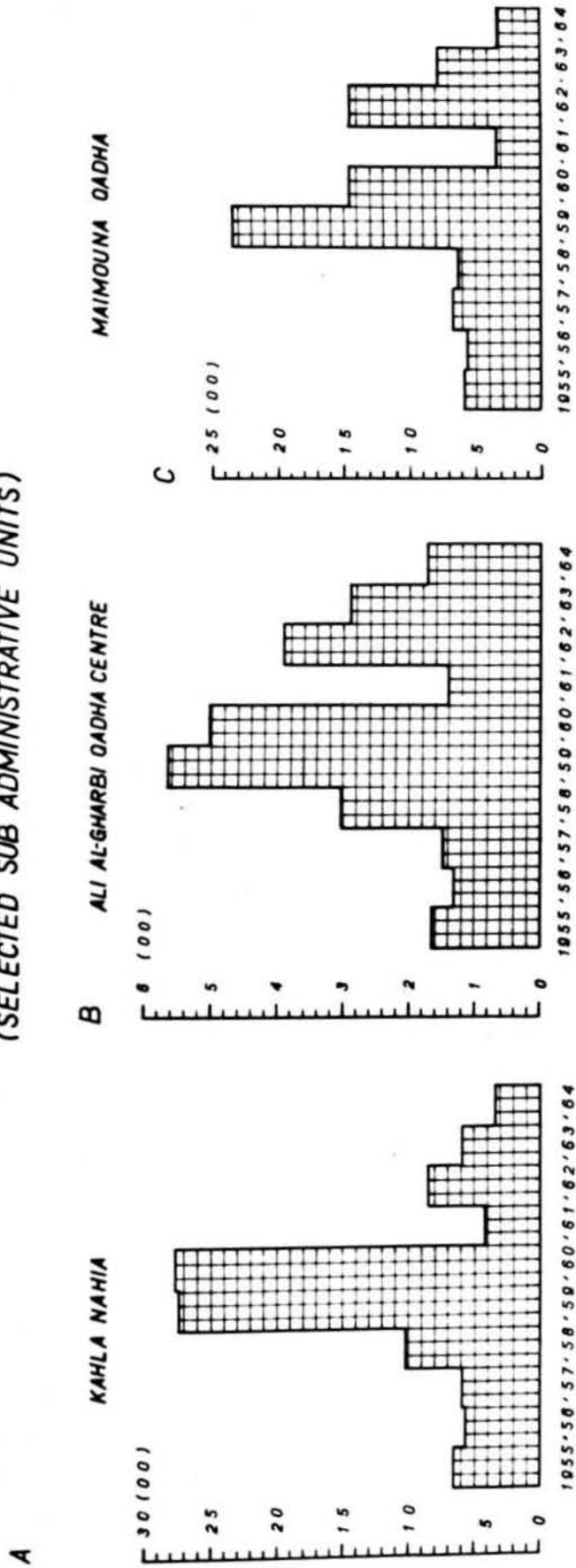
(ii) Maimouna Qadha **

This sub-administrative unit, which comprises the south west part of the Amara province (Fig. 2), is part of the central marshy belt of southern Iraq. Paddy rice cultivation is the

* The rate of total population change of Kahla between 1957-1965 was - 3.1 percent (Fig. 28), and the density of population declined from 44.9 persons to 43.6 persons per sq.km. in this period.

**Maimouna was a Nahia until 1962. Since then it has been changed to a Qadha. A new Nahia has, therefore, created called Al-Salam and attached to this Qadha. Maimouna Qadha here constitutes of both Maimouna Qadha Centre and Al-Salam Nahia.

Fig. 36
 NUMBER OF MIGRANTS 1955-1964
 (SELECTED SUB ADMINISTRATIVE UNITS)



profession of the majority of population and cultivators constituted about 96 percent of the total interviewed migrant families. The absolute density of Maimouna population was about 31 persons per sq.km. increasing to only 32 persons per sq.km. in 1965 (Fig.17). But the ratio of arable land to the total population is even higher than that in Kahla and shows no evidence of population pressure on agricultural resources. This ratio is about five mesharas per head or over 30 mesharas per household (Fig.35). If the livestock resources, especially sheep and water-buffaloes, are to be considered, the Maimouna area represents one of the richest parts of the Amara provinces and has a considerable potential for further economic advancement. Almost the entire population (about 98 percent) is living in the rural areas, outside the small administrative town of Maimouna, and farming and livestock resources constitute the major **source** of income (Fig.31).

As in other parts of Amara the uneven distribution of land holdings and its related questions was the major problem responsible for other socio-economic problems in the area. The right to use water from the Butaira canal whose discharge nearly equals that of the Tigris river itself at its intake, was owned by only two tribal families (p. 51). The annual income of 44 percent of the interviewed migrant families was less than I.D. 12 (Fig.11). Being far from the major roads and having poor communications with the rest of Amara, the educational and medical services are very few and inadequate. For instance, about 92 percent of the total population is illiterate and there were only three dispensaries in 1964 for over 70,000 people (Fig. 27). About half of the interviewed migrant families put higher earnings and better employment opportunities as the chief motive for migration, whilst about half emigrated looking for better social services (Table 6.12).

TABLE 6.12.

MOTIVES OF MIGRATION IN MAIMOUNA QADHA (PERCENT OF INTERVIEWED
FAMILIES).

MOTIVE	PERCENT
Better Earning and Employment Opportunities	52.0
Better Social Services	40.0
Military Service or Transferred in the Course of the Job.	8.0
TOTAL	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

The population structure of the Maimouna Qadha has also been greatly affected by migration. The old-age index of both sexes of 60 years and over to adults of 15-59 years, was 20.3 percent in 1957. This ratio is much higher than those in both Amara province as a whole and the Kahla Nahia and shows a shorter duration of life in the area due to inadequate medical services and the general low standard of living. The dependency ratio of both children and old-age groups to the adults was also higher in the Maimouna area (25.2 percent) than in the rest of Amara as a whole. This demonstrates that the adults, or the active section of population, were the main group which declined due to the migration so that a high proportion of inactive young and aged groups were left (Fig.34B).

As in the Kahla sub-administrative unit the movement of rural dwellers included both sexes in 1955-1964, but in the case of Maimouna the relationships between the movement of males and females was more clear. A larger number of female migrants, for instance, appeared to follow the males after a twelve month time lag. This can be explained by the larger proportion of families who migrated after their heads, compared with Kahla and the rest of Amara (Table 6.13).

TABLE 6.13.

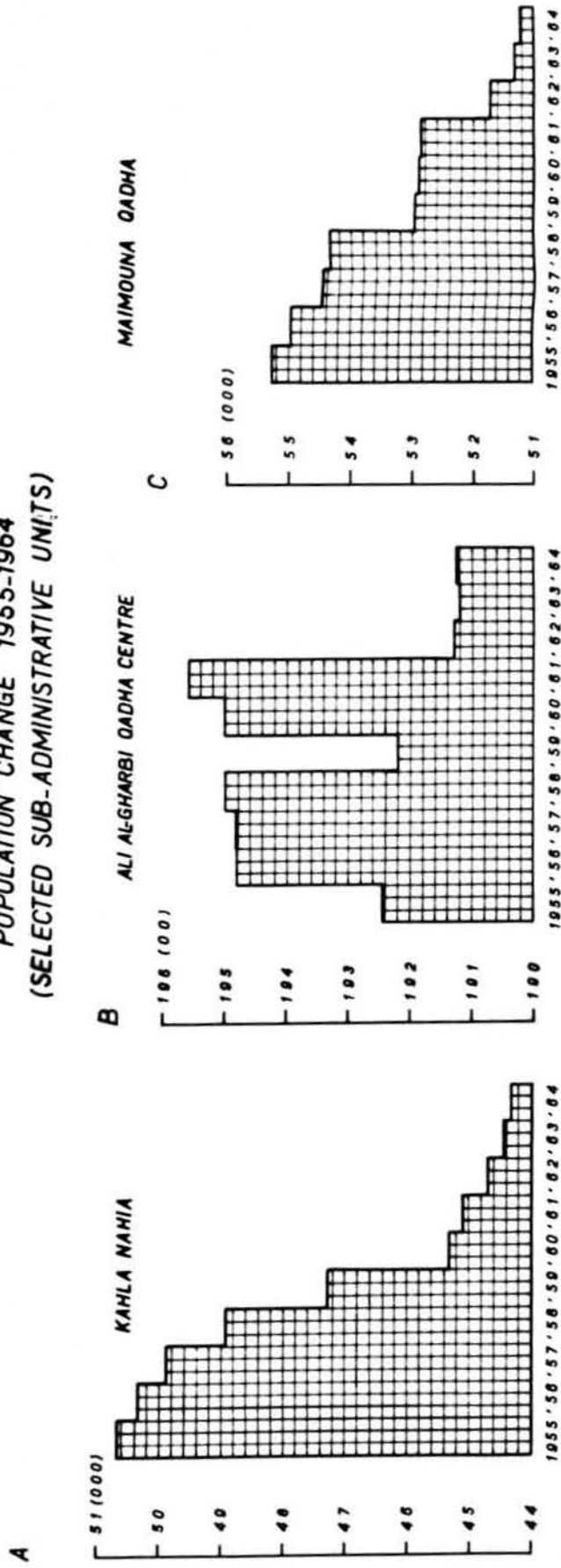
STATE OF MOVEMENT FROM MAIMOUNA QADHA (PERCENT OF INTERVIEWED FAMILIES).

STATE OF MOVEMENT	PERCENT
Complete Families	80.0
Families following their Heads	16.0
Single Male Migrants	4.0
TOTAL	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

There were also three peaks of migration from this area in 1955, 1959 and 1962, but the maximum took place in 1959 when the total number of migrants constituted about 19 percent of the total migrants from Amara as a whole (see Appendix K). In the next peak of 1962 the migrants from this unit exceeded those from Kahla, and composed about 26 percent of the total migrants from Amara, compared with only 15 percent from the latter area. After 1962 the amount of migration decreased again but to a lesser extent than in Kahla (Fig. 36C). The reasons for the fluctuating numbers of migrants discussed on pages (196 - 199) for Amara as a whole explain the annual fluctuations in Maimouna. The movement of rural inhabitants had a great effect not only upon the structure **population** in this area but upon its growth too, during 1955-1964 (Fig. 37C). *

* The growth rate of the Maimouna population between 1957-1965 was only 3.4 percent compared with 25 percent in Amara Qadha Centre, for example (Fig. 29) and the density of population increased very slightly from about 31 persons to 32 persons per sq.km. during the same period.

Fig.37
POPULATION CHANGE 1955-1964
(SELECTED SUB-ADMINISTRATIVE UNITS)



(iii) Ali Al-Gharbi Qadha Centre:

In spite of the vast area of this northern sub-administrative unit, it is inhabited by a small population. The density of population was only about ten persons per sq.km. in 1957, and had even dropped to as few as six persons per sq.km. in 1965 (Table 6.3). But the average size of the cultivable land per head of the total family is about 9 mesharas or about 50 mesharas per household which is the second highest proportion in Amara as a whole and among the highest in the southern plain of Iraq (Fig. 35). The low densities may be due to the fact that the unit is composed mainly of semi-arid land and the cultivable area occupies only the fluvial strips along the Tigris river and its distributaries. A considerable proportion of the inhabitants are semi-nomads. The proportion of cultivators among the interviewed migrants from this unit was lower than that of the two previous units (about 74 percent), while the proportion of sheep breeders was higher for a variety of reasons, such as the vast areas covered with various annual and perennial plants, particularly in the area between the Tigris river and the Iranian border, where the temperature is not very high and the amount of precipitation is greater. This area is regarded, in fact, as one of the most important for sheep rearing in Iraq (p.108). However, about 76 percent of the total population live outside the capital centre of this sub-administrative unit, Ali Al-Gharbi.

The unfair distribution of land holdings was very serious in the area, with only 118 cultivated holdings and units on an average of about 3,259 mesharas. In addition since most of the agricultural production depends upon pump irrigation because most of the cultivated area is higher than the water courses, Ali Al-Gharbi was one of the first areas in Amara which attracted the investments of the town dwellers and wealthy people. The use

of pump irrigation has reduced the cultivator's share of the agricultural yield and affected in turn other aspects of his life (Chapter II). The annual income of about 47 percent of the interviewed migrant families was less than I.D. 12, and that of about 22 percent of them was between I.D. 12 and 24. The illiteracy reaches about 91 percent. Although this part is one of the four major sub-administrative units in Amara, there was only one doctor, one hospital and one dispensary in 1964. As a result it is not surprising to find that about 94 percent of the interviewed migrant families left the area for higher wages, greater employment opportunities and better social facilities (Table 6.14) :

TABLE 6.14.

MOTIVES OF MIGRATION IN ALI AL-GHARBI Q.C. (PERCENT OF INTERVIEWED FAMILIES).

MOTIVE	PERCENT
Better Earning and Greater Employment Opportunities	61.3
Better Social Services	32.3
Military Service or Transferred in the Course of the Job.	3.2
To escape from relatives.	3.2
TOTAL	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

This high proportion can also be attributed to the nearness of this area to Baghdad and good communications. The same reasons explain also the high proportion of complete families and single males, and the low proportion of those families who migrated after their heads, compared with the other two previous areas (Table 6.15) :

TABLE 6.15.
STATE OF MIGRATION FROM ALI AL-GHARBI Q.C. (PERCENT OF INTERVIEWED
FAMILIES).

STATE OF MIGRATION	PERCENT
Complete Families	85.6
Families Following their Heads	8.2
Single Male Migrants	6.2
TOTAL	100.0
<u>SOURCE:</u> See <u>Table 6.4.</u>	

The total population during the period 1955-1964 also showed a general trend of continuous decrease, but it was slower and less steep than in the other two units (Fig.37B). Nevertheless, mobility of people from the area clearly affected the population composition. Although, the proportion of the adults to the total population in Ali Al-Gharbi was almost similar to that of Amara as a whole and both Kahla and Maimouna (about 45 percent), the weight of aged group, 60 years and over, on the adults, 15-59 years, or the old-age index was greater (23.8 percent, Fig.34D). This means that the economically active adults

in this area are supporting not only the same proportion of young people as in the other parts of Amara, but a larger proportion of aged inhabitants.

Migration in Ali Al-Gharbi during 1955-1964 showed the same trend as in Kahla and Maimouna (Fig. 36B). The number of migrants, which decreased very slightly in 1956 after the first peak of 1955, began to increase at a much higher rate to reach its maximum in 1959 when the total was well over four times that of 1956. After 1959 the rate of movement declined very little in 1960, but dropped in 1961 to about a quarter of that in 1959. In 1962 the third peak of out-migration took place and the total number rose to over twice that in 1961, then began to decline again until the end of the decade when the number of migrants in 1964 constituted about five percent that in 1962. The fluctuating rate of movement from this area was due to the same reasons and factors mentioned for Amara as a whole and the previous two sub-administrative units. However, the number of female migrants was higher than males by about 20 to 40 persons, especially between 1959 and 1961. This can be explained by the relatively high proportion of females in this unit compared with other parts of Amara. In 1957, for example, the proportion of females to the total population of Ali Al-Gharbi was 52 percent, compared with 51.5 percent in Kahla, 51.0 percent in Maimouna and 50.8 percent in Amara as a whole (Table 6.1). The high proportion of females in this area can be attributed to a variety of reasons such as the comparatively high number of medical institutes and the nearness to Baghdad which enable a larger proportion of people to reach such services and in turn produce a lower female mortality rate than in other parts of Amara.

Chapter VI : References :

1. M.S. Hassan: "Growth and Structure of Iraq's Population, 1867-1947", Bulletin of Oxford University, XX (1958), p.341.
2. J. Dauphin : op.cit., p.46.
3. W. Thesiger: The Marsh Arabs, Longmans, Green and Co., London (1964), p.201.
4. For example :
 - (i) A. Al-Hilali: Migration of Rural Folk to Towns in Iraq, Al-Najah Press, Baghdad (1956) (Arabic).
 - (ii) S. Farman : Report on the Social Problems of Urbanization in Iraq, United Nations, Technical Assistance Administration (1957) (Mimeographed).
 - (iii) D.G. Phillips: "Rural-to-Urban Migration in Iraq", Economic Development and Cultural Change, VII (1959), pp. 405-421.
5. A. Sousa: Iraq Irrigation Handbook: Part I the Euphrates, Iraqi State Railway Press, Baghdad (1944), p.13.
6. Sir E. Dowson: An Inquiry into Land Tenure and Related Questions, Baghdad (1931), p.16 (Mimeographed).
7. Ministry of Planning, Central Bureau of Statistics: Results of the Agricultural and Livestock Census of 1958/59, Government Press, Baghdad (1961), p.314.
8. Ministry of Housing: A letter to the Ministry of Interior No. 6218 and Dated in 19th June (1960).

9. United Nations, Department of Economic and Social Affairs: Demographic Year Books for 1964, p.162 and for 1965, p.113.
10. U.S. Department of Agriculture : The Agricultural Economy of Iraq, Economic Research Service, Washington D.C. (1965), p.12.
11. K. Haseeb : op.cit., p.39.
12. United Nations, Department of Economic and Social Affairs: Demographic Year Book for 1964, N.Y. (1965), p.20.
13. G. Breeze: Urbanization in Newly Developing Countries, Prentice-Hall Inc., (1966), p.83.
14. E.G. Ravenstein: "The Laws of Migration", Journal of the Statistical Society, XLVIII, London (1885), p.183.
15. J.I. Clarke: Population Geography, Pergamon Press, London (1965), p.66.

CHAPTER VII

AGRICULTURAL PRODUCTION AND MIGRATION.

Until 1950 social and economic development both in urban and rural areas of Iraq took place slowly and the improvement in the standard of living in these areas was, generally, insignificant. Farming was a viable and profitable occupation in Amara, and the agricultural production of this region contributed considerably to the national economy. The relationship between the cultivator and the land on one hand and the landholders on the other was strong and harmonious. But since 1950, the increase of oil royalties and the expansion of industrial and commercial activities in big urban centres have undermined the traditional economic and social stability in rural society and widened the gap between the standard of living of urban and rural settlers. The rural villages of Amara started, as a result, to lose their young cultivators to big towns through migration at a greater rate than at any time before, and the economy of the region and Iraq as well began to deteriorate from that time.

Visiting Amara in 1917, H.J. Philby described the richness of agriculture in the region as follows, ⁽¹⁾ "Then pursued my way by launch down the winding channel of the Husaichi canal (one of the major branches of Kahla canal), hammed in on either side by splendid rice fields extending to the limits of vision to a point within a short distance of the Dawai and Battat canals (these canals are branches of the Msharrah canal far to the north, Fig.3)". He went on, "we now proceeded through rice lands of astonishing richness studded at frequent intervals along with enormous villages teeming with humanity". Forty years after this visit, many villages became partially depopulated; for example in

certain groups of 50 to 60 dwellings, only ten houses were inhabited. About a third of Al-Bu Mhammad tribe members left rice cultivation in the marshes between 1953-1956.⁽²⁾ The rate of rural exodus from Amara to Baghdad after 1950 has been estimated at ten lorry loads a day,⁽³⁾ or about a hundred persons. Although these figures probably seem high, they indicate the extensive depopulation which has been taking place in this region. At the present time, most of the splendid rice fields mentioned above have become waste lands covered with camel thorn with few and small scattered settlements occupied mostly by semi-nomads.

The large scale displacement of rural population from Amara which intensified in 1955-1964, has, in fact, had social and economic consequences both in Amara and the place of destination. But its impact was greater upon the agricultural production of the region and the national economy as a whole, since most of the rural migrants came from the economically active sector of the population. Nor was it a reverse migration and no counter movement to Amara took place to compensate for the constant losses of labour force. Thus, a discussion of the declining agricultural production in Amara, which is one of the major themes of this thesis, will show how the mobility of cultivators has seriously crippled the local economy of the region and of Iraq as well.

7.1 FARMING IN AMARA BEFORE AND DURING 1955-1964.

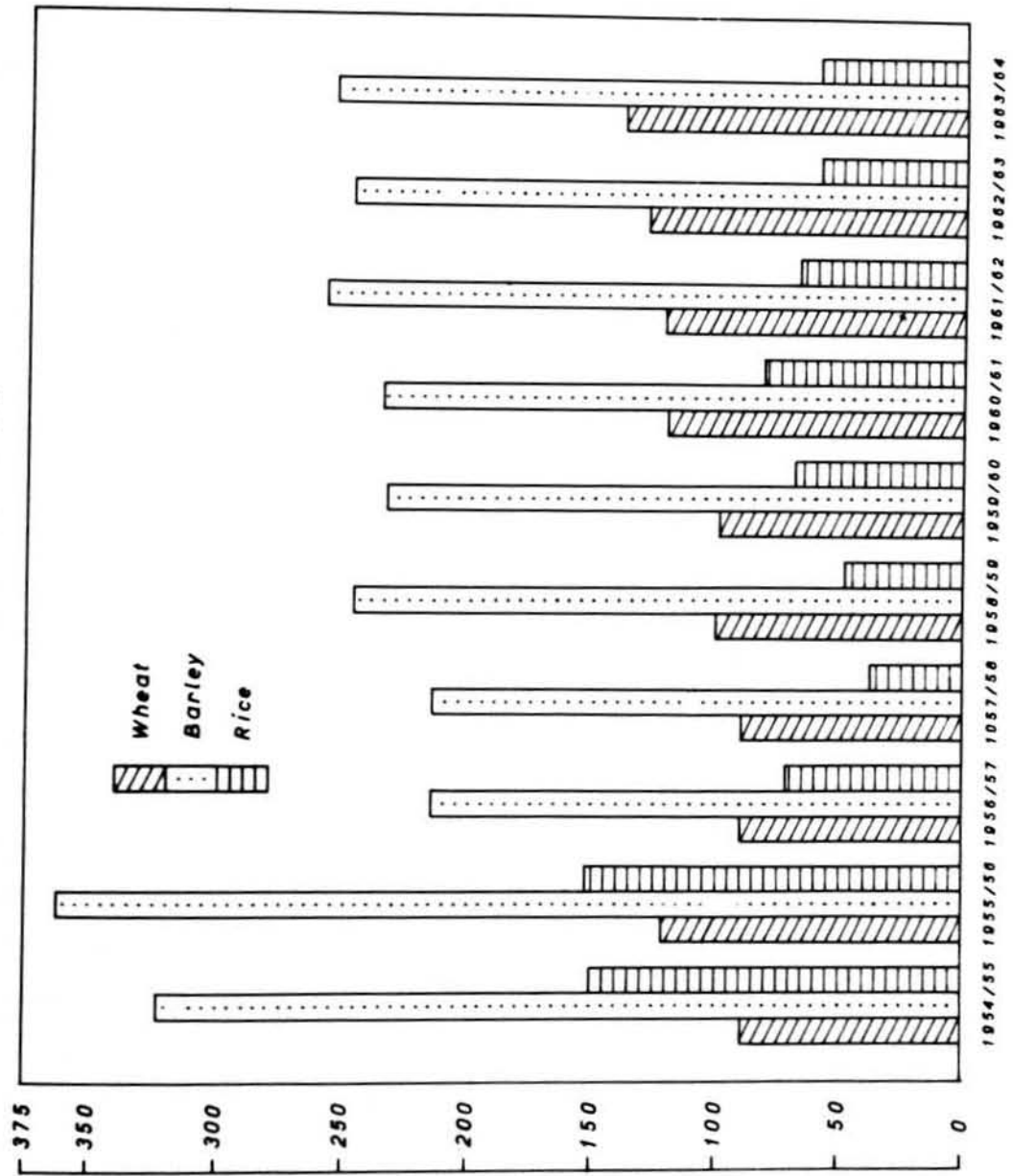
The deterioration of agricultural production in Amara during 1955-1964 was more striking than in previous decades, and although it was much more serious in the case of summer crops it was so general that it included both winter and summer cultivation.

In 1939 the winter cultivated area in Amara was estimated by the local authorities at about 410,000 mesharas and the summer cultivated land covered about 266,000 mesharas.⁽⁴⁾ This cropped area of 1939 was much greater than the estimated annual average of cultivated areas of both winter and summer crops during 1955-1964. In 1958, for instance, the combined area of winter and summer crops was only about 58 percent of that in 1939.

In 1941, the average of flow irrigated summer cultivated area within Amara covered about 200,000 mesharas of rice land and about 15,000 mesharas of other summer crops, whereas the average of summer cultivated area during 1955-1964 was only 42 percent of that amount, mainly because of insufficient labour, which is a significant factor in summer cultivation especially for paddy rice. Although this crop occupied about 162,000 mesharas in 1938, 106,000 mesharas in 1942 and 127,000 mesharas in 1943, the annual average of the land devoted to rice cultivation during 1955-1964 constituted rather less than half of that in the 1940's. (Fig. 38). Early in the 1940's Amara town was the most important town and river port on the Tigris river south of Baghdad being the commercial centre of a fertile agricultural area.⁽⁵⁾ Rice was grown in this region on flow and flood irrigation but rarely on pump irrigation. After 1950 rice cultivation was increasingly dependent on lift irrigation since labour is essential for flow and flood irrigation. In addition, pump irrigation became more profitable than at any time before because of the shortage of rice in the local markets and the increasing demand for this food.

Not only did the area of cultivated land decrease in 1955-1964, but the annual yield of rice also declined in the region. In 1942 the total rice production of Amara was about 39,000 tons, increasing to about 47,000 tons in the next year, and to about 108,000 tons in 1949. After 1950 it started to decrease and the

Fig.38
 CULTIVATED AREAS OF MAJOR WINTER AND SUMMER CROPS IN
 AMARA 1954/55-1963/64
 (In 000 mesharas)



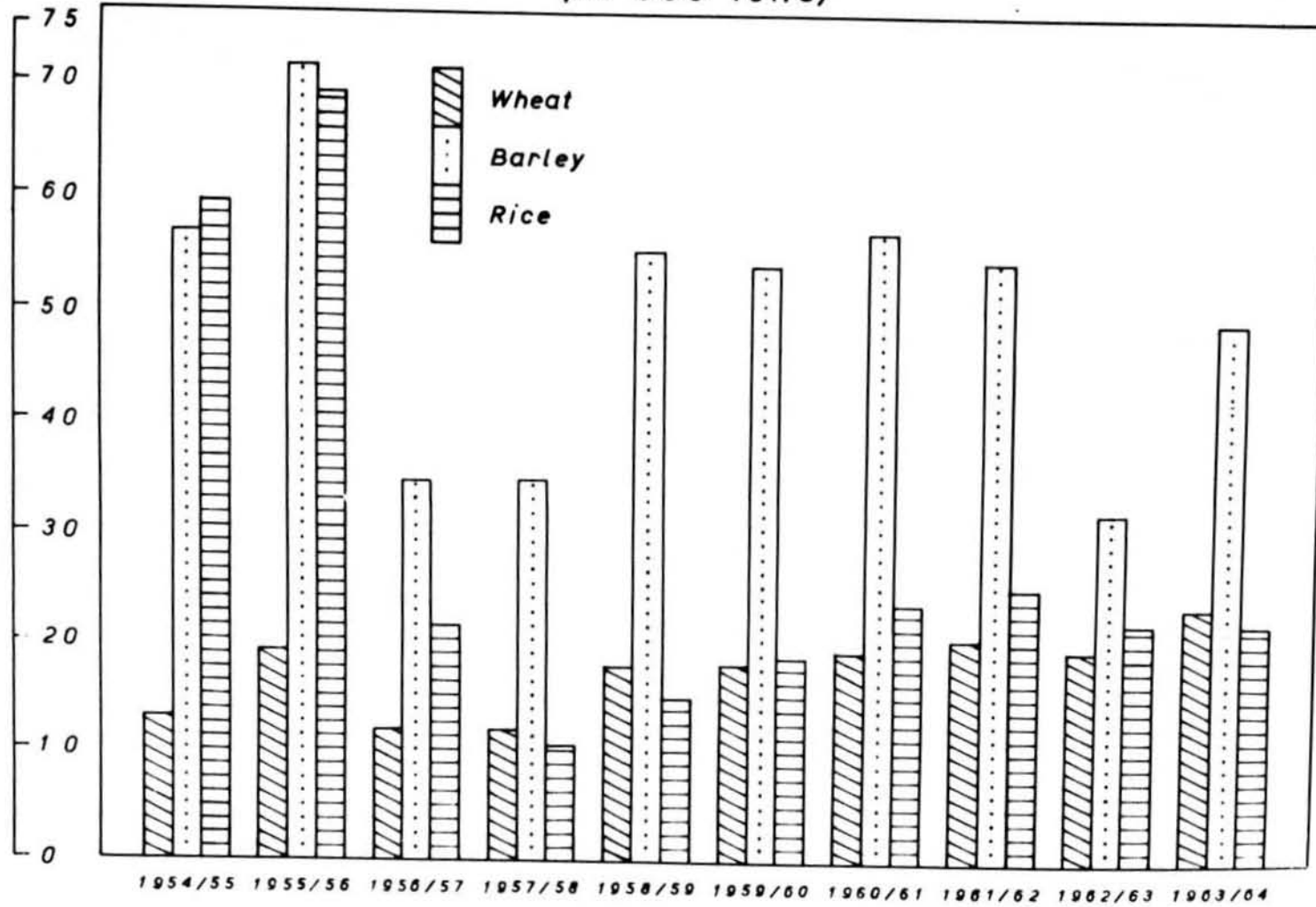
annual average in 1955-1964 did not exceed 23,000 tons.

The changes in rice production in Amara during this ten year period show a clear connection with the general course of migration. In 1955 the rice yield amounted to about 66,000 tons, but it decreased to about 11,000 tons in 1959 and 15,000 tons in 1960 as the greatest number of cultivators moved from the region, (Fig.39). The relationship between the decline of rice production and the decrease of labour through migration is very clear in rice producing areas as will be seen later on in this chapter.

Although rice was the major crop to be affected by emigration from Amara because the majority of migrants were rice cultivators and the "push" factors in rice producing areas were much stronger than in other parts of the region, the impact of labour shortage in the cultivated holdings, also influenced, to some extent, the cultivation of other major crops such as wheat and barley both in terms of area cultivated and the total yield even though the cultivation of these crops requires a smaller labour force. In 1942/43 wheat occupied 109,000 mesharas, and barley about 284,000 mesharas in Amara. But inspite of the completion of many irrigation projects in the Tigris river basin and the better farming methods, the cultivated area of wheat in 1955-1964 showed no significant increase over that in 1942/43, while the cultivated area of barley even decreased during the same period, when there were about 109,000 meshara of wheat and 259,000 meshara of barley cultivated (Fig.38), whereas Amara produced about 19,000 tons of wheat in 1954/55, production decreased to about 12,000 tons in 1958/59. Barley suffered even more than wheat from the mobility of cultivators, for the total yield declined from about 72,000 tons in 1954/55 to about 35,000 tons in 1958/59 (Fig.39).

Fig.39

TOTAL PRODUCTION OF MAJOR WINTER AND SUMMER
CROPS IN AMARA 1954/55 - 1963/64
(in 000 tons)



7.2. PHYSICAL AND SOCIAL FACTORS AND AGRICULTURAL PRODUCTION.

Although the contribution of environmental factors such as water supply, soil and climatic conditions, to the deterioration of farming in Amara can not be neglected, they could hardly be the critical factors which reduced farming to its present standard. Such factors, as has been noted before, prevail in the Amara region as in all southern parts of Iraq with only slight differences from one area of it to another. Amara, for instance, is a part of the Tigris-Euphrates alluvial plain which has been built by these two big rivers and their tributaries since the Late Pliocene. This plain, as a whole, has been subjected to the same building factors and is composed of similar materials. The same relief is found in most parts of this dead plain. The sites of ancient settlement centres, the sand dunes and the alluvial mounds are the major highlands, whereas the lowlands which constituted the permanent and seasonal marshes, swamps and lakes are remarkable features in the Nasiriya province just as they are in the Basra, Diwaniya, Kut and Amara provinces.

Climatic conditions in Amara, moreover, are almost the same as those prevailing in the adjacent provinces and are even more favourable with more suitable soils and water supply for cultivation than in the neighbouring areas. Temperature, for example, both in summer and winter differs slightly in different parts of southern Iraq (Fig.4). The total annual rainfall in the Amara region is even higher than in other nearby places. The mean annual rainfall in Ali Al-Gharbi and Amara stations is the highest among the 35 climatic stations within the alluvial plain between Hilla in the north and Fao in the extreme south.

The plain of the rivers is veneered with a very poor natural vegetation as a consequence of the arid and semi-arid

conditions. Soil groups which are found on this part of Iraq originated from similar bare rocks and are subjected to similar physical conditions. The high proportion of silt and sand in the soil results from the same process and source in most parts of the plain. Even soil salinity is evenly distributed in all parts of the delta. Nevertheless, the decline of rice cultivation in Amara cannot be attributed to the salt concentration in the soil since the crop is cultivated mostly in paddy fields around the marshes and soil salinity can easily be removed by continuous floodings. Furthermore, both rice and barley can be cultivated in highly saline soils as compared with other field crops (p. 30). It is also doubtful whether the soil productivity in Amara has declined due to continuous exploitation, since the ratio of seeds sown to the yield per meshara did not show a noticeable change during the period 1955-1964, on the ground that other factors such as amount of water, climatic factors and labour were the same. But even if this did happen there is still a vast amount of cultivable and fertile land in the region ready to be put under the plough at any time. The same can be said about the distribution of both plant and animal diseases in the alluvial plain of Iraq, since the environmental factors are the same and offer a similar habitat for these diseases. Nevertheless, compared with other rice producing areas of Iraq, the Amara region is almost free of most endemic diseases of rice (p.103).

It is clear, therefore, that the physical environment, climate, rainfall, soils and marshes are similar throughout southern Iraq. Marshes and swamps present, perhaps, some of the best examples, as they stretch across the boundaries of Amara far into the surrounding provinces. Hor Al-Sariya connects with Hor Al-Hammar in Nasiriya province, while a part of

Hor Al-Huwaiza is within the boundaries of Basra.

Furthermore, the cultivators throughout the alluvial plain of Iraq adopt, generally, the same traditional farming methods. Cultivation depends in all provinces of southern Iraq upon irrigation. Flow irrigation is the most common method in most parts of the plain except Amara, where lift irrigation is more significant although much of the region is quite suitable for flow irrigation. This is due chiefly to the fact that flow and flood irrigation methods require a greater amount of labour and adequate supervision which are unfortunately not available in the region (Table 7.1). Cultivation of the three major cereal crops, moreover, can be found in almost all the southern provinces, while vegetables or cash crops are rarely cultivated. They also keep almost the same types of livestock in the cultivated holdings. The fallow system is dominant in Amara as it is in all parts of the irrigation zone of the southern plain.

TABLE 7.1.
TYPES OF IRRIGATION IN SOUTHERN IRAQ (PERCENT)

PROVINCE	MEAN OF IRRIGATION				
	Pump	Flow	Rainfall	Waterwheels	Others
Amara	38.2	37.8	23.7	0.3	-
Basra	22.7	73.5	1.5	1.0	1.3
Hilla	4.9	90.9	0.5	3.7	-
Nasiriya	16.5	79.4	1.9	2.0	0.2

SOURCE: Calculated from:
Ministry of Planning, Central Bureau of Statistics:
Results of Agricultural and Livestock Census of
1958/59. Government Press, Baghdad (1963), pp.313,
390, 255 and 338.

Amara can not be regarded as over populated compared with neighbouring regions of Iraq or some other developing countries where there is the low land/population ratio arising from rapid population growth in relation to agricultural resources. By contrast shortage of land under the present prevailing traditional agricultural practices, does not greatly encourage the exodus of population from the region (Fig.35). It can be said, that since the physical and to some extent the social environments do not differ throughout the provinces of southern Iraq, the density of population, both absolute and of cultivated areas, can provide an important indication of the low population pressure in Amara (Table 7.2).

TABLE 7.2.

DENSITY OF POPULATION IN SELECTED PROVINCES OF SOUTHERN IRAQ, 1957.

(PERSON PER SQ. KM.).

PROVINCE	TOTAL POPULATION	AREA (sq.km)	ABSOLUTE DENSITY	DENSITY IN CULTIVATED AREAS
Amara	329,840	17,945	18.3	80
Hilla	354,779	5,671	62.6	109
Kenbela	217,375	6,100	35.6	619
Nasiriya	458,848	14,800	31.0	95
Basra	503,330	18,456	27.3	1,454

SOURCE: Calculated from:

Ministry of Interior, Directorate General of Census
Statistical Abstract of Population Census of 1957: Iraq and
Iraqi Nationals Abroad, Dar Al-Tadhamun Press, Baghdad (1962),
 p.6.

In spite of what has been mentioned above, agricultural production in the other southern provinces of Iraq did not show a clear decline after 1950 especially during the decade 1955-1964. This can be attributed chiefly to the fact that compared with Amara these provinces were not suffering from an acute shortage of labour in rural areas. The comparative stability of population in such areas resulted from the relatively better socio-economic conditions of the majority of people. The land tenure system and its related problems, so grave in Amara, was not so serious and rarely affected the economy of other parts of the flood plain. The miri sirf land tenure which is predominant in Amara constituted a minute proportion of the total land categories in its neighbours (Table 7.3). The Dhaman, method of land exploitation so common in Amara was the exception in other provinces, where sharecropping was the most common system. The advantage of sharecropping is that in areas liable to natural catastrophies (draught, floodings, locusts), taxes and rents paid by the cultivator to the landowner represent the same proportion in a bad year as in a good year. This does not mean that the sharecropping system was profitable to the majority of rural dwellers in these areas, because the cultivator's share was still lower than that of the land proprietor. Nevertheless, it was certainly better than the Dhaman of Amara since it offers a kind of assurance and security for both partners, and in turn for agricultural production, with better relations between all rural inhabitants.

It can be said, therefore, that when moderate migration of rural population from provinces other than Amara to the big towns occurred after 1950, it included small numbers over a long period and was not attributable to the same "push" factors found in Amara. Physical factors, for example, were the major causes behind the rural migration from the Dujaila area of Kut

TABLE 7.3.

LAND TENURE CATEGORIES IN SOUTHERN IRAQ BEFORE OCT., 1958.
BY PROVINCES (PERCENT)

PROVINCE	LAND CATEGORY				
	Miri Sirf	Tapu	Lazma	Waqf	Mulk
Amara	95.6	1.7	2.7	-	-
Basra	17.5	46.7	8.8	5.9	21.1
Diwaniya	13.2	10.6	76.2	-	-
Hilla	5.9	37.7	54.4	1.8	0.2
Kut	14.9	26.8	58.3	-	-
Nasiriya	51.7	44.7	3.6	-	-

SOURCE:
Calculated from :
See Table 7.1. pp. 313, 390, 363, 255, 281 and 338.

province. The interviewed migrants from this area mentioned the soil deterioration and in turn the decline of the volume of agricultural production as the most important causes for their movement, while the low incomes, housing and lack of medical and social services, played only a minor role.

Both cultivated areas and total yields of the major summer and winter crops showed during 1955-1964 even a remarkable increase in some of the southern provinces of Iraq other than Amara. Rice production for example, increased in the Diwaniya province from about 25,000 tons in 1955 to about 28,000 tons in 1960, while the rice production in Amara fell from about 66,000 tons to only about 15,000 tons in this period. In 1963 the Diwaniya province produced about 45,000 tons of rice, but the yield was only

about 25,000 tons in Amara. In the Nasiriya province where usually rice occupies a considerable area of cultivated land, the yield was about 12,000 tons in 1955, increasing to about 16,000 tons in 1960 and about 26,000 tons in 1963. Even within Baghdad province, which is not an important rice producing area, the rice yield rose from 432 tons in 1955 to about 3,000 tons in 1960. This was probably due to the migration of rice cultivators from Amara to this region, some of the migrants cultivating rice in southern parts of Baghdad.

The cultivation of barley, which is the major winter crop in Amara, was also affected by the decline of the labour force in 1955-1964 compared with other provinces which are even more dependent on barley cultivation. In the Nasiriya province the total yield of this crop in 1955 was 80,000 tons increasing in 1960 to 100,000 tons and in 1963 to 104,000 tons whereas the amounts of barley produced in Amara during these years were about 72,000 tons, 35,000 tons and 55,000 tons respectively.

7.3 AGRICULTURAL PRODUCTION AND WATER RESOURCES:

Water is an essential element to the economy of Amara as in the rest of southern Iraq, since the bulk of agricultural production depends upon irrigation. Thus, changes in the water budget of the Tigris river, such as shortage during the hot season, high floods in spring or the establishments of water control and storage projects in the upper parts of the river basin, will naturally affect Amara. It could be argued, therefore, that the decline of farming and in turn migration of cultivators from Amara is due to the construction of dams and reservoirs in the Tigris river basin. The aim of this section of the chapter is, in fact, to suggest that these engineering projects have little if any impact upon the water budget of Amara and in turn upon the

deterioration of agricultural production. By contrast dams on the Tigris river have increased the amount of water in the river and greatly alleviated the water shortage problem in Amara.

The argument about water in the lower Tigris river basin seems to have begun in 1939 when the Kut Barrage was constructed to divert water to the Dujaila canal and Gharraf canal in the Kut province. Regardless of the amount of water brought down by the seasonal Wadi river which joins the Tigris shortly below the Kut Barrage, which sometimes rises to over 200 cumecs, the small amount of Tigris discharge diverted to these small canals seem to have very little effect on the water budget of the Tigris river downstream of Kut. The average annual discharge of the Tigris river downstream of the Diyala confluence during 1924-1946 was 1,339 cumecs, while it was 1,179 cumecs downstream of the Barrage during 1930-1946. This means that an annual average of only about 160 cumecs is usually lost from the total discharge of the Tigris river upstream of the Barrage not only to the Dujaila and Gharraf, but to other irrigation canals and natural flood breaches in this section of the river. Furthermore, the average annual discharge of the Tigris river downstream of the Barrage during the period preceding the construction of this project was lower than afterwards; the average during the nine year period 1930-1938 (before the construction of the Barrage) was about 997 cumecs, while the average annual discharge for the eight year period 1939-1946 (after the construction of the Kut Barrage) was 1,384 cumecs.⁽⁶⁾

In fact, the present network of canals and waterways in Amara affords little opportunity for improving the water budget and this has been so in effect for decades. The most important cause of periodic water losses is not the Kut Barrage, but the great water losses in the marshes to the north of the main agricultural areas. The Tigris river loses through the Musandaq escape between 50 and 60 percent of its average annual discharge

downstream of the Kut Barrage. Thus, any increase in the water discharge of the Tigris river upstream of this opening, whose discharge capacity rises up to 2000 cumecs, would be of little importance to the water supply in the region since the surplus will inevitably be diverted to the Musandaq.

Besides, there are many other distributaries and natural openings downstream of the Musandaq which withdraw, normally, large quantities of water from the main river. The Butaira canal, which leaves the Tigris about 18 km. upstream of the capital centre of Amara, takes about half of the river discharge downstream of the Musandaq gap (Fig. 8A and B). Thus, the average annual discharge of the Tigris at Amara town or upstream of the Kahla-Msharrah ~~canals~~ intake during 1918-1948 was only 218 cumecs or about 19 percent of the Tigris' total discharge downstream of Kut. In other words over 80 percent of the potential river water supply in Amara is lost before the main cultivated area is reached. Even this low discharge at Amara however, showed little change before and after the erection of the Kut Barrage. Between 1930 and 1938 the average annual discharge was 223 cumecs, and 210 cumecs between 1939-1946, a decrease of six percent.

The remaining water in the Tigris river at Amara is usually distributed among the Kahla, Msharrah, Mijar Al-Kabir and Machriya ~~canals~~. Only seven percent (78 cumecs) of the water downstream of Kut remains in the main channel of the river at Qalat Salih in the south (Fig. 8D). Such a low discharge seems to have been found in this part of Amara long before the erection of the Kut Barrage or any other water control devices in the middle and upper parts of the Tigris river basin.⁽⁷⁾ The cultivators in Qalat Salih and the adjacent area, for example, were using bush wood dikes in the main channel of the Tigris to raise the water up to their cultivated fields early in this century. In this part of Amara where the water supply is at its lowest one would expect to

find the worst agricultural production and the largest scale of migration. Nevertheless, there is no clear indication that agricultural production, both in terms of area cultivated or total yield, was worse in this part than in other parts of Amara, for the migration of cultivators was from all parts including areas adjacent to the Musandaq escape in the north where plenty of water is available for migration. All the canals which leave the Tigris above and below the capital town of Amara carry great amounts of water to the marshes at all seasons and are deep enough to be navigable all the year round, and this was always the case long before the establishment of water control and storage devices in the Tigris river basin, otherwise the marshes would in turn have either shrunk in size or dried out.

The effect of a water deficit on the agricultural economy of other parts of the flood plain would be worse than in Amara since flow irrigation, which depends directly upon the amount of water in the river, is the most common. By contrast pump irrigation is more important in Amara and thus the water supply can hardly be affected by the fluctuations of river discharge. Flow irrigation constitutes about 91 percent of the irrigation system in the Hilla province and about 80 percent in the Nasiriya province compared with about 38 percent in Amara (Table 7.1), although the two former provinces are a part of the lower basin of the Euphrates river which is characterised by smaller discharge and more water diversion devices than the Tigris.

The concept of water shortage in Amara and the impact of the Kut Barrage upon the deterioration of cultivation seems to lack support. The truth is that most of the water losses occur within the Amara region itself through Musandaq, Butaira and other water ways, because of inadequate water control and regulation systems in Amara. For, inspite of such great water wastage and many

faults concerning the utilization of water for irrigation throughout the region, no serious attention has been paid to water control projects. The only effective and remarkable project during this century was the erection of an iron regulator on the Kahla canal intake in 1942.

On the other hand it seems that the Tigris floods have contributed very little to the long lasting deterioration of farming in Amara. It is true that until 1956, flood water did, some years, inundate vast areas of the cropped land in Amara as in other parts of the flood plain. But in that year, the Tharthar reservoir, which is regarded as the corner stone of a flood control system of the Tigris, was completed and the danger of flooding in the lower parts of the Tigris river basin was relieved. Thus, agricultural production in Amara should have flourished after 1956, but unfortunately the opposite was true. The decline of farming did not remain constant, but it has deteriorated even more.

Two more major dams were completed in the upper parts of the Tigris basin after the Tharthar reservoir, namely, Dokan dam on the lesser Zab river and Derbend Khan on the Diyala river. The main aim of these two reservoirs were to control the flooding of these two major tributaries of the Tigris and to reserve their surplus flood water discharge for irrigation purposes in the dry season. In fact, the water volume in the lower Tigris basin during summer has increased since these dams started to function, but inspite of that there has been no obvious improvement of agricultural production in Amara. By contrast the production is generally decreasing.

In addition, the great amount of flood water in a so-called "wet-year", when the water level remains high for a longer period than in a normal year is hardly significant compared with the amount of cultivated land in Amara. In such a year the

land, especially in southern Amara, is usually covered with water for about four to six months and thus the farm work must be delayed until the land dries up, while in a normal year the flood lasts only between two and three months, after which the land becomes ready for cultivation especially for rice. Furthermore, in the wet years river discharge decreases in June and July, as it does in the normal years, and thus makes only a limited contribution to the total water budget of the region in summer. At the same time the flood peak occurs, as has been seen in chapter one, usually in April and May or March; so that it is too early for the late Afli rice and too late for the early Harfi rice cultivation. The flood season comes also too late for winter crops and then the great amount of flood water in the season is of little importance. It can be said that the contribution of the high flood water to both summer and winter agriculture is slight since it does not solve the problems of water deficit in the dry season, and the flooding of winter cropped areas in the wet season.

The deterioration of agricultural production in Amara continued even after the declaration of the agrarian reform project late in 1958 and the large scale installation of water pumps which followed and which undoubtedly has solved the serious problems of water deficit, if there was any, in the region. The decline of farming in Amara, therefore during 1955-1964 seems to have little to do with water supply problems but may be attributed to the great and continuous losses of labour in the cultivated areas caused by the exodus of cultivators.

7.4 CASE STUDY OF THE RELATIONSHIPS BETWEEN MIGRATION AND FARMING IN SELECTED SUB-ADMINISTRATIVE UNITS.

Although the movement of rural population in 1955-1964 was from all parts of Amara, the number of migrants varied considerably from one part to another depending upon the relative local strength of "push" factors. Thus, the impact of the movement upon agricultural production varied correspondingly. However, since the rice cultivators constituted the majority of migrants the impact of the movement upon farming was more clear in the rice producing areas, as will be clear from the discussion of the relationships between farming and migration in some selected sub-administrative units of Amara, namely "Kahla Nahia, Maimouna Qadha and Ali Al-Gharbi Q.C."

7.4.1 Kahla Nahia:

Until recently this sub-administrative unit was among the richest agricultural areas in Amara. It contains vast irrigable land with plenty of water. The area was occupied by a large number of good and professional cultivators and livestock keepers. Nevertheless, it has been for a long time a major source of migration; indeed migrants from this area constituted about a quarter of all interviewed migrant families from Amara.

The agricultural economy of this area has been affected seriously by depopulation. A clear and continuous decrease in the cultivated areas and the total production of the major winter and summer crops, particularly barley and rice, can be seen throughout 1955-1964. The barley cultivated area, for example, decreased from about 57,000 mesharas in 1954/55 when the tide of migration was not so strong to 30,000 mesharas in 1958/59 and to about 23,000 mesharas in 1959/60 when the largest number of cultivators moved (Fig. 36A). After 1960 the cultivated area of barley began to

increase again but very slightly and reached 24,000 mesharas in 1960/61. But when the last peak of migration occurred in 1962 the cultivated land decreased again from 30,000 mesharas in 1961/62 to 25,000 mesharas in the next year. The total yield of barley showed also a marked decrease during the same decade when it decreased from about 17,000 tons in 1954/55 to only about 47 percent and 15 percent of this amount in 1958/59 and 1963/64 respectively (Table 7.4).

TABLE 7.4.

KAHLA NAHIA

CULTIVATED AREA AND TOTAL YIELD OF BARLEY AND RICE, AND THE TOTAL NUMBER OF MIGRANTS

YEAR	CROP				NO OF MIGRANTS Person
	BARLEY		RICE		
	Cult.Area (Mesh.)	Yield (ton)	Cult.Area (Mesh.)	Yield (ton)	
1954/55	56,980	16,000	40,000	24,000	653
1958/59	30,000	7,920	5,250	2,100	1,018
1959/60	23,000	5,591	11,350	3,970	2,738
1960/61	24,000	5,040	14,000	3,850	2,755
1961/62	30,000	5,100	14,000	4,480	414
1962/63	25,000	2,700	14,000	4,900	587

SOURCE: Estimated by :

(a) Ministry of Agriculture, Directorate of Agriculture :
File No. 6/306.

(b) Ministry of Agriculture, Agricultural Economics Section:
Annual Agricultural Abstracts 1958/59-1962/63.

The impact of migration from the Kahla region, however, can be seen more clearly in the case of rice cultivation, which needs more manual labour than winter crops. The shortage of rice produced in this area has affected the trade deficit of Iraq as a whole, because Kahla produces some of the best paddy rice varieties, particularly the Anber. The rice cultivated land in this area decreased from 40,000 mesharas in 1955 to only about 13 percent and 28 percent of this area in 1959 and 1960 with the greatest losses of rice cultivators. The cultivated area of this crop, moreover, did not cover more than 14,000 mesharas throughout the rest of the decade under investigation.

The total annual yield of rice probably shows more clearly the association between migration and the deterioration of agricultural production in this area which was once described by H.J. Philby as having astonishing richness. The Kahla Nahia yielded in 1955 about 24,000 tons of rice, but this amount decreased to only about nine percent and 17 percent of the above amount in 1959 and 1960. The total production of rice never exceeded 6,000 tons in spite of the many government measures which were introduced after 1958.

The evolution of total population in this sub-administrative unit during the ten year period 1955-1964 shows also a positive relationship between the growth of population and the agricultural economy (Fig. 37A). This was remarkably clear when the total population of Kahla began to decline continuously after 1955 accompanied with the steady current of migration from the area and in turn with the decline of farming.

7.4.2 Maimouna Qadha:

Occupying vast areas of marshy land in the south western corner of Amara, Maimouna became one of the big paddy rice producing areas in southern Iraq. At the same time it is an important producer of the major winter crops. It was also, one of the highly populated parts of Amara; the total population was about 55,000 people in 1953 but decreased to about 54,000 in 1957 with an average density of about 31 persons per sq.km. But inspite of this apparently large amount of labour and the great amount of water, cultivation has suffered as in Kahla from critical problems. Maimouna was the second biggest source of migration in Amara after Kahla, and although the movement included all sections of rural inhabitants, the majority were rice cultivators.

The impact of the displacement of rural population upon the agricultural economy can be clearly seen. Since 1955, both the cultivated areas and yields of major field crops have shown a remarkable decrease and coincided at the same time with continuous depopulation of the region. When the migration flow decreased comparatively in 1961, as a result of the government policies to minimize the movement of rural dwellers from Amara to Baghdad, farming enjoyed some improvement.

Barley and rice are the most important cereal crops, while wheat cultivation is less important as in Kahla, so that these two crops are most affected by migration. The cultivated area of barley decreased, for example, from 47,500 mesharas in 1954/55 when the movement of cultivators was still small to about 53 percent of this area in 1958/59 and to about 57 percent in 1959/60. Although it increased slightly in 1961/62 to about 66 percent of the above total cultivated area, it declined again in the next year to the same level of 1958/59. The same can be said about the production of barley in Maimouna which began to decline from about 7,000 tons in 1954/55 to about 53 percent of this amount in 1958/59. The decrease of barley production accompanied, in fact, the second peak of

migration from this area (Table 7.5) :

TABLE 7. 5.

MAIMOUNA QADHA

CULTIVATED AREA AND TOTAL YIELD OF BARLEY AND RICE, AND NUMBER OF
MIGRANTS.

YEAR	CROP				NO. OF MIGRANTS Person
	BARLEY		RICE		
	Cult.Area (Mesh.)	Yield (ton)	Cult.Area (Mesh.)	Yield (ton)	
1954/55	47,500	7,125	36,000	19,000	590
1958/59	25,000	3,750	6,000	1,800	619
1959/60	27,000	6,480	11,800	3,540	2,323
1960/61	27,000	6,080	30,000	8,330	1,492
1961/62	31,200	8,740	35,000	12,250	315
1962/63	25,000	3,370	23,000	8,050	1,477

SOURCE:
See Table 7.4.

Rice cultivation was the most seriously affected by the diminishing number of experienced rice cultivators during 1955-1964. The area devoted to this crop shrank in 1959 to only about 17 percent and in 1960 to about 33 percent that of 1955. This strongly suggests a connection between the rice cultivated areas and the limited number of cultivators in 1955 and the maximum of this movement in 1959 and 1960. At the same time rice production declined even more quickly than the cultivated area. It decreased in 1959 and 1960 to only about nine percent and 19 percent of that in 1955 (Table 7.5).

There was a clear correspondence between the decline of the total population and of the agricultural economy of Maimouna Qadha during 1955-1964. The total population, for instance, decreased in 1959 and 1962 with the last two peaks of migration and with the decrease of both cultivated areas and yields of rice.

7.4.3 Ali Al-Gharbi Q.C.

Ali Al-Gharbi is one of the northern sub-administrative units of Amara province. The cultivable areas constitute about 53 percent of the total area of cultivated holdings and units. Because most of the land in this area is higher than the water courses about 68 percent of the cultivated land depends on pump irrigation. The total number of inhabitants is small compared with the agricultural resources and with the total population in the southern sub-administrative units of Amara. The rural population is mostly engaged in wheat and barley cultivation and raising sheep. Although rice is the major summer crop in this region, its cultivation is much less significant than in southern Amara.

Nevertheless the cultivation of all these crops was affected generally, by the cultivator's migration. The cultivated area of wheat, for example, constituted in 1958/59 about 61 percent and of barley 65 percent that of 1954/55 (Table 7.6.) :-

TABLE 7.6.

ALI AL-GHARBI Q.C.

CULTIVATED AREA AND TOTAL YIELD OF WHEAT, BARLEY AND RICE, AND TOTAL NUMBER OF
MIGRANTS.

YEAR	CROP						NO. OF MIGRANTS Person
	WHEAT		BARLEY		RICE		
	Cult.Area (Mesh)	Yield (ton)	Cult.Area (Mesh)	Yield (ton)	Cult.Area (Mesh)	Yield (ton)	
1954/55	23,600	5,819	31,000	9,819	7,500	3,500	165
1958/59	14,500	2,030	20,000	4,000	1,200	486	305
1959/60	16,000	2,880	25,000	5,000	2,000	550	566
1960/61	17,000	2,880	22,000	4,950	2,000	524	503
1961/62	18,000	3,500	23,000	6,325	1,600	324	142
1962/63	18,500	3,680	25,000	6,000	1,500	600	392
<u>SOURCE:</u> See <u>Table 7.4.</u>							

The same happened to the total yields of these two crops when they constituted about 35 percent and 41 percent respectively during the same period. This followed, in fact, the greatest exodus of rural dwellers in 1959 and 1960.

The impact of emigration upon rice cultivation is clear even in this area, since rice cultivators as in other producing areas represent the poorest section of the rural population. Both the cultivated area and rice production in Ali Al-Gharbi decreased in 1959 by about 84 percent and 86 percent of that in 1955 and again indicates a connection with the general high flow of migration from this area as well as from the rest of the Amara province.

Although the cultivated areas and yields of the three major crops increased slightly after 1959, they never regained the former position of 1955 and even decreased in 1962 because of the increase of migration, then. Also, as in the two previous sub-administrative units, there was a positive connection between the change of total population of this area and the general trend of both the migration of rural dwellers and agricultural production (Fig.36B and 37B).

7.5. AGRICULTURAL ECONOMY OF IRAQ AND MIGRATION.

Agriculture in Iraq still constitutes the base of the national economy. The agricultural sector contributes, moreover, the highest proportion of the national income of Iraq, excluding the oil royalties.* It contributed about 29 percent of the total national income in 1953 and 24 percent in 1961⁽⁸⁾.

* This sector includes all kinds of field crops, vegetables, fruits, forest resources, fish, livestock and their products. The oil royalties contributed more than 45 percent of the national income between 1953-1961.

(9)

YEAR	MILLION (I.D.)
1953	71
1956	88
1961	97

The cultivable land in Iraq covers about one fifth of its total area while farming is the profession of more than 60 percent of the total population.

Nevertheless, the agricultural prosperity of Iraq started to suffer from serious difficulties during the past few decades, despite the efforts which have been devoted to tackle them. Flooding and water shortage have been for a long time the most important traditional obstacles to agricultural development in central and southern Iraq. A big effort has been devoted to these critical problems since 1950 and three giant flood control and water storage projects have been completed. Also, one of the principal purposes of these reservoirs was to increase the water budget of the Tigris river, in particular and to expand in turn the cultivated area in the irrigation zone.

In addition, in the past 15 years vast investigations into and detailed studies on almost all aspects related to the agricultural sector have been made. But inspite of the large capital investment in all these projects and studies the improvement of the agricultural sector can hardly be noticed. The value of agricultural resources to the national income even decreased after the completion of the irrigation and flood control projects. The contribution of agriculture increased by about I.D. 17 million between 1953-1956, but only about nine million Iraqi Dinars between 1956-1961. The cultivated areas and the annual yields of some field crops were lower in this period than at any time before. The

situation was more serious since it accompanied an expanding demand on the major cereal crops as a result of the increase of both population and the standard of living in Iraq. The shortage of rice, which is the staple diet for the majority of people, was so severe, that it attracted most attention. Experts from international organizations were invited to study the decline of rice production and the means to increase it.

It is important, however, to remember that Iraq was one of the exporters of grains in the Middle East for a long time. During the period 1935-1940 the average annual amount of exported wheat was 47,000 tons and 198,000 tons of barley. In 1937 the amount of exported wheat was 113,000 tons and barley 287,000 tons. This was at the same time when barley was the major staple cereal for the bulk of the rural settlers. But after 1950 and especially during the past ten years the opposite was true, for about half of the national demand of grains was supplied from foreign produce.

Most of Iraq's wheat comes usually from the northern rain-fed zone, particularly Al-Jezira plain, while the southern irrigated part contributes only small amounts to the total annual yield of this crop. Wheat production in Amara, for example, was during most of the time one of the lowest compared even with other southern parts of Iraq. It contributed no more than two percent of the gross production of wheat in the country during the period 1948/49-1962/63. Figures are not available to show the proportion of wheat production in Amara in the pre-war period but it was probably not higher. The relatively minor importance of Amara as a wheat producing area in Iraq reveals two features; first, the impact of the agricultural labour shortage and second the adherence to primitive methods of cultivation and inadequate systems of irrigation. The average annual yield per meshara of wheat in Amara during 1955-1964 was among the lowest compared with not only the northern wheat producing area, but even with the adjacent parts of the alluvial plain in southern Iraq (p.90).

It can be said also that the agricultural development projects such as land reclamation and settlement, the expansion of mechanization in farming, the large scale campaigns against pests and diseases which have been carried out since 1950 in Iraq were more successful and fruitful in the northern wheat producing area. Wheat production in the Mosul province, which is regarded as the bread basket of Iraq, increased from 171,000 tons in 1948/49 to 446,000 tons in 1962/63. The annual average wheat cultivated area in Iraq increased in the decade 1950/51-1959/60 by about 49 percent over that in the previous decade. The average annual yield increased during the same period even more to be about 69 percent greater than in the 1940's.

Unfortunately these quantities of wheat production in Iraq are still insufficient to satisfy local consumption, and Iraq began to rely upon imported wheat during the last decade especially after 1956 (Table 7.7 and Fig.40). The shortage of wheat is due, in fact, to the natural growth of population and the improvement in the standard of living. Also, the bulk of the rural inhabitants, who were consuming barley as a major food cereal, have changed to wheat. Naturally, the demand for wheat has also increased in the wheat product industries such as macaroni and pasta making.

Unlike wheat, barley, which is produced mostly in southern Iraq, seems to have been affected less by the development policies and irrigation projects which were executed after 1950. Neither the total cultivated area nor the production of barley has increased at the same rate as wheat in spite of the tolerance of the crop to draught and soil salinity conditions and in spite of the increasing demand for it in brewing and as animal fodder. The annual average barley cultivated area in the ten year period 1950/51-1959/60 increased by about 13 percent of that in the preceding decade and the annual average yield increased by about 23 percent.

Fig. 40
VALUE OF IMPORTED WHEAT AND RICE
1955 - 1964 (million I.D.)

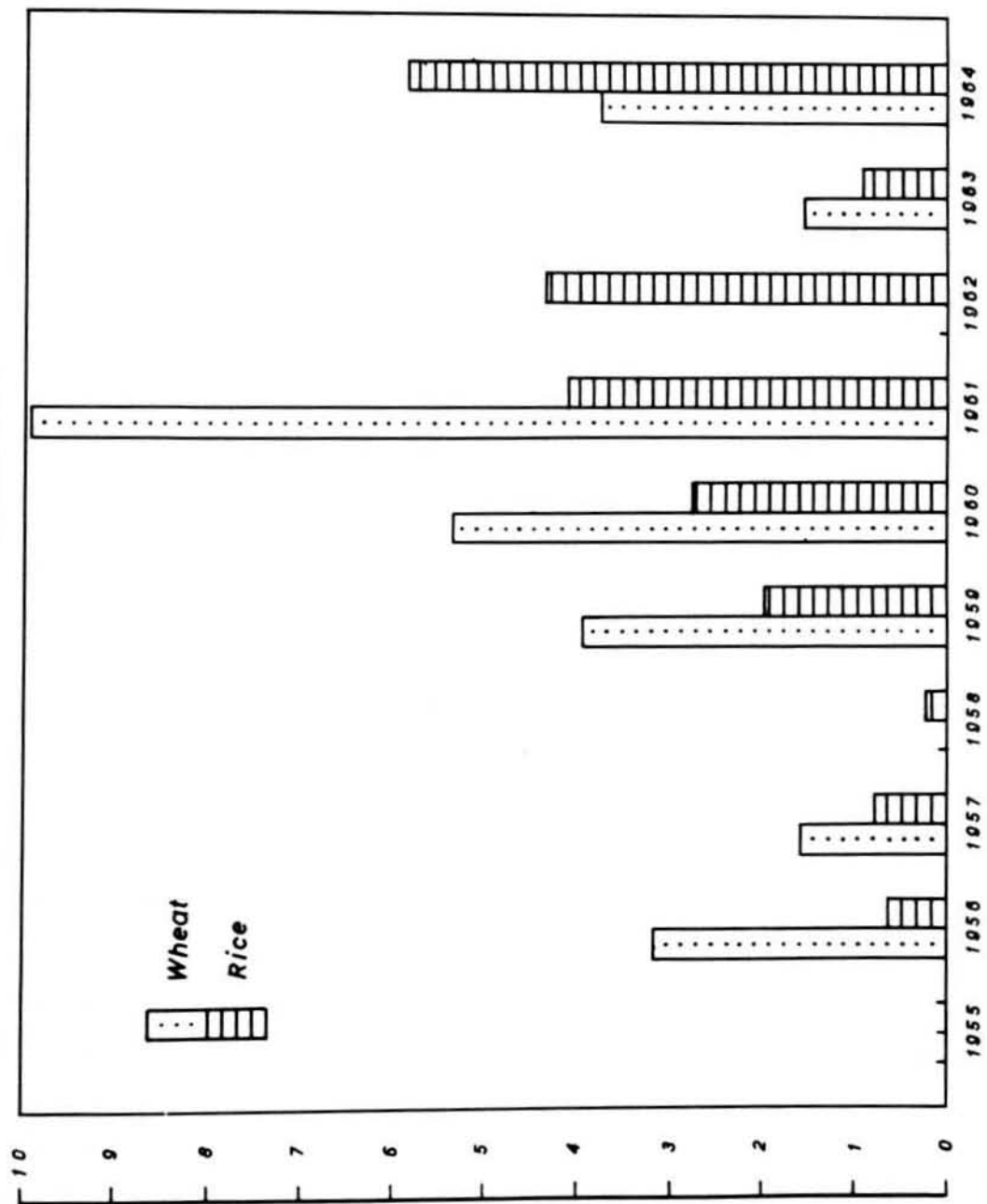


TABLE 7.7.

IRAQ : IMPORTS OF WHEAT 1956-1964.

YEAR*	QUANTITY (TON)	VALUE (I.D.)
1956	100,627	3,164,398
1957	49,031	1,598,580
1958	-	-
1959	145,674	3,964,982
1960	206,321	5,403,318
1961	413,983	9,985,447
1962	000,001	0,000,045
1963	059,210	1,547,258
1964	131,844	3,797,185

SOURCE:
Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1956-1964.

* There is no evidence that Iraq has imported wheat before 1956.

The relatively small increase of barley cultivation compared with that of wheat is due to a variety of reasons. In the first place, wheat cultivation expanded in southern Iraq after 1950 to force the barley out of its vast cultivated areas. Also, as a result of the increasing demand for cash crops such as cotton, sesame, and vegetable tracts of land formerly used for barley have been occupied by these crops. Moreover, soil salinity has badly affected the irrigated areas in southern Iraq, making a large proportion of these areas useless for the production of barley and other field crops. The saline infected areas have been estimated at about 60 percent of the irrigated land.⁽¹⁰⁾ Finally, rural depopulation from Amara affected barley production, since this region is one of

the important barley producing areas in Iraq. During 1950-1960, the average annual contribution of Amara to the total yield of barley in Iraq was about six percent.

Nevertheless, the total yield of barley is still sufficient to satisfy the local needs of the country and there is even a surplus for export most of the time.

The deterioration of rice cultivation after 1955, however, can be regarded as the most serious challenge to the economy of Iraq. Rice production in Iraq was so great before 1950 that a surplus was usually exported. Between 1935 and 1940, for example, Iraq exported an average amount of about 2,000 tons per year, and this amount was about 4,000 tons in 1938. Rice was also among the other exported cereal crops even late in the 1940's.⁽¹¹⁾ Today, the local supply of rice is supplemented by imports, for example, 95,000 tons in 1964.

The serious rice shortage in Iraq can be seen clearly in both the area cultivated and the amount produced. The rice cultivated areas in Iraq declined in the ten year period 1951-60 by about 60 percent of that in the previous decade. At the same time the amount of rice produced decreased by about 52 percent. This happened inspite of the tremendous increase of local demand on this essential cereal crop for the nation's diet, and inspite of the great investment in irrigation projects and the intensive and detailed studies and investigations concerning drainage problems, plant disease, mechanization - which have certainly increased the amount of water available for irrigation and improved the productivity of land.

The severe decline of rice production can be attributed mostly to the departure of rice cultivators from Amara, the leading rice producing area in Iraq.* The total amount of rice

*Insipite of the great decline of rice cultivation in Amara it contributed about 27 percent to annual production in Iraq in 1951-1960.

produced in Iraq decreased, for example, from about 180,000 tons in 1954 to about 94,000 tons in 1959, an average decrease of over 14,000 tons per annum. Half Iraq's rice is imported. The greatest increase of rice imports happened during and after the period in which the largest number of rural migrants left Amara (Table 7.8 and Fig.40.) At the same time the demand for rice in the cities, particularly, has increased.

In 1961 the cost of imported rice and wheat constituted 13 percent of the total government expenditure and accounted for 10 percent of the total costs of imported goods to Iraq. Furthermore, the sum of about four million Iraqi Dinars spent on rice imported in that year equalled about four times the expenditure of the Ministry of Agriculture, five times the value of exported barley and about 20 times the value of the export of either cotton, linseed or vegetables.

TABLE 7.8.
IRAQ : IMPORTS OF RICE 1956-1964.

YEAR*	QUANTITY (TON)	VALUE (I.D.)
1956	14,674	631,202
1957	15,152	786,270
1958	4,021	228,201
1959	42,564	1,960,322
1960	53,338	2,719,312
1961	69,685	4,143,032
1962	69,455	4,384,723
1963	13,487	0,900,975
1964	95,028	5,891,704

SOURCE:
See Table 7.7.

* There is no indication that Iraq has imported rice before 1956.

Chapter VII : References :

1. H.St. J.B. Philby: "The Eastern Marshes of Mesopotamia", Geographical Journal, CXXX (1959), p.55.
2. J. Dauphin: op.cit., p.46.
3. D. Warriner: op.cit., p.152.
4. A. Sousa: op.cit., p.10.
5. British Admiralty, Naval Intelligence Division: Iraq and the Persian Gulf, Naval Intelligence Division, London (1944) p. 524.
6. F.H. Al-Kholy: Hydrology of River Tigris, Al-Rabita Press, Baghdad (1952), p.92.
7. British Admiralty, Intelligence Division: A Handbook of Mesopotamia: Irak, the Lower Karun and Luristan, Admiralty War Staff, II London (1917), p.66.
8. K. Haseeb: op.cit., p.46.
9. Ibid, p.55.
10. Lord Salter: op.cit., p.203.
11. F.H. Gamble: Economic and Commercial Conditions in Iraq, Overseas Economic Surveys, H.M.S.O. London (1949), p.13.

CHAPTER VIII

RURAL MIGRANTS IN BAGHDAD

After discussing the physical, social and economic factors which played an important part in the displacement of cultivators in Amara and the effect of migration on the economic conditions of the region and Iraq as a whole, it is important to consider, also the life of the migrants in their new urban homes. This is not a sociological study of migrant adjustment to the city, nor is it a comprehensive geographical treatment, but it is designed to throw some light on the motives of rural migration from Amara.

Most migrants imagined Baghdad as a paradise with its higher incomes and better educational, housing, medical and employment opportunities than in Amara. Although a large number of rural dwellers from Amara migrate to Basra, Baghdad offers for them greater attractions. The total number of those who were born in Amara and living in Basra in 1957 was about 43 thousand, while about 115 thousand people were born in Amara and living in Baghdad in that year.

Before leaving Amara the migrant has some idea about his future in Baghdad either through his primary contacts with a relative or a close friend from his village, or by his personal observation, perhaps during his frequent visits to urban areas. Sometimes the contact with the city is so strong that definite employment is waiting the migrant before his arrival.

The migrant families from Amara tend to move to Baghdad with their personal possessions usually by lorries or buses. After 1958 some families started to emigrate secretly and by night, sometimes on foot. This was due to the official restrictions on

cultivators' movement in that year. Some of the migrants do not move directly to Baghdad but practise a form of "stepped migration", spending a considerable period, sometimes a few years, in and around Kut before proceeding to Baghdad. During this stage some of them cultivate rice in the region, while others work in Kut. The aim of stepped-migration is to save money and to collect more information about Baghdad. This procedure was common when the contact between the migrant families in Amara and other migrants in Baghdad was very limited, either because they had no relatives or close friends and came from isolated marshy areas or because of their low economic conditions which did not enable them to go directly to Baghdad. Those people with little or no primary contact were mostly old and non-professional people in contrast with young migrants.

However, the major question in the mind of the migrant before leaving Amara is where he is going to settle in Baghdad. Many factors determine the migrants choice of his place of settlement. Migrant families interviewed in 1964 mentioned seven different reasons. The social factor was the most importance since about 61 percent of the interviewees wished to settle near their families, relatives and friends (Table 8.1). This facet indicates both the strong influence of tribal relationships upon the rural migrants and the important role of relatives and friends in Baghdad in attracting and assisting the migration of rural inhabitants from Amara.

The migrants in such a case live with preceding migrant families for some time. During this period they establish contact with other migrants in the shanty area and sometimes with urban dwellers. Then the newcomers erect their dwellings of reed mats, brought with them from Amara, near their **kinsmen**. At this stage the migrants begin to acquire experience of the important

TABLE 8.1.

INTERVIEWED MIGRANT FAMILIES: FACTORS AFFECTING THE PLACE OF
RESIDENCE IN BAGHDAD.

FACTOR	PERCENT
To be near relatives and friends	60.7
To be near place of employment	21.7
To be near both the relatives and place of employment	6.1
Availability of cheap land to build a hutment, or cheap rents	10.5
Others	1.0
TOTAL	100 .0
<u>SOURCE:</u> <u>Interviews in Baghdad, 1964.</u> (See <u>Appendix A, Quest.No.4</u>)	

features of the city life such as markets, government offices and other services.

Another important factor, which affected the selection of place of settlement in Baghdad, was economic. About 32 percent of the interviewed migrants built their reed and mud huts near their place of employment or in places where the price of land is not high. This group of migrants usually represents those who could find jobs in Baghdad before their movement such as military personnel or transferred officials.

However, the interviewed migrant families built their shanty camps in 32 places within the municipal boundaries of the city (Table 8.2). The largest proportion of these serifa and kukh hutments was near the city centre. Al-Asima the largest shanty town

TABLE 8.2.

DISTRIBUTION OF INTERVIEWED MIGRANT FAMILIES BY THE MAJOR SHANTY AREAS IN BAGHDAD. (PERCENT OF TOTAL FAMILIES).

SHANTY AREA	PERCENT
1. Eastern Baghdad.	
Al-Asima and Al-Majzara.	36.9
Tel-Muhammad and New Baghdad.	4.1
Camp Al-Khatoun.	2.0
Camp Al-Armen.	1.4
Al-Gaylani Oil depots.	0.7
Bab Al-Shaikh, Abu Saifain, Jami Atta and Al-Azza	3.4
Jewish cemetry in Shaikh Omar and Qara Sha'ban	6.5
Raghiba Khatoun (Al-Kahira).	1.0
Camp Al-Sulaykh	2.4
Al-Ilwiya and Al-Masbah.	1.0
Al-Karrada Al-Sharqiya.	1.4
2. Western Baghdad.	
Al-Shakriya.	14.1
Karradat Maryam, behind Iranian Embassy	1.0
Al-Shaikh Ma'roof, Al-Shaikh Junayd cemeteries and Um-Ilidham.	3.4
Al-Shalchiya.	3.1
Al-Rahmamiya.	1.0
Al-Kadhimiya and Al-Hurriya.	1.7
Al-Washash.	2.7
3. Central Baghdad.	
Al-Sarrafiya, Khan Haji Muhsin and Al-Kasra	12.2
TOTAL	100.0
<u>SOURCE:</u>	
See <u>Table 8.1.</u>	

in the eastern part of Baghdad, for example, was only about three kilometres from the commercial core of the city. These camps were erected on land belonging either to individual town dwellers or to the state. Land near wealthy Baghdadi families was particularly valued, so that migrants might benefit from food, clothes and safe water supplied by these families, besides the great opportunities for female employment as domestic servants in these houses and for males to find jobs through these influential people. However, this type of settlement of migrants differs from that in most of the Middle Eastern and developing countries, whose migrants usually erect their shanty towns in places near their rural homelands or on the rural-urban fringes of the city.*

The rural migrants from Amara, in contrast with migrant families from other parts of Iraq, adapt themselves very well to the different aspects of the new urban life. This might be due to their greater previous knowledge of the city, usually acquired before their movement, from the large number of migrants from this region compared with those from other provinces. Moreover, the former migrants provide for all new arrivals great help. Unofficial organizations based on tribal traditions are usually established in the shanty towns to assist the new migrants and their families during their early days in Baghdad. The services of these organizations are so large that they even provide the migrants with pocket-money.

The total number of reed and mud huts in Baghdad is unknown, but they were estimated to be 47,000 in 1956, while the total of serifas and kukhs which were transferred from Baghdad and its outskirts in 1963 was about 55,000. About 80 percent of these

* The serifa camps were agglomerated in first class built-up areas such as Al-Masbah, as well as along major streets in the city centre (Plate XIV). Some of the migrants, moreover, built their camps in wrecked abandoned motor vehicles in the city.



Plate XIV . Air photograph (1cm. :c.150m.) to show intrusion of shanty dwellings in built up areas and the main drainage canal in eastern Baghdad (North-west/South-east).

huts were erected and inhabited by rural migrants from Amara. The remainder were mainly from other southern provinces of Iraq. Furthermore, the number of families who were living in reed and mud hutments in Baghdad shows the great concentration of rural migrants. In 1957 about 48,000 families in Baghdad were living in serifas and kukhs which suggests that the total of people living in these types of dwellings in Baghdad is almost as much as those living in Amara itself (44,000 families). Discussing the major shanty towns in Baghdad, in which the majority of rural migrants from Amara were living, will also help to show the large scale distribution of shanty dwellers in this city.

8.1 AREAS OF RESIDENCE, THE MAJOR SHANTY TOWNS IN BAGHDAD.

Baghdad was a moderate sized town until recently. Its population and area expanded enormously during the last decade due to two major factors: first was the high rate of population increase in the city owing to the great improvement of the medical, educational and economic conditions compared with other towns and rural areas of Iraq. This progress was mainly a result of the attention given since 1950 to such vital services. Second was the rural exodus to the city during the period 1955-1964, particularly from Amara. Rural inhabitants desiring something better went to Baghdad.

Precise population figures for Baghdad are not available particularly before the census of 1947 and the inter-census years after that. Thus, other estimates must be used in addition to the census figures to show the increase of the city population. The total population of Baghdad in 1930 has been estimated at about 219,000 inhabitants.⁽¹⁾ But owing to the great opportunities of employment during the Second World War a large number of people from the country-side moved to the city. Accordingly, the total population increased from about 300,000 inhabitants in 1941 to 515,400 in

1947.⁽²⁾ After the war the number of rural migrants began to decrease and the total population of the city increased only slightly. J.H.G. Lebon gave a figure of 550,746 inhabitants for greater Baghdad in 1953.⁽³⁾ But during the last ten years the total population of Baghdad increased greatly, mainly because of the displacement of rural inhabitants from Amara. By using the figure of Baghdad's population in 1947, De Vaumas found the figure of 600,000 or even 700,000 people likely for 1962.⁽⁴⁾ But, on the other hand, the total population of greater Baghdad (Baghdad Centre and the sub-urban agglomerations) in the Census of 1957 was 793,183 inhabitants.⁽⁵⁾ Thus, it seems reasonable to assume that the discrepancy in the above figures of population was caused mainly by the migration to Baghdad between 1947 and 1962.

The rapid expansion of the built-up area in Baghdad during the last decade, on the other hand, was due chiefly to the growth of the city as the economic and political centre of Iraq and the large scale government housing schemes. Moreover, the completion of the Tharthar reservoir and other flood and water reservoirs in the central and northern parts of the Tigris river basin after 1956, has reduced greatly the dangers of frequent floods in Baghdad, whilst completion of the Army Canal in the eastern side of the city has brought water to this arid part of Baghdad since 1961.* The last two projects, were of great importance to the eastward expansion of the city, for until 1956 only very limited expansion was possible in this direction because of the risk of flooding and lack of water supply.

* The Army Canal runs in the eastern part of Baghdad and brings the water from the Tigris river upstream of the city through this part to the Diyala river downstream of Baghdad. The project was started on 10th November 1960 and was completed on 14th July, 1961.

The impact of rural migration, therefore, on the growth of population and the development of the city, was clearly associated with the large scale emigration of rural inhabitants from Amara during the decade 1955-1964, and after 1958 in particular. The Map of Baghdad in the 1940's shows that there were only a few scattered shanty towns in the city (Fig.41). The largest concentration of reed and mud huts on the eastern outskirts of the city was then along the railway line between Baghdad and Baquba in the area known as Al-Majzara. At the same time, only a few reed huts were founded in the western part, where one of the largest shanty towns in Baghdad developed after 1950. Moreover, most of these shanty areas were occupied by some of the original Baghdadi poor working families, or by military or police personnel. Comparing the map of the 1940's with that of the 1960's in which the reed and mud huts can be seen everywhere in the city, the great impact of rural migration after 1958 can be readily appreciated (Fig.41).

However, before discussing the major shanty agglomerations in Baghdad, which remained within the city boundaries till the end of 1963, it is important to mention some of their areal patterns which might throw light on the impact of these shanties on the functions and land-use of the city. They coincided with the general north-south extension of the city along the Tigris river particularly on the eastern part of the city before the west-east growth after 1958. These hutments, moreover, were rarely established in cropped land such as vegetable gardens or fruit orchards, which bounded the city both north and south. These lands, whose products give high cash returns either belonged to wealthy people or they are far from the city centre. The migrant families from Amara did not erect their huts in remote places, particularly in the eastern part of Baghdad, because of the prevailing arid conditions and the deficiency or absence of transport.

Fig 41

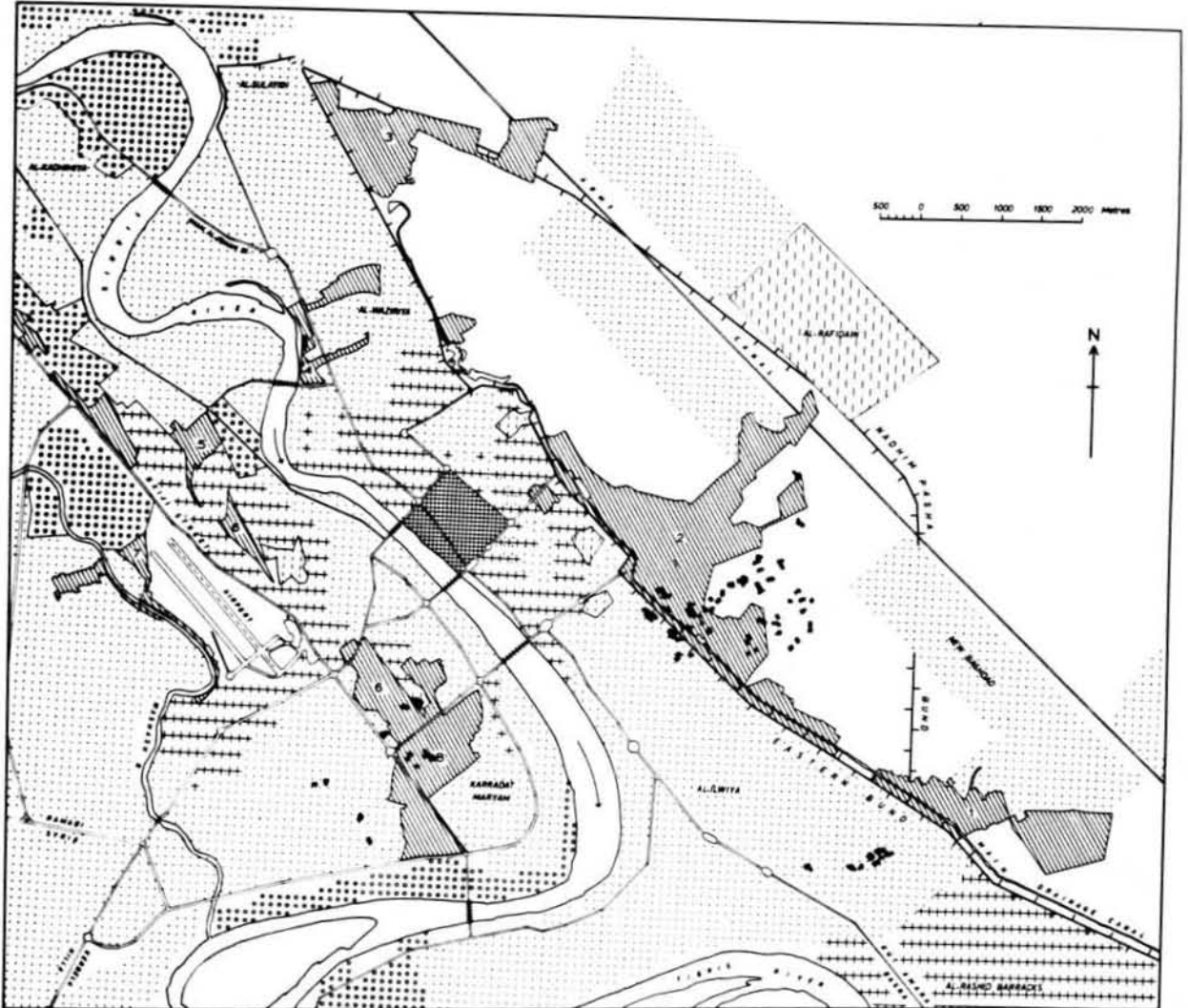


Fig 41

DISTRIBUTION OF SHANTY TOWNS IN BAGHDAD

- | | | | |
|----------------------------------|------------------------------------|---------------------------------|--|
| commercial core | orchards | MAJOR SHANTY TOWNS | |
| residential | settlements of migrants after 1963 | | |
| shanty towns before 1963 | cemetery | 1 tel-muhammad & camp alkhataun | |
| administrative | open spaces | 2 al-asima | |
| industrial, transport & services | flood bunds | 3 al-qahira | |
| roads | shanty areas in 1940's | 4 al-sarrafiya | |
| | | 5 al-shalchiya | |
| | | 6 baghdad, west | |
| | | 7 al-washash | |
| | | 8 al-shakriya | |

facilities. Instead they even settled on land subject to frequent floods in eastern Baghdad in order to be near the city centre.

Furthermore, large concentrations of hutments were erected within or near the industrial regions of the city. These shanty towns, were occupied mainly by migrants who preferred to live near their place of work. Some migrant families, however, built their houses among the residential areas of rich urban families, most of the inhabitants working either as domestic servants or gardeners for these wealthy families. These represented only a small proportion of the huts in the city.

The discussion of some of the largest shanty towns in Baghdad, will highlight more clearly the motives for migrants from Amara. In these towns the rural migrants lived in dense and dirty slums often inferior to those in their rural villages. But, inspite of that the stream of migration was continuous, because Baghdad was regarded as a paradise to rural dwellers (Plates XV, XVI, XIX)

8.1.1 The Migrants in Eastern Baghdad:

The Tigris river splits Baghdad into two parts, the old one on the right bank Al-Karkh and the new part on the left bank Al-Rusafa. The eastern part is lower than the high flood water level of the river. Accordingly, flood water inundated this frequently until 1956. Two large flood embankments had been built around this part of the city early in this century. The first dyke is built about two kilometres from the Tigris river and is known as the Eastern Bund, to protect the landstrip in between. This bund runs as a complete earth levee from its northern limit near Al-Sulaykh district, southward for about 20 kilometres.

Further to the east another flood embankment, was built before the above one, by one of the last Turkish governors,

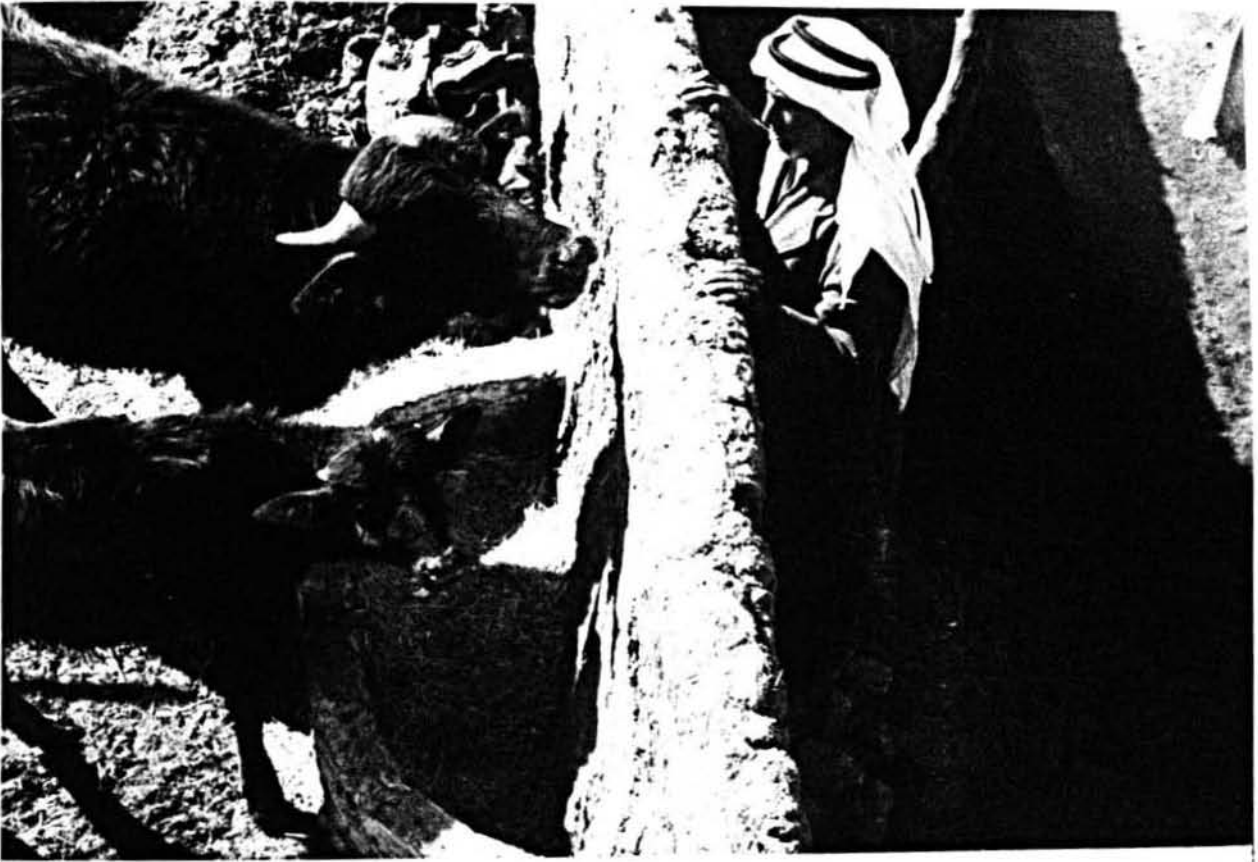


Plate XV : Water buffaloes in shanty town : Baghdad.

Plate XVI. A shanty town market in Baghdad.



Nadhim Pasha (Fig 41). This flood bund is shorter than the Eastern Bund and incomplete around the eastern part of the city. Between the two embankments there were many flood channels to divert flood water back from the city.

Behind the Eastern Bund, a large and continuous zone of shanty towns was created and developed despite the periodical flooding of this area. This embankment, therefore, built to protect Baghdad from floods, became later on a social and psychological barrier separating people according to their socio-economic conditions. The largest shanty agglomeration in this belt until the end of 1963 was Al-Asima.

(i) Al-Asima (Fig. 41 and Plate VII).

It is difficult to determine when this shanty town emerged as the largest and most overcrowded slum in Baghdad. Few of the interviewed migrant families who migrated before 1940 were living in Al-Asima; it was apparently occupied by a few poor town families and some of the migrants from the surrounding country-side. But it seems that it expanded enormously after 1950 as a major residential area for a larger number of migrants from Amara. It is difficult also, to define its boundaries, because it was connected with many other small shanty towns. But, it can be said that Al-Asima with its largest part Al-Majzana, extended for more than a kilometre to the former brick works to the east, and about 10 kilometres to Tel-Muhammad and New Baghdad districts to the south.

This town was established along both sides of the main uncovered drain of Baghdad called Al-Shtayit. The shanty dwellers used water from this drain for many domestic uses. It should be remembered that this drain was the largest habitat for the parasites of many endemic diseases such as bilharziasis, malaria and all kinds of dysentery in Baghdad.



Plate XVII . Air photograph (1cm. : c.150m) showing pattern of shanty dwellings in part of Al-Asima.

About 37 percent of the interviewed migrant families were living in Al-Asima before 1963 when this town was abolished and dwellers transferred to new settlements (Table 8.2). The total number of huts in this overcrowded and compact area was unknown. Nevertheless, it can be said that about 15,000 to 20,000 serifas and kukhs were concentrated in this settlement.

There were no streets for wheeled traffic in this town, but narrow and irregular pedestrian tracks. The only signs of government services, moreover, were a few safe water taps along the eastern flank of the Eastern embankment. Although other services such as schools, clinics and transport did not exist, Al-Asima dwellers could partially benefit from such facilities as were available in the adjacent Tel-Muhammad district.

In addition to Al-Asima, the core of shanty towns in the eastern part of Baghdad, the interviewed migrants were living in other serifa camps until the end of 1963. Their hutments extended along the Eastern Bund also, from Al-Asima to Al-Rashid Barracks in the south to the neighbourhood of Al-Sulaykh district in the north. Although it was difficult to separate these areas from Al-Asima, some of these hut conglomerations can be mentioned (Fig.41 and Table 8.2).

Near the Rashid Barracks, there was an old concentration of serifas and kukhs occupied by military families. This place Camp Al-Khatoun later attracted migrant families from Amara. Other migrants settled around the Armenian Church, closer to the city centre in the quarter which is called Camp Al-Armeni, and near Al-Gayfani oil depots.

Further to the north of these latter places some of the migrant families built their huts in the former Jewish Cemetery, in the Al-Shaikh Omar and in Qara Sha'ban quarters. These parts are much closer to the city centre than those mentioned above.

Another area of hutments from Al-Asima extended to the Bab Al-Shaikh and Abu-Saifain districts. These places in fact, are only less than one kilometre from the commercial core of the city.

On the northern most edge of Al-Asima, the largest serifa camp was Al-Kahira near Raghiba Khatoun district. Another but smaller shanty town called Camp Al-Sulaykh was near Al-Sulaykh district.

The remainder of the interviewed families were distributed in scattered hutments within the residential areas of the eastern part of Baghdad such as Al-Ilwiya and Al-Karrada Al-Sharqiya districts (Table 8.2.).

8.1.2 The Migrants in Western Baghdad:

The western part of Baghdad Al-Karkh, unlike the eastern part is higher than the flood water level of the Tigris. Hence, it is rarely affected by the periodic floods of the river. In contrast, floods of the Euphrates river were more common in this part of the city, but still on a very small scale and on very rare occasions, compared with the disastrous inundations of the Tigris. However, flood embankments were also constructed, particularly in the low areas. One of these dykes was built along Al-Khir or Al-Washash stream, the major flood channel which drains flood water from the western part of Baghdad to the Tigris far in the south. Another bund was built along the Tigris in the southern most part of the city near Al-Dora. Some of these flood levees can be found along the right bank of the Tigris river in Karradat Maryyam but only to a limited extent.

Accordingly, Baghdad has expanded easily and largely, westward in contrast to the eastern part, where the Eastern Bund was until recently a really great barrier to city expansion. This

phenomenon has affected the distribution of shanties in this side of Baghdad, The rural migrants from Amara found this part, because of rare flooding and the availability of water from the Tigris river and the many other canals such as the Al-Washash and Abu-Ghuraib; much better for settlement than the arid eastern side with its frequent inundations. Furthermore, this western part, which represents the old section of the city, was for a long time the great industrial and commercial sector of Baghdad. It is inhabited at the same time by the most wealthy urban families, so that, employment opportunities for rural migrants both in private houses or industrial and commercial establishments were very attractive.

As a result the shanty settlement on the Al-Kharkh side of Baghdad were widely distributed before 1963. Unlike those in eastern Baghdad, the shanties in the western part were mostly within built-up areas and near the residential districts of rich Baghdadi families. The chief concentrations of shanty towns in the western part of Baghdad until the end of 1963 included Al-Shakriya and some other conglomerations.

(i) Al-Shakriya: (Fig. 41)

This was the largest and oldest shanty area in this part of Baghdad. As in Al-Asima it is difficult to know when this settlement emerged, but it certainly expanded greatly after 1950. Before then this area, which was located at the southern extreme of the residential area of Al-Karkh, was inhabited by some vegetable cultivators' families, besides those military personnel of Al-Washash and Karradat Maryiam barracks (Fig. 41).

After 1950 when the migration of rural inhabitants from Amara started on a big scale, these small hutments around the military barracks expanded considerably (Table 8.2.). The core of this shanty town is Al-Shakriya concentrated mainly along the

Baghdad-Basra railway track.

In contrast to those of Al-Asima, Al-Shakriya dwellers could utilize much more medical and educational services, because of the many clinics and schools in this part of Baghdad. In addition, both government and private transport facilities between this town and other parts of the city were available and regular. These advantages were due to the location of Al-Shakriya itself. The built-up area in this part of Baghdad was expanding greatly, particularly to the south and west, so that Al-Shakriya was almost in the middle of one of the high class districts in Baghdad. It was surrounded, for instance, by many diplomatic offices and the buildings of Council of Ministers and the Palace of the Republic as well as many other important government offices, hospitals and schools.

As in the eastern side of Baghdad the agglomeration of reed and mud huts was not restricted to a single particular area. There were many other smaller shanty towns spread from the nodal shanty town Al-Shakriya. This sort of distribution of shanty towns in both parts of Baghdad was established inspite of the preference of rural migrants to live near their families and friends in the big towns. It seems that the impact of the economic factor on the distribution of the small shanty towns is greater than that related to tribal relationships. The existence of these minor hutments near the commercial and industrial areas in western Baghdad confirms this impression (Fig. 41).

But, unlike the north-south trend of shanty towns expansion in eastern Baghdad, the shanties in western Baghdad expanded mostly to the west with the general expansion of this part. In other directions expansion is checked either by the Tigris or the old built-up areas. At the same time, the rural migrants from Amara crowded in comparatively small areas, where the social and

medical services were, as in the major shanty towns, insufficient and concentrated in the built-up areas. Electricity, for example, was only in the main streets, with only a few public water taps.

The largest of these hutments in western Baghdad was that to the southeast of Baghdad-west railway station and called Um-Ili'dham (Table 8.2). This was connected with other shanty areas such as those behind the Iranian Embassy in Karradat Maryiam and Al-Shakriya along the Baghdad-Basra railway lines (Fig.41). Another area was founded opposite the previous hutments across the Baghdad-Hilla highway. The migrants built their serifa and kukh huts in this part, particularly densely near the Mosul railway station and on the outskirts of Al-Shaikh Maroof and Al-Shaikh Junaid cemeteries (Table 8.2). The concentration of shanty dwellings from these places extended along the railway track between Baghdad and Mosul and for about eight kilometres along the Baiji highway which links these two cities to Al-Kadhimiya district. The largest agglomeration in this area were those opposite Baghdad airport and around Al-Shalchiya railways yards and factories (Fig. 41).

In addition to the above shanty towns in western Baghdad, the reed and mud huts intruded here and there throughout this half of the city, such as those around Al-Rahmaniya water works and Al-Hurriya districts on the outskirts of Al-Kadhimiya.

8.1.3 The Migrants in Central Baghdad:

The rural migrants of Amara did not settle exclusively in the above mentioned large shanty towns in east and west Baghdad but a large number of them inhabited large shanty towns in the city centre of which the largest was Al-Sarrafiya and its environs.

(i) Al-Sarrafiya:

This shanty area emerged in the core of the city along the Tigris river itself (Fig.41). The reed and mud huts accumulated in the area between Al-Imam Al-A'dham street and the Tigris river on both sides of Al-Sarrafiya bridge. To the east of this agglomeration and across the above street, another concentration of hutments was created and well-known in Baghdad as Khan Haji Muhsin shanty town. Further, the serifa camps grew northward from these two areas along both the Tigris river and Al-Imam Al-A'dham street and constituted on both sides of this street one of the largest shanty settlements Al-Kasra in the middle of the city.

These shanty towns were surrounded by first class houses belonging to wealthy urban families. The dwellings in these shanties, on the other hand, varied between the reed and mud huts in Khan Haji Muhsin and those parts near the bridge, to brick houses in the Al-Kasra quarter. Nevertheless the standard of dwellings was generally very low. They were concentrated in small areas, with muddy narrow roads covered with dirt and stagnant water. Although the majority of occupants of these shanty towns were of rural origin, some were poor native Baghdadi families, particularly in the Al-Kasra district. These urban families were either the original inhabitants of these areas or moved into them later on .

Because of the location of Al-Sarrafiya and its adjacent areas, the dwellers enjoyed the different public services found within this part of Baghdad. The free medical services, for instance, were very close to them as one of the two largest public hospitals in Baghdad is in this area. Moreover, the only hospital for children in the city, at that time, was also on the outskirts of these shanty towns. Many colleges and numerous primary, intermediate and secondary schools were also available here. The role of these services can be seen in the educational status of dwellers in Al-Sarrafiya for instance, compared with other shanty agglomerations in Baghdad. In Al-Sarrafiya

and the surrounding area, the proportion of illiterate inhabitants did not exceed 43 percent, while this proportion was about 65 percent and 74 percent of the total population in Al-Shakriya and Al-Asima areas respectively.⁽⁶⁾

Although piped water and electric services were confined to the main streets, it was not difficult for Al-Sarrafiya dwellers to benefit from these facilities from their well off neighbours. The urban families usually helped the shanty dwellers by supplying such facilities freely from their own houses. As a result of these free services and the assistance from wealthy families, their economic status was such that most of the families could afford radio or sometimes television services. Because of these amenities also, these shanty towns attracted a larger proportion of the interviewed migrant families (Table 8.2.).

8.2 SOCIAL ASPECTS:

The majority of the rural migrants from Amara adapted the social traditions of rural society in all the shanty towns in Baghdad. An investigation of the social attitudes of the migrants in the shanty settlements could help one's understanding of the nature of social relationships in both the rural villages of Amara and those in Baghdad, as well as their impact upon the motives for migration and the migrant himself.

It is clear that most of the rural migrants from Amara unlike those in other Middle Eastern and developing countries, settled in the above mentioned shanty towns simply because their friends or relatives were living there, while the migrants to Cairo, for example, usually settle in any part of the city which resembles their home area physically or socially.⁽⁷⁾

Not only are the tribal links of great importance in the shanty towns, but the migrants exhibit other social characteristics associated with rural society such as high fertility rates and the type of dwellings. The fertility rate in the major shanty towns was higher

than that in the true urban districts of Baghdad, or than that of Amara or Iraq (Table 8.3).

TABLE 8.3.

FERTILITY RATES AND PERCENTAGE OF POPULATION UNDER FIVE AND UNDER
TEN YEARS OF AGE - 1957.

AREA	FERTILITY RATIO	PERCENT OF POPULATION	
		Under 5 years	10 years
Iraq	888.2	19.3	15.0
Amara	837.3	17.3	17.8
Baghdad	788.5	17.7	13.1
(a)			
Al-Shakriya	925.3	20.4	15.1
Al-Asima	966.3	20.5	16.0
(b)			
Al-Salhiya	601.6	12.9	10.4
Al-Waziriya	548.4	14.2	11.2

SOURCE: Compiled from: The Census of Population, of 1957.

(a) Major Shanty towns in Baghdad.

(b) Major urban districts in Baghdad.

As a result of the high rate of fertility, the migrant families tend to be large and densities high in the shanty towns. The average size of the interviewed migrant families was 7.1 persons (Table 8.4). This average is larger even than that in Amara and Iraq as a whole where the family size averaged 5.2 persons and 5 persons respectively in 1957. The largest proportion of these families, moreover, had seven members, while only a small proportion numbered one or

TABLE 8.4.

SIZE OF INTERVIEWED MIGRANT FAMILIES IN BAGHDAD ^(a)

SIZE OF FAMILY (PERSONS)	NO OF FAMILIES OF THIS SIZE.	PROPORTION OF TOTAL FAMILIES.	TOTAL OF MEMBERS	PROPORTION OF TOTAL OF MEMBERS
1	3	1.0	3	0.1
2	6	2.0	12	0.6
3	17	5.8	51	2.4
4	28	9.5	112	5.3
5	35	11.9	175	8.3
6	43	14.6	258	12.3
7	45	15.3	315	15.0
8	40	13.6	320	15.3
9	29	9.8	261	12.4
10	10	3.4	100	4.8
11	15	5.1	165	7.9
12	9	3.1	108	5.1
13	7	2.4	91	4.3
14	3	1.0	42	2.0
15	1	0.3	15	0.7
16	1	0.3	16	0.8
17	1	0.3	17	0.8
18	1	0.3	18	0.9
19	-	-	-	-
20	1	0.3	20	1.0
TOTAL	295	100.0	2099	100.0
Average size of household 7.1				
(b)	"	"	"	in Sweden 2.8 (1960)
	"	"	"	in U.K. 3.1 (1961)
	"	"	"	in France 3.1 (1962)
	"	"	"	in W.Berlin 2.1 (1961)
SOURCE: (a) See <u>Table 8.1.</u>				
(b) U.N., Department of Economic and Social Affairs: <u>Demographic Year Book for 1963</u> , N.Y.(1964), pp.704-710.				

two persons. Compared with those of developed countries these figures are high (Table 8.4). Perhaps the increase of the average size of migrant families in Baghdad is due to the decline in mortality, owing to the improvement in public health methods. Urbanization, therefore, does not always reduce the birth rate, it is true that the changes in economic status or a rise in per capita income will cause a reduction in the birth rate.

The migrant families, moreover, lived in Baghdad, in settlement resembling the Salafs or Nazils in the rural areas of the Kahla or Maimouna regions, but more overcrowded. The congestion or high density of these hutments in Baghdad was due to the decrease in the social mobility of the dwellers, since each family prefers to settle near its kinsfolk, whereas it was easy for rural inhabitants in Amara to move within large settlements since each tribe occupies vast areas. Besides, the rural migrants could not build many dwellings in Baghdad, where the building materials are not free as in Amara.

In addition, most of the rural migrants still maintain in these settlements, their social habits such as marriage customs, leadership and social and religious institutions. The migrant in Baghdad still prefers to marry one of his relatives from Amara, rather than from another migrant tribe or clan in the same shanty town. The female migrants, moreover, did not lose many of their social customs, although they contributed less to the family labour force than in an agricultural society. They also became better dressed than before as a result of the improvement of the family economic conditions. Men, on the other hand, started to use different types of clothes at work, but kept their rural type of clothes in the shanty towns.

The rural migrants in the shanty towns also maintained much of their loyalty to their tribal shaikhs. The shaikhs who contributed greatly to the economic and social deterioration of Amara, and lost their economic and political powers in rural districts, retained their full tribal leadership in the shanty towns. They were again dealing with the different affairs of their tribesmen in the shanty towns. The members of each tribe in Baghdad collected money to build the splendid Mudhifs of their shaikhs and even supplied them with pocket money. This strong relationship between the shaikhs and the rural migrants in Baghdad has tightened, in fact, the tribal relations between the migrants.

Accordingly the guest house is found in the shanty towns where it still constitutes an important public place since it represents the residence of the shaikh. But coffee houses where the men usually meet and discuss different affairs particularly those related to their former society are becoming more popular in these towns.

Other important public places in the shanty towns were the religious institutions, which were built in large numbers in these settlements. The rural migrants became, in fact, more conservative from the religious point of view in Baghdad than in their rural society. This deep religious belief might be a unique feature of rural-urban migration in Iraq. In most of the developing countries the religious faith and thought of migrants is less important in the urban areas than it was in their former places. This difference may be due to one or more factors. The isolation of rural areas of Amara particularly the marshy districts, from the rest of Iraq associated with inadequate educational and civil services has strengthened the influence of religion on the rural dwellers. Religious men and institutions were almost the only

means of education and played a major role in the social and private affairs of the villagers. Moreover, the rural migrants strengthened their religious customs in Baghdad as a reaction to the new dynamic urban society with its highly changeable ideas and to defend their strong and deep tribal traditions, since the influence of the religious man was a part of the influence of the landholders in Amara as has been seen before.

Consequently, it can be said that the urbanization of rural migrants in Baghdad, did not affect their social, religious and tribal attitudes to a great extent. The interests of the social group or the tribe as a whole were still more acceptable and important than those of any particular individual. The loyalty of the rural migrant in Baghdad in contrast to that in most developing countries is primarily to his clan or tribe, as it was in the rural society, of Amara, rather than to any other social organization whatever the period spent in the city and despite the prevailing individualism in the urban society. About 98 percent of the interviewees were still loyal to their tribal system and keeping their tribal attitudes in Baghdad. This phenomenon seems similar to that in Ibadan in Western Nigeria, where there are distinct areas inhabited by people from different parts of the country who keep their tribal attitudes even though they are permanently settled.⁽⁸⁾

However, the strong tribal links of the rural migrants in Baghdad reveals what little effect the urban society has on their social life on one hand, and how strong were the reasons which, inspite of these strong tribal links, forced them to emigrate. This kind of common feeling could be used for more fruitful economic and social development in Amara, especially if the rural migrants in Baghdad can be persuaded to go back to Amara.

8.3 ECONOMIC CONDITIONS OF MIGRANTS IN BAGHDAD:

It is clear from what has been said in the previous pages that the housing conditions and many of the social attitudes of the rural migrants in Baghdad were not very different from those in Amara. By contrast the migrants economic conditions are clearly superior in Baghdad to those in Amara. Better employment and income opportunities in Baghdad, explain the continuity of rural migration from Amara.

8.3.1 Employment and Income:

It was not difficult for rural migrants from Amara, as has been mentioned, to find jobs in Baghdad within a short time of their arrival or even before that with the assistance of their relatives and friends. However, since almost all the migrants are cultivators, they included few skilled workers. The majority of them, therefore, engage in unskilled employment, at least for some time until they acquire experience to take some skilled work.

The large proportion of unskilled workers in Baghdad shows the important role of emigration in the employment structure of the city. About 43 percent of workers in both government and private industrial sectors were unskilled in 1962, while the skilled and semi-skilled workers constituted about 41 percent.⁽⁹⁾

About 64 percent of the interviewees were manual workers and of these a very high proportion were employed in building construction and the municipal services such as street sweepers porters and door to door canvassers (Table 8.5). Many migrants find work in building construction, chiefly in the private sector where wages are lower than in the government sector, since a higher degree of skill is needed in the government sector and is usually provided by the local urban workers.

TABLE 8.5.

EMPLOYMENT STRUCTURE OF THE INTERVIEWEES (PERCENT OF TOTAL FAMILIES).

TYPE OF WORK	PERCENT
Manual workers (construction, transport, manufacture, porters and canvassers.	63.7
Military personnel	11.5
Green grocers and mobile shop keepers	10.2
Shops and coffee-houses keepers	5.4
Night watchmen	2.7
Retired service-men	2.4
Civil Servants	1.7
Unemployed	2.4
TOTAL	100 .0
<u>SOURCE:</u>	
See <u>Table 8.1.</u>	

Accordingly the number of unskilled workers and watchmen in the private sector of building construction in Baghdad was about 14,000 compared with only about three thousand in the government sector per month.⁽¹⁰⁾ Furthermore, the average annual income of workers in the private sector was about I.D. 141, while it was about I.D. 171 for those in the government sector.⁽¹¹⁾ It is interesting to note, also that the total of workers in both government and private constructional work comprised about 54 percent of the total workers in Iraq in 1963, and their total wages constituted about 57 percent of the total wages of workers of this industry in Iraq.

This shows two facts, first, the concentration of the constructional projects both in terms of work opportunities and capital investment in Baghdad compared with other parts of Iraq, and second the impact of rural migration upon the employment structure in the city where the migrants constitute the bulk of the labour force in this sector.

Further evidence of the concentration of the rural migrants in unskilled employment in Baghdad can also be seen from a study made by the Ministry of Planning at the end of 1961. It appeared that the proportion of workers in services such as coffee-houses, restaurants and hotels did not exceed 14 percent of the total wage earners in the built-up areas of Baghdad, while it equalled 35 percent of those living in shanty towns.⁽¹²⁾

The same study showed that the labourers in services such as transport, constructional works and manufacturing who were living in shanty towns was 53.5 percent of all working persons. This proportion does not differ from that obtained from the interviews with the migrant families in 1964. The same is true in the case of the government wage earners such as military personnel, porters and retired civil servants. This group constituted about 31.5 percent in the study of 1961 and about 30 percent of the total interviewed families (Table 8.5).

Furthermore, almost all members of the migrant family are economically active either in permanent or temporary jobs. The proportion of idle migrants interviewed in Baghdad was only 2.4 percent of all families (Table 8.5). But even this proportion represents only that of family heads; women and girls, for example, often work as domestic servants or part time cleaners in built-up districts of Baghdad. On the other hand, many female migrants engage in handicraft such as making paper bags or knitting fishing nets and some of them become bakers. Others are workers in

tailoring and textile industries. Some old men work as night watchmen both in government and private firms. Others are shop keepers, vegetable grocers, milk-men or news-men in the city. Boys also do some profitable work as street vendors or selling cigarettes and sweets or as assistant drivers either permanently or only during vacations if they go to school. Some of the migrant families have a number of cows or water-buffaloes and sell milk and milk-products to urban families. These families until recently can be considered the major suppliers of these products in Baghdad.

A large number of the interviewees have more than one job at the same time. Some of them, for example, work as porters in the government offices during the day time and as employees in private establishments such as doctors' clinics or as drivers and watchmen after that. Other migrants open private shops in which they work after their official duties or in holidays.

Therefore, the economic prosperity of the migrant families in Baghdad is produced from combined sources of income; while in Amara agricultural produce was the only source of income for all members of a rural family. Moreover, the incomes of the migrant families in Baghdad have become cash and come regularly each month or week, in contrast to their consumptive and uncertain agricultural income in Amara.

Another significant difference in the employment situation of migrants in the city is that for the first time they can choose the kind of work they like. The influence of the shaikhs and their agents does not exist in Baghdad nor do the migrants' incomes belong to the money lender or the landholders as in the rural society of Amara. The cash income of the migrant family sometimes becomes large enough for a considerable surplus to be left. This is usually due to the combined earnings and low expenditure of the family.

Unlike urban families rural migrants pay little rent for houses, have no electricity or purified water bills and consume cheap food stuffs. Some times the total expenditure of the migrant families is very small, particularly when these families live within the wealthy urban quarters.

Only five percent of the total interviewees were apparently in debt. But even this low proportion may be exaggerated, because most of the interviewees were afraid to give correct information which might show their economic prosperity and in turn lose the sympathy and the assistance of people and the authorities in the city. Furthermore, inspite of the strong social links between the migrant families in Baghdad and their relatives and friends in Amara, few have financial responsibilities such as sending money back to their home villages, since all the family emigrated together.

The total annual income of migrant households is obviously higher than formerly in Amara. The annual income of 58 percent of the heads of the interviewed migrant families was more than I.D. 180, and the income of about 25 percent of them was more than I.D. 300 per annum (Table 8.6.). Certainly about 90 percent of the interviewees earned I.D. 144 or more per annum. These migrants whose present income is less than I.D. 60 per year constituted less than two percent of the total interviewees. On the other hand in Amara the income of about 42 percent of these families was less than I.D. 12 per family per annum (Table 2.6), and for 32 percent of them it was between I.D. 12 and 36 per annum. (Fig.42).

Accordingly, the economic status of migrant families has improved unmistakably in Baghdad. The increase of the family income has in turn affected other aspects of the migrant families lives. The family started, for instance, to expand larger amounts of its income on food, clothes and furniture, than at any time before, as will be seen in the following pages.

TABLE 8.6.

MONTHLY INCOME OF INTERVIEWED HEADS OF FAMILIES IN BAGHDAD.

INCOME (I.D.)	PERCENT
Less than 5	1.7
5 - 10	8.1
10- 15	32.2
15- 20	23.1
20- 25	10.2
25 and over	24.7
TOTAL	100.0
<u>SOURCE:</u>	
See <u>Table 8.1.</u>	

8.3.2 Household Expenditure:

About 83 percent of the family income in the shanty districts was found to be spent on essential items such as food, clothing and fuel in 1954 (Table 8.7). These items, represented a higher proportion of the shanty dwellers' expenditure than of those in the city itself. Another difference between the two groups is clear in the proportion of income devoted to sugar and tea; the shanty inhabitants spent about 11 percent of their income on these items, whilst the urban people spent about half of that, or six percent, on these food items. In fact, until recently, sweet black tea and bread were the main items in the daily food of the shanty dwellers. However, it can be said that about 66 percent of the serifa and kukhs' occupants' expenditure is on food stuffs against about 57 percent in the built-up areas.

Fig. 42

ANNUAL INCOME OF INTERVIEWED
MIGRANT FAMILIES IN BAGHDAD
(POST MIGRATION)
(in percent.)

(IRADI DINAR)

120 - 180

12 - 120

180 - 300

300 & more

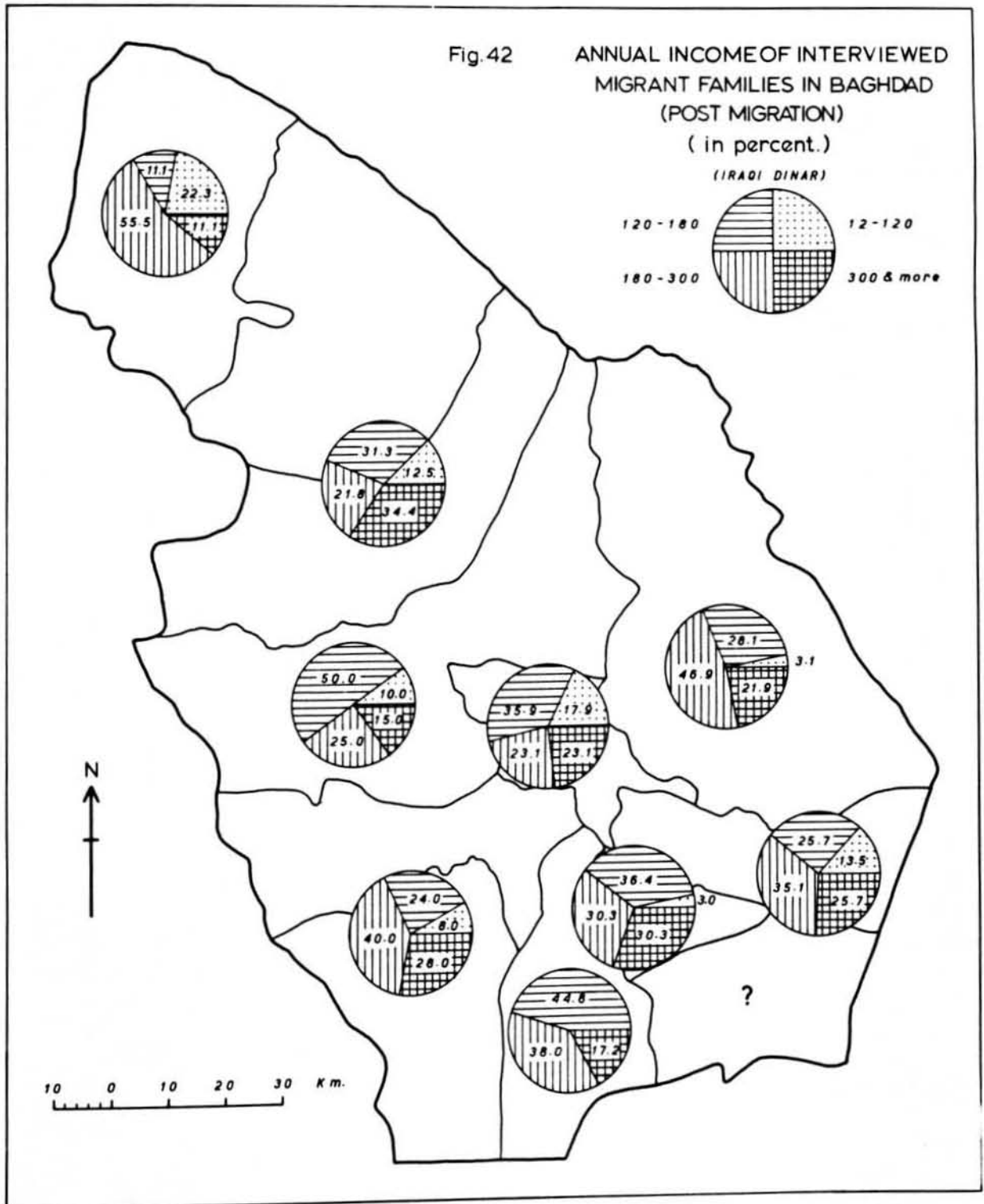


TABLE 8.7.

AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD 1954.

TYPE OF EXPENDITURE	BUILT-UP AREA			SERIFA CAMPS		
	I.D.	FILS	PERCENT	I.D.	FILS	PERCENT
FOODSTUFFS:						
Cereals	4	674	23.65	4	042	33.17
Meat	2	092	10.59	1	252	10.28
Vegetables	0	887	4.49	0	536	4.40
Eggs	0	252	1.28	0	051	0.42
Sugar and Tea	1	187	6.01	1	385	11.37
Fruits	0	291	1.47	0	000	0.00
Others	0	557	2.82	0	257	2.11
TOTAL	11	247	56.92	7	986	65.55
Clothing	1	408	7.13	0	935	7.67
Fuel and Electricity	1	434	7.26	1	240	10.18
Furniture	0	309	1.56	0	137	1.12
Rent	1	786	9.03	0	000	0.00
Miscellaneous :						
Cigarettes						
Transport and	2	889	14.62	1	528	12.54
Others						
Cleaning Materials	0	686	3.48	0	358	2.94
GRAND TOTAL	19	759	100.00	12	184	100.00

SOURCE:

Statistical Abstract for 1955, pp.132-133.

About 18 percent of the shanty families expenditure was devoted in the same year to clothing and fuel, whilst it was about 13 percent (excluding electricity) that of urban families.

At the end of 1961 it still appeared that food stuffs consumed a larger proportion of the total household expenditure in the shanty towns than in the city just as in 1954 (Table 8.8). Cereals, sugar and tea still represented the largest part of the family expenditure on food stuffs, while other food items such as livestock products and fruits were still a smaller proportion. But at the same time the expenditure of shanty dwellers on rent, clothing and furniture was much lower than that in urban districts as it was in 1954.

However, after 1961 all shanty settlements in Baghdad were transferred to new districts outside the city (Fig.41). In these new settlements the rural migrants live mostly in brick houses, and their economic, social and nutritional conditions are much better than in the former serifa and kukhs' hutments. Instead of the narrow dirty foot paths of the shanties, wide paved streets became predominant with regular transport services to connect these new towns with other parts of Baghdad (Plate XVIII). The houses in these settlements are supplied, for the first time with electricity and safe water. Schools, clinics, markets and shops are found everywhere in these places as will be seen later on. It is useful therefore, to consider the nature of rural migrants' expenditure in their new settlement areas.

At the end of 1964 a general dietary and expenditure survey carried out by the writer showed that the average monthly expenditure per interviewed migrant household appeared to be I.D. 22,958 (Table 8.9)*. As in the previous two studies of 1954 and

* It should be remembered that this study included only the migrant families from Amara, while the other two studies of 1954 and 1961 covered all shanty dwellers.



Plate XVIII : A modern road in the new migrant settlement of Al-Rafidain : Eastern Baghdad.

Plate XIX : Bazaar in a shanty town, Baghdad.



TABLE 8.8.

AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD ACCORDING TO THE TYPE
OF EXPENDITURE, 1961

TYPE OF EXPENDITURE	BUILT-UP AREA			SERIFA CAMPS		
	I.D.	FILS	PERCENT	I.D.	FILS	PERCENT
Foodstuffs	27	342	47.8	11	887	61.4
Rent	5	048	8.8	-	018	0.1
Medicine & Med.Treat	4	936	8.6	1	610	8.3
Clothing	4	839	8.5	1	312	6.8
Furniture	4	829	8.5	-	713	3.7
Transport	1	753	3.1	-	502	2.6
Fuel	1	445	2.5	1	452	7.5
Cigarettes	1	364	2.4	-	715	3.7
Cleaning Materials	1	216	2.1	-	481	2.5
Electricity	1	151	2.0	-	053	0.3
Entertainment and other expenses	2	402	4.2	-	235	1.2
TOTAL	57	185	100.0	19	342	100.0

SOURCE:

Ministry of Planning, Central Bureau of Statistics:
The Household Budget Enquiry in the City of Baghdad
and its Environs, Government Press, Baghdad (1962),
Table 16 p.11.

TABLE 8.9.

AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD OF THE INTERVIEWED
MIGRANT FAMILIES ACCORDING TO THE TYPE OF EXPENDITURE IN 1964.

TYPE OF EXPENDITURE	I.D.	FILS	PERCENT
Foodstuffs:			
Sugar and Tea	1	920	8.4
Bread and Flour	2	283	9.9
Meat, Fish and Poultry	2	800	12.2
Milk and Milk Products	-	805	3.5
Eggs	-	450	1.9
Rice and grains	1	840	8.0
Vegetables	2	103	9.2
Fruits and Dates	-	770	3.4
Vegetable and Animal Fats	1	250	5.4
TOTAL	14	221	61.9
Clothing	1	875	8.2
Fuel	1	040	4.5
Electricity	-	492	2.1
Safe water	-	340	1.5
Furniture	1	186	5.2
Transport	1	400	6.1
Cigarettes and Tobacco	-	816	3.6
Other expenditures	1	588	6.9
TOTAL	8	737	38.1
GRAND TOTAL	22	958	100.0
<u>SOURCE:</u>			
See <u>Table 8.1.</u>			

1961, foodstuffs still consume the largest proportion, about 62 percent of the total expenditure of the family. But, some change has occurred in the proportions of food items of the monthly food expenses during the decade 1954-1964. Some items, which were considered luxurious and unnecessary in the shanty towns, became of more importance and among the necessities in the new towns. The rural migrants started to pay, for instance, for electricity for the first time, while previously they had no electricity (Tables 8.8. and 8.9). The same is true of safe water, for the migrants now use it from private taps installed in their houses and not from the public taps as before. However these two items constituted 3.6 percent of the total family expenditure, while the shanty dwellers were paying only 0.3 percent of their expenditure on electricity in 1961.

Another increase in the family expenditure during this period took place in transport expenses, from 2.6 percent of the family expenditure in 1961 to 6.1 percent of the interviewed families' budget in 1964. This increase is due, of course in part to the remoteness of the new migrants' settlements from the city, so that transport became necessary for the daily journeys to work in the city.

In addition the migrants, particularly women and children, began to spend a larger proportion of their incomes on clothing, because of the new semi-urban life. Clothing consumed 8.2 percent of the migrant families' expenditure in 1964 against 6.8 percent of the serifa camp dwellers in 1961 (Table 8.8. and 8.9). The migrants now live in brick houses, mostly of more than one room compared with the single-room reed and mud huts; thus more and better furniture is required and in turn a larger proportion of expenditure is needed for this purpose. In 1964 the interviewees devoted about five percent to furniture but it was about four percent of the shanty families' expenditure in 1961.

On the other hand the expenditure of migrant families has fallen on some materials, because of the general improvement of their conditions. Fuel, for example, was a very essential item for cooking, heating and lighting in the shanty towns, but its importance has decreased relatively with the use of electricity for lighting at least and the replacement of animal dung and charcoal by more efficient oil heating devices. The rural migrants as in the shanty areas, do not however pay rent at present because the government provided the land in the new settlements free to the shanty dwellers.

It is clear, therefore, that the economic conditions of the rural migrant families from Amara have improved considerably in Baghdad. Their incomes doubled many times and some of the interviewed migrants could even save a part of their incomes, while others were lending this surplus to needy people for interest. The possibility of economic prosperity in Baghdad still constitutes a real attraction to rural inhabitants in Amara, since these inhabitants believe that the improvement of the economic standard of the family is essential to any social change. However, among the most important effects of higher incomes in Baghdad, is reflected directly in the family food basket and levels of nutrition.

8.4 DIETARY BALANCE OF MIGRANTS IN BAGHDAD:

The distribution of the migrant family budget reveals the improvement of nutritional conditions of these families in Baghdad. Food stuffs consumed the largest proportion of migrant family incomes during the studied period, as mentioned above. Cereals namely wheat and rice, still form the basis of the migrant's food in Baghdad (See Appendix A, Quest.5), but there has been a continuous decrease of expenditure on these items. In 1954, for instance, cereals consumed about 51 percent of the total family

expenditure on food stuffs, but this proportion dropped to 34 percent in 1961 and to about 29 percent of that spent by the interviewed migrant families in 1964 (Table 8.10). The decline of the importance of cereals is due chiefly to the increase of family consumption of other types of food, especially vegetables and animal products.

Moreover, although sugar and tea remain essential parts of the rural migrant's daily food, their importance also began to decrease. In 1954 about 17 percent of the shanty family expenditure on food stuffs was spent on tea and sugar. This proportion which was almost unchanged in 1961 decreased to about 14 percent of the total monthly expenditure of interviewed families in 1964 (Table 8.10), as a result of increased variety in recent years. The migrant families started, also, to spend a larger proportion of their budgets on meat, fish, poultry and other animal products such as eggs, milk and milk products; it increased from about 16 percent in 1954 to about 29 percent in 1964.

Another indication of improvement in the diet of the migrants in Baghdad is that vegetables became more important as daily food items than before. Most families began to spend a larger proportion of their budget on these items (Table 8.11). The increase of family expenditure on animal products and vegetables is due chiefly to their availability and to their growing importance in the family diet.

After discussing briefly the distribution of family expenditure, it is interesting to compare the nutritional status of the migrant families in Baghdad with that in Amara. Many factors produce different nutritional conditions in each place. The higher incomes of the migrants in Baghdad enabled these families to spend more on food, of which a wider variety was available in the city compared with rural parts of Amara. About

TABLE 8.10.

AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD ON FOODSTUFFS (IN PERCENT).

TYPES OF EXPENDITURE	1954 ^(a)	1961 ^(b)	1964 ^(c)
Sugar and Tea	17.4	17.3	13.5
Cereals	50.6	34.0	28.9
Meat, Fish and Poultry	15.7	20.5	19.7
Livestock Products	0.6	5.7	8.9
Vegetables	6.7	9.1	14.8
Fruits and Dates	0.0	4.9	5.4
Fats	5.8	0.0	8.8
Others	3.2	8.3	0.0
Prepared foodstuffs	0.0	0.2	0.0
TOTAL	100.0	100.0	100.0
<u>SOURCE:</u>			
(a) See <u>Table 8.7.</u>			
(b) See <u>Table 8.8.</u> p.13			
(c) See <u>Table 8.1.</u>			

a half of slaughtered livestock in Iraq, for instance, are concentrated in Baghdad. The fish markets, moreover, in the shanty towns were among the largest of their kind in the city. This was also true of all kinds of vegetables, fruits and other food.

The rural migrants started to consume larger amounts of meat, fish, livestock products, vegetables and fruits than at any time before. Meat and fish became the basis of daily family meals in Baghdad, while these items, particularly meat, were rarely available in Amara. At the same time the importance of rice, which

TABLE 8.11

AVERAGE MONTHLY EXPENDITURE PER HOUSEHOLD ON FOODSTUFFS 1961.

TYPE OF EXPENDITURE	BUILT-UP AREA			SERIFA CAMPS		
	I.D.	FILS	PERCENT	I.D.	FILS	PERCENT
Sugar and tea	2	134	7.8	2	053	17.3
Bread and flour	3	806	13.9	2	970	25.0
Meat and fish	5	748	21.0	2	436	20.5
Livestock and Products	4	132	15.1	-	677	5.7
Rice and Grain	2	926	10.7	1	072	9.0
Vegetable	2	779	10.3	1	086	9.1
Fruits and Dates	3	222	11.8	-	586	4.9
Other food stuffs	2	575	9.4	1	007	8.5

SOURCE:
See Table 8.8. p.13

was a staple diet in Amara, has decreased either because of its high price in the city due to the shortage of rice or because of greater supplies of alternative cereals. Wheat in contrast, which is available in great amounts and at about half the price of rice or less, became the major cereal among migrants in Baghdad. The increase of the rice price reflects the shortage of this product in Iraq, which itself is due to the migration of the rice cultivators from Amara. Amara is not an important producer of wheat in Iraq; so that wheat production was not affected by the cultivators' emigration from this region as rice production was. However, the rural migrants' consumption of cereals is still higher than that of urban families, mainly because of the reasonable prices of these

products compared with other food stuffs such as meat and livestock products.

The rural migrants consume larger amounts of cheap fruits, vegetables, sugar and tea than urban people. The serifa dwellers consumption of dates, which is the cheapest kind of fruit in Iraq, in 1961, for example, was about three times that of city dwellers and more than six times in 1964, while their consumption of other fruits equalled about 1/17th and 1/13th that of urban dwellers in the respective years (Table 8.12).

Consequently, the amount of calories and nutrients consumed by the shanty dwellers in Baghdad is much greater than that in Amara. The calories intake of the shanty dwellers, in particular, nearly achieved the requisite levels.⁽¹³⁾ Naturally, this is due to the greater amounts of cereals consumed. The average daily intakes of wheat and rice in Baghdad was 379 gm per person in 1961 and about 466 gm per person of the interviewees in 1964, while the average daily consumption of wheat and rice in Amara was about 220 gm per person.

These figures suggest the total calorie intake of the rural migrants in both Amara and Baghdad. Cereal crop supply about 70 percent of the total calories in Amara, the rest being supplied by other food stuffs. By contrast, in Baghdad the migrant families spend a smaller proportion of their expenditure on cereals and much more on other food stuffs (Table 8.1D).

It is interesting, therefore, to compare, for instance the daily intake of calorie and protein requirements of the serifa camp dwellers and recommended levels in normal conditions. The average daily intake of calories per person in the shanty towns was 2231 in 1961, which is almost equal to the normal average daily requirements in conditions similar to those in Amara and Baghdad.

TABLE 8.12

AVERAGE DAILY CONSUMPTION OF FOOD PER PERSON (AS PURCHASED,
GRAMS)

FOODSTUFFS	BUILT-UP AREA (a)	SERIFA (a) CAMPS	INTERVIEWED (b) MIGRANTS
Meat, Fish & Poultry	84.0	48.0	53.3
Eggs	10.6	1.0	2.3
Milk and Milk Products	92.0	24.0	75.0
Fats	24.0	15.0	23.9
Cereals (Wheat & Barley).	320.0	379.0	465.5
Pulses	25.0	9.0	19.0
Vegetables	189.0	115.0	175.2
Fruit	99.0	6.0	8.1
Dates	19.0	65.0	123.3
Sugar	75.0	92.0	79.0
Tea	5.0	7.0	6.3

SOURCE: Calculated from :
 (a) See Table 8.8., p.18
 (b) See Table 8.1.

At the same time the total average daily intake of protein in the serifa camps per person, in 1961, also was 60 gm, while the average protein requirements for adult men and women are about 46 gm. and 39 gm. per day respectively.

It can be concluded, however, that better housing, health, education and social facilities were important causes of

the rural displacement from Amara. But it seems that these achievements were not the only dreams of rural inhabitants. The migrants in Baghdad were living until 1963 in dense and dirty slums much worse than those in Amara. Moreover, the majority of them were interested only a little in the educational and social opportunities in the city at least in their earlier days. They were, in fact, seeking for something else which is essential for social and economic improvement which it was often impossible to find in their rural society. More opportunity for employment or better incomes were what they were looking for and were of equal or even greater importance than social advancement.

As far as the diet conditions of migrants are concerned, for example, the importance of economic prosperity, such as better earnings in Baghdad which is one of the most important achievements of the migrants in their new society, is quite obvious. In the rural areas where the income of the cultivator was only consumptive and there was little possibility to cultivate or buy a variety of food, malnutrition was widespread and many diseases predominated. The nutritional advancement of the rural migrants in Baghdad was also improved their educational and social conditions. More migrants started to send their children to school or to attend themselves than any time before.

Chapter VIII, References :

1. E. Dowson: op.cit., p.15.
2. J.H.G. Lebon: "The Site and Modern Development of Baghdad", Bulletin De la Societe De Geographie D'Egypt, XXIX (1956), p.30.
3. L.E. De Vaumas: "Introduction Geographique A' L'Etude De Baghdad", Arabica, IX (1962), p.246.
4. P. Marthelot: "Baghdad, Notes de Geographie Urbaine", Annales de Geographie, LXXIV (1965), p.25.
5. Ministry of Interior: Statistical Abstract of Census of 1957, Baghdad, Dar Al-Tadhamun Press, (1962), pp.16-38.
6. Ibid, pp.16-40.
7. J. Abu-Lughod: "Migrant Adjustment to City Life: The Egyptian Case", American Journal of Sociology, LXVII (1961), p.22-32.
8. R.M. Prothero: "Continuity and Change in African Population Mobility", in R.W.Steel and R.M. Prothero (eds): Geographers and the Tropics: Liverpool Essays, Longmans, Green and Co. (1964), p.209.
9. Ministry of Planning, Central Bureau of Statistics: Results of the Monthly Industrial Census for Baghdad of 1962, p.9.
10. Ministry of Planning, Central Bureau of Statistics: Results of the Constructional Census of 1963, Government Press, Baghdad (1965), p.11.
11. Ibid, p.13.
12. Ministry of Planning, Central Bureau of Statistics: The Household Budget Enquiry in the City of Baghdad and its Environs, Government Press, Baghdad (1962), p.7.
13. Ibid, p.17.

CONCLUSION

The persistence of rural migration in Amara is a major problem in Iraq as has been seen on many occasions throughout this thesis. The nature of the problem and the number of migrants during the ten year period 1955-1964 might not differ greatly from other rural-urban movements, but the result of this movement upon the agricultural economy of Iraq and on different aspects of life in Baghdad seems to have been more important than is generally appreciated. There are, therefore, many reasons which render the rural exodus from Amara undesirable. During the period under investigation the cultivated areas and the total production in Amara were decreasing and the agricultural labour pool was running short. It has been seen in Chapter seven that the agricultural sector of Iraq's economy was declining and the national production of cereals especially rice became insufficient for local demand and Iraq began to depend on imported rice for the first time in 1956. Thus, if the movement of cultivators to towns could be reduced or stopped there will be a possibility for improvement of the economy of Iraq as a whole. On the other hand the decline of the number of migrants from Amara will alleviate some of the economic and social problems created in Baghdad and reduce the amount of investment on projects devoted to deal with these problems in the city. This will help in turn to make more capital available for the development of the country side and to eradicate the causes of complaint in rural society.

Furthermore, as long as the rural migration from Amara continues to Baghdad there will be a serious danger of similar migration from adjacent provinces of southern Iraq. Although the cultivators' standard of living in the neighbouring provinces is generally better than that in Amara, it is still much lower than rural migrants in Baghdad. At present there is a movement of cultivators from all southern provinces, but only on a small scale compared with

that from Amara. But there will always be a great possibility that the widening gap between the rural societies in these provinces and in Baghdad may increase the present trickle of migrants to a stream in the future.

If this happens it will be a real disaster to the economy of Iraq since the flood plain of the twin rivers is the largest food basket of the country and is inhabited by more than 60 percent of the total population. Diwaniya province which at present is the leading rice producing area in Iraq could be in the same position as Amara within a few years. Also, any losses in the local agricultural labour force in the Nasiriya province, the leading barley producing region in Iraq, for instance, will directly affect the production of this crop which represents the leading cereal crop for export. It is of course, possible to argue that Iraq should use machinery to compensate for lack of labour in the agricultural sector, resettle the migrants living now in Baghdad in their former places or resettle cultivators from some densely populated Arab countries as has sometimes been suggested in recent years. But it is obvious that such proposals are not easy to apply at present or the foreseeable future for many technical, economic, social and political reasons.

The government of Iraq which did not bother about the movement of cultivators from rural areas to towns before 1950, began after this year to realize the grave situation created in both the country side and towns as a result of this movement. Thus, it began to pay some attention to the problems in Amara, the major source of rural migration in Iraq, but unfortunately most of the effort was devoted to solving the problems created in Baghdad as a result of the increasing number of migrants.

In addition to the government measures of 1952 and 1955 (see Chapter II) to deal with the problem of land ownership in Amara as a major "push factor" in the region, and the agrarian reform plan

of 1958, it is important to discuss the measures introduced in both Amara and Baghdad after 1958 to show that none of the measures really succeeded in preventing the flow of migrants.

In 1959 steps were taken in Amara to deal with the increasing exodus of rural dwellers. In the first place the agrarian reform administration temporarily let vast areas of the newly confiscated land and state land to cultivators and supplied them with seeds, fertilizers and agricultural loans. Secondly, a large number of water pumps were installed all over the region to supply the cultivators with greater amounts of water for irrigation. Thirdly, the agrarian reform authorities encouraged the establishment of agricultural cooperative societies chiefly for wholesale purchasing and marketing purposes. But these measures were not accompanied by adequate projects of social transformation such as those of housing, education and health. Thus, since the cultivators were migrating from Amara not only for better chances of employment in Baghdad but for better social and medical amenities, the movement of rural inhabitants continued inspite of these emergency measures.

Other measures, therefore, were essential. The General Military Officer in Iraq, for instance, issued an order dated in September 1959 to establish check points on the road between Amara and Baghdad to prevent the movement of cultivators. In the same order he prohibited the movement of cultivators from one agricultural area to another within provinces of Iraq. The Ministry of Social Affairs, moreover, asked the Ministry of Interior in a proclamation dated in December 1959 not to allow any person who was a cultivator or indebted to the Ministry of Agrarian Reform and left farming to be employed as a worker in towns. Between the 25th. and 27th. of April 1960 a conference for the governors of provinces in Iraq was held in Baghdad and one of the leading subjects on the agenda was to discuss the problems of the movement of rural people to towns in Iraq. The conference, declared that attention should not only be given to the

migrants in Baghdad but to the problems of rural societies too. It recommended also the establishment of a special administration to deal with the problems of shanty dwellers in Baghdad and to take the required steps to stop the migration from the country side to the city. In spite of these measures the rural exodus to Baghdad continued and some of the rural dwellers began to emigrate secretly and by night. Then, in September 1961 the General Military Officer issued a second order by which he prohibited the establishment of any reed or mud dwellings within the municipal boundaries of Baghdad. Finally, at the beginning of 1963 the Council of Ministers fixed the end of September of that year as the final date to transfer the last serifa and kukh huts from Baghdad.

However, although it was difficult to apply these measures practically, they were apparently introduced only to stop the movement of people, while they had very little effects upon the real problems in Amara. They were dealing with the consequences of migration rather than its causes. The rural society of Amara was now suffering not only from the traditional problems such as land ownership, but from the political unrest in the country. The confused political situation after 1958 disturbed the social and economic relations in rural areas of Amara and it became difficult for a great number of rural dwellers to stay in their home villages. At the same time the inadequate planning of development projects continued as in previous years, for while the rural population in Amara were suffering from very low standards of living the authorities in Baghdad were implementing new projects to help migrants in the city and to improve their standard of living.

After 1960 and especially after 1963 when the number of migrant cultivators increased some attention was at last given to problems of Amara. Two major projects were implemented; first, the sugar cane plantation and factory in the Mijar Al-Kabir Nahia, and

secondly, the Sa'ad Canal Project in the Kumait Nahia.

A sugar cane plantation project in Amara began in 1965. The cost of this project was estimated to be around I.D. 10 millions. An area of 47,000 mesharas, has been chosen for this purpose in Mijar Al-Kabir about 30 km. to the south of the capital town of Amara. The project includes a sugar cane plantation and refinery of 100,000 tons total capacity per annum. By 1969 it will provide employment for about 3200 workers. The most important aims of the project are to reduce emigration from the region and to reduce the amounts of sugar imported to Iraq which is around a quarter of a million tons each year (worth about I.D. 16 millions). The first stage of this project was the preparation of an area of about 25,000 mesharas for cultivation. It was planned that by February 1968 the production will be about 6,000 tons of sugar and by November 1969 the total project area will be fully cultivated.

The Sa'ad Canal Project was another step to strengthen the ties between the cultivators and the land in Amara. It was also an attempt to persuade the rural migrants in Baghdad, the majority of whom were once cultivators, to resettle in Amara again. Sa'ad Canal is one of the Tigris river tributaries. It leaves the left bank of the Tigris at about 37 km. upstream of Amara and runs to the As-Sinaf marsh for about 34 km. The canal silted up about 50 years ago, and the new project is designated to reopen the canal and to irrigate an area of about 100,000 mesharas. It is planned to cut 29 new minor canals and a regulator on the intake of the major canal. Furthermore, 29 villages are to be built one on each branch of the canal. Two mesharas will be granted to each cultivator for house, garden and pasture. At the same time 15 water pumps will be installed on the intake of the Sa'ad canal. Two major drainage canals on both sides of the canal will be dug and run for about 35 km. The total cost of this project is about I.D. 500,000.

About 1450 cultivators will be granted land under the Sa'ad Canal Project, about 40 mesharas each for winter cultivation and 375 cultivators will be granted eight mesharas each for rice cultivation. The amount of the arable land which will be distributed to cultivators is about 61,000 mesharas of good and medium soils. By September 1964, 2529 cultivators had applied to get land and settle in the project area, about 50 percent of them were rural migrants in Baghdad. This suggests the very real possibilities of such development plans in encouraging the rural migrants to go back to farming, and shows the kind of planning necessary to avoid further depopulation. Although the project was due for completion at the end of 1964, it seems that there is still much more work to be done.

The brief discussion of the measures which were introduced in Amara shows that they were designed to check or marginally reduce the exodus and most of them came when the region was already greatly depopulated. It is now necessary to refer to the efforts made to deal with problems of rural migrants in Baghdad, prepared basically to improve their social conditions. One can contrast measures introduced to prevent movement of rural inhabitants from Amara with the large scale projects carried out in Baghdad to help the rural migrants thus increasing its attraction as a paradise for poor country dwellers.

Whatever the conditions of rural migrants in the shanty towns of Baghdad, discussed in chapter eight, they were generally much better than those in rural villages of Amara. The share of the cultivator of the total agricultural yield in Amara and in turn his annual income equalled even less than his monthly income in Baghdad. The rural migrant can make at least I.D. 15 per month in Baghdad whatever his training, and although the income of about 42 percent of the interviewed migrant families was less than I.D. 12 per annum in Amara the annual income of about 90 percent of the heads of these

families was around I.D. 144 or more in Baghdad. Since more jobs are available in Baghdad the migrant can select the type of work he wants. Also, he is not working anymore for a landholder or shaikh and his income does not go to money lenders. In Baghdad almost all members of the migrant family can also do some profitable job, while agricultural output in Amara had to support all members of the family. Some of the interviewed migrants mentioned openly that they were living from stealing in Amara, whereas they are now successful shopkeepers and grocers in Baghdad.

The high income of migrants in Baghdad has affected other aspects of life. Improvement of nutritional conditions is a good example, for they have begun to consume new types of food. Cereals constituted about 70 percent of the daily food in Amara but became less important in Baghdad. Some of the interviewees pointed out that fighting might occur over a water melon floating in a river or a marsh in Amara. By contrast it is not difficult for them to buy different types of fruits and vegetables in Baghdad.

It also became easy for rural migrants in Baghdad to benefit from many social services. More educational opportunities, for instance, are available in Baghdad than in Amara. The rural migrants began to send their children to schools and at present they constitute a large part of students in both government and private schools in Baghdad. Even adults in employment are attending evening schools on a large scale and the proportion of those who can read and write is much higher than that in Amara.

The same can be said of medical services. The rural migrants constitute the largest proportion of the visitors of public hospitals and clinics in Baghdad. The high proportion of migrants who are seeking educational and medical services in Baghdad reflects two important facts. First, a large number of them are illiterate and in bad health; secondly these services in Amara are not only inadequate but also far away from the rural areas where the majority

of population live. Migrants in Baghdad also benefit from other services such as safe water or electricity either from public services or from their wealthy neighbours.

Many projects were specially prepared in the capital to provide not only more jobs for rural migrants but to create better housing, health and educational services which the rural inhabitants in Amara were and still looking for. In 1960, for example, a project was prepared to transfer the dwellers of shanty towns to new settlements on the outskirts of Baghdad. It is true that one of the major aims of this project was to remove the shanty towns from the city and solve many problems of development within it, but it was also planned to tackle the problems of the shanty dwellers. By this plan new settlement areas were proposed on both sides of Baghdad and two pieces of land were, therefore, selected. All of about 55,000 serifa and kukh huts in Baghdad were transferred to these places at the end of 1963 according to the decision of the Council of Ministers. The settlement in eastern part of Baghdad is called Al-Rafidain and the other in west Baghdad is called Al-Nur.

Al-Rafidain settlement established to the east of the Army Canal at about five kilometres from Baghdad and occupied an area of 5800 mesharas of a state land (Fig.41). This settlement has been prepared to resettle the inhabitants of Al-Asima, Al-Shakriya, Al-Sarrafiya and Khan Haji Muhsin shanty towns. The government started the project by building 911 houses on this land for low-income civil servants most of whom were rural migrants. The rest of the land was distributed free of charge to the shanty dwellers on a standard size of 144 sq.m. per family. The first stage of the distribution constituted 6,000 plots, the second stage 4,350 plots and the last 6,000 plots, so that Al-Rafidain town can accommodate 16,350 families. The government prepared various simple designs of houses to be applied by the new settlers in this settlement, which must be built of bricks and only temporarily of mud or reeds.

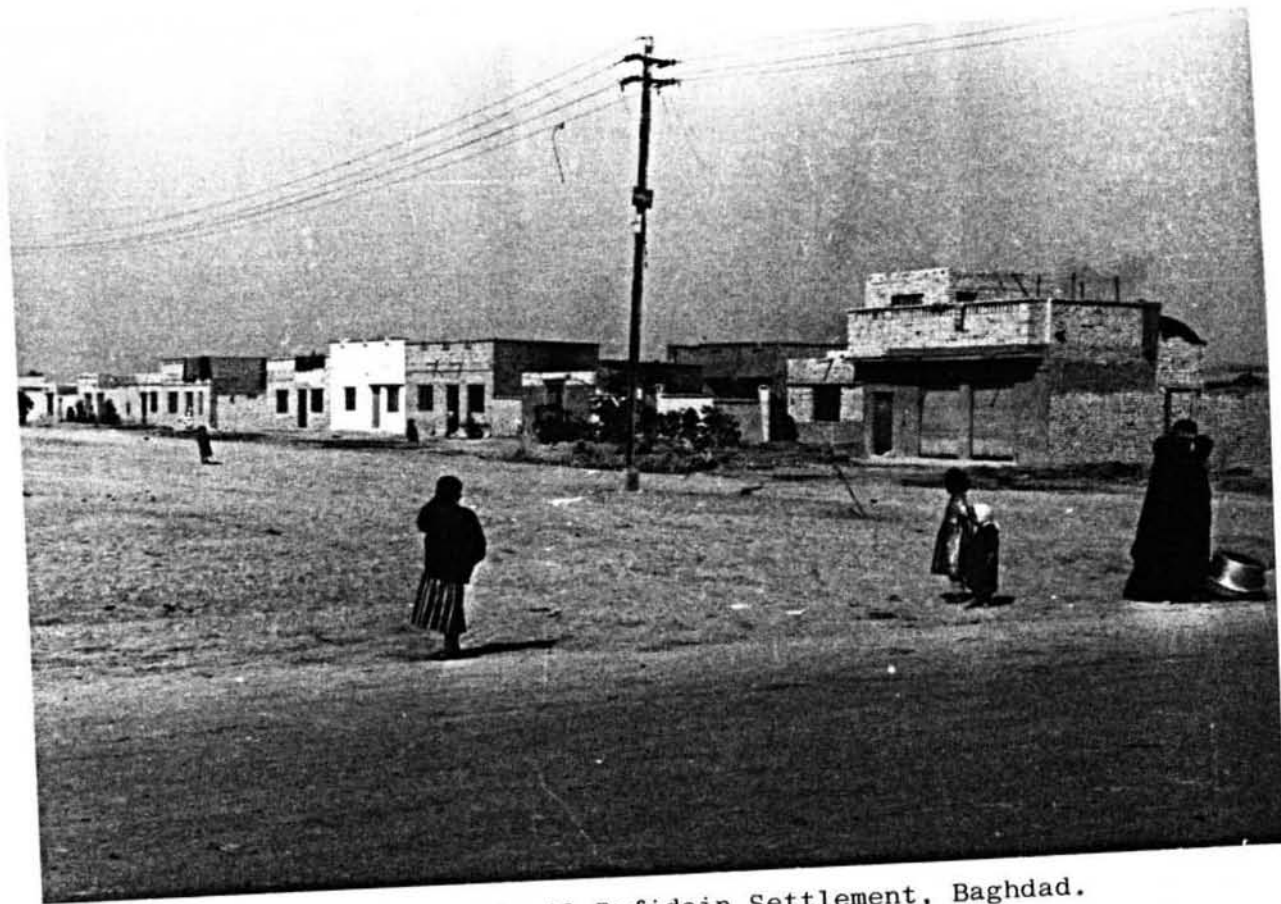


Plate XX : Modern houses in Al-Rafidain Settlement, Baghdad.

Plate XXI : Shops, clinic and pharmacy in Al-Rafidain Settlement, Baghdad.



Al-Rafidain has been also supplied with electricity and drinking water. Many wide modern asphalted roads and regular bus-services were established to link the settlement with the capital (Plates XX and XXI). In addition, primary and secondary schools, dispensaries, police stations, markets, public baths, post offices and religious institutions were built throughout this settlement.

Al-Nur settlement was established about two kilometres to the west of Baghdad. Mosul highway north-west of Al-Kadhimiya. It has been prepared to resettle the dwellers of the shanty towns which were concentrated along the Baghdad-Mosul railway track in Al-Shaikh Junaid and Al-Shalchiya railway depots and yards. The settlement is sufficient to accomodate about 10,000 households, while the total of serifas and kukhs which were in the above shanty towns was around 6,000. About 50 mesharas of the area were left for public purposes such as parks, and public buildings.

As in the case of Al-Rafidain, this settlement has been supplied with electricity and safe water and connected with Baghdad, by a modern road and transport services.

All measures and services introduced in Baghdad to help the migrants can hardly have discouraged rural migration from Amara. The interviewed migrants pointed out that in Amara they often received information concerning various aspects of life in Baghdad such as their splendid houses supplied with piped water and electricity and the variety of cheap food. Relatives and friends would write and describe the agreeable life of the city, while they were suffering miserable conditions in their villages. Thus, the attention of rural inhabitants in Amara was directed to Baghdad and they lost the enthusiasm and interest in farming and rural society. In spite of these attractions in Baghdad the surprising figure of 20 percent of the interviewed migrants declared that they could be persuaded to return to Amara. Admittedly 80 percent made it clear that they would not return under any circumstances but the minority 20 percent remains highly

significant as a factor in planning for both Amara and Baghdad.

The government measures in both Amara and Baghdad clearly did not tackle the fundamental problems of the rural areas. On the contrary these policies indirectly helped the acceleration of this movement since it widened the gap between the rural migrants in the city and their relatives and friends who were still living in Amara. People in the country side emphasised in interviews over and over again that they are looking for a reasonable level of income and better social facilities, while the measures taken were not designed to meet these demands.

The development planning in depressed areas like Amara require a full understanding of local problems both physical and social. The small success of the agrarian reform of 1958 was not a result of deficiencies in the project itself but the complexity of the problems involved, the most important of which were primitive techniques of farming, low incomes of rural inhabitants, illiteracy and the changing policies of the government. Such problems have reduced the economic productivity of individuals which affected in turn the overall productivity of the region and were great obstacles to the major targets of the agrarian reform in Iraq.

What is now required is comprehensive and realistic economic and social planning. Development projects must be integrated and should only follow exhaustive investigation of all aspects of rural and urban communities. Instead of the present centralized planning in Iraq which discourages the economic and social planning on a regional level, decentralized regional planning is required where total planning can be implemented in the light of local knowledge. In the case of Amara the kind of economic and social policies required to keep the people in the country side can be seen in the following pages.

In order to achieve a reasonable standard of living and to provide a suitable basis for further economic and social facilities, the agrarian reform project must continue. Proper application of the land reform in the region through greater effort and capital investment especially the distribution of land to the actual tillers is vital to regain the confidence of cultivators in the idea of advancement. Holding the land for the first time the cultivator will devote much more effort to making good use of it and the agricultural production of the region will increase and the cultivator will enjoy a higher income.

Nevertheless, the piece of land given by the agrarian reform administration often means little in itself because the poor cultivator can not exploit his land without the necessary means. Before the emergence of the agrarian reform in 1958 the landholder normally supplied his cultivator with almost all means of agricultural production, so that the cultivator now needs a great deal of help to make full use of his land by providing him with animals or machines, seeds and financial loans. More agricultural institutions, multi-purpose cooperative societies and credit facilities are, therefore, essential to any improvement in the agricultural sector. The present Agricultural Bank which is the only source of agricultural credit in Iraq with its limited possibilities (see Chapter 11) can hardly undertake these tasks. Measures must be adopted to increase its present small nominated capital in order to increase its services and make them more suitable for cultivators. Together with the agrarian reform administration the bank could play a major role in improving the existing traditional methods of farming. At the same time the number of technical and administrative personnel in the agricultural sector must be increased by establishing, for instance, more schools and

institutions concerning all aspects of farming in Amara. The only agricultural school in Amara is inadequate to carry out a big agricultural transformation in such a backward region. Other vocational and training institutes are necessary to provide the rural areas with specialist training. Research is also needed concerning the best ways to breed and keep livestock. Amara, in fact, is the best place for water-buffaloes in Iraq and this deserves much attention from research. It is important, however, to stress here that the major purpose of these institutions and schools must be to provide professional instructors working in the agricultural sector and not for white collar jobs as at present.

To achieve full exploitation of the existing agricultural resources the land reform plans must be supplemented by other steps to improve the irrigation system in Amara. There is plenty of water within Amara region, sufficient not only for the present cultivated area but even to bring more new cultivable lands under the plough. The construction of dams and reservoirs in the upper parts of the Tigris river basin have not caused any noticeable water shortage; on the contrary the amount of water for irrigation, especially in the dry season, has increased in the past decade due to these water storage facilities. But the problem is the faulty use of water resources in the region and the poor irrigation methods employed.

An adequate water control system in Amara is needed which seems to be the key to reduction of the great annual water losses and to protect the cultivated land from periodic floods. Furthermore, efforts should be devoted to persuade cultivators through efficient agricultural guidance and supervision to use irrigation water more wisely. Good use of water by adopting more efficient means of irrigation will not only increase the amount available for irrigation, but will prevent at the same time the concentration and

accumulation of salts in the soil.

More and efficient water regulators not only on rivers and major canals but also on secondary canals could deal with problems related to the water budget of Amara discussed in chapters one, two and seven. Installation of more irrigation pumps is another means of controlling the water withdrawal from water ways. Because of the general flatness of land and the high level of the water table in cultivated areas a large network of drainage ditches is necessary to cure the land affected by salinity and to protect other land. The vast marshes and swamps provide useful natural reservoirs for drained water.

With better water control systems the cultivator will be able to apply more advanced methods of land utilization; the fallow system for example which is applied in Amara partly because of the high underground water table will be unnecessary. This means that the present area under crops which represents (because of the fallow system) about half of the cultivated land could be doubled. Yields might also be increased to twice their present levels by introducing modern methods such as the use of fertilizers, insecticides and agricultural machinery. The physical environment in Amara is also suitable for many kinds of new field crops such as alfalfa and different kinds of legumes. Climatic conditions and soil in the northern parts of Amara, are also quite suitable for cotton, while in other parts for a variety of oranges and lemons could be grown.

It may be possible to establish some light agricultural processing industries assuming a surplus of agricultural produce. The sugar industry project in Amara can be regarded as a good example. The livestock and fish resources could provide dairying and other industries both for local demand and for the adjacent big markets notably in Basra. Giant reed and bulrush which grow in great quantities in marshy areas can also be used as raw materials for various light industries the most important of which are those of paper,

rayon and for fibrous and building materials. Such economic activities will create more opportunities of employment for both the non-agrarian section of population and for cultivators, and above all a sure market for local crops.

Rural inhabitants in Amara were leaving their villages not only for better wages in Baghdad, but they were fleeing from depressed housing conditions, endemic diseases and ignorance. As has been mentioned in chapter four and chapter six the interviewed migrant families put the poor social services in rural areas as the second major cause for their movement to Baghdad. They pointed out that they left Amara to save their children at least from common diseases. The cultivator wonders why he should continue to live in a single-room reed and mud hut while the majority of his relatives and friends (about 80 percent of interviewed migrant families) who migrated to Baghdad are living in brick houses of two and more rooms (Table 1.)

TABLE. 1

INTERVIEWED MIGRANT FAMILIES BY THE TYPE OF DWELLING IN BAGHDAD,
(PERCENT OF TOTAL FAMILIES).

TYPE OF DWELLING	PERCENT
Brick house	80.0
Mud-brick house	9.5
Serifa	9.5
Kukh	1.0
TOTAL	100.0
<u>SOURCE:</u>	
<u>Interviews in Baghdad 1964 (See App.A. Quest.4).</u>	

To stop emigration and to satisfy the demand of rural dwellers, schools, dispensaries, hospitals, safe water and electricity and housing schemes should, therefore, be provided for the majority of the population in rural areas, particularly those living in marshy areas and remote places. The concentration of these services in the big capital town at Amara has distorted their proper purpose since they serve only a small proportion of the population. The same can be said about other administrative centres of Amara province where some of these services are available. For, such facilities as they are at present can reach only limited number of rural dwellers, may be only those who are living at about 10 km. from these centres. Beyond this range the inhabitants do not usually make use of any kind of social amenities.

One possible solution to the problem of providing social services would be to establish rural villages of about 2,000 inhabitants supplied with educational, health, security and administrative services; so that it will not be necessary for the country people to travel a long distance seeking these services as at present. Nevertheless, such an idea involves many difficulties. In the first place the cultivators living in these agglomerated villages would have to travel long distances (up to 10 kilometres) to their fields every day. The cultivator would also prefer to have shelter for his animals in these settlements as the settlers have frequently pointed out in other parts of Iraq where this scheme has been tried, but this is clearly very difficult to arrange in a modern village. Furthermore, it would be difficult to apply in many parts of Amara since the cultivators prefer the present type of rural settlement (Salaf) which is based chiefly on tribal relations where the members of the same tribe usually live in the same village. This is clear even in Baghdad where the interviewees in their new settlement areas pointed out that they usually exchange their places of residence with members of other tribes if they are given a piece of land in a place

inhabited by different tribesmen, in order to be near their kinfolks. This type of settlement, moreover, has been applied in other parts of Iraq especially in the Miri Sirf Development areas such as Al-Dujaila and Al-Musayab schemes, and has had very little success. What the cultivators have done in these schemes especially in the latter is to leave the modern houses in the village and build mud huts in their fields to live near their livestock. Finally, it seems that such projects are highly expensive, requiring for example, new houses for more than 50,000 families in rural areas of Amara apart from other buildings in these villages.

It seems, therefore, that the above type of projects is not a practical solution in Amara. Probably the best solution is to establish rural services' centres throughout the rural areas of Amara especially in the densely populated areas such as those in Kahla, Mijar Al-Kabir and Maimouna shown in Fig.32. These centres can be established so that each one can serve a rural community of about 2,000 inhabitants living around it at a distance of up to about 10 kilometres (fig.43). In such centres it would be possible to provide schools, dispensaries, shops, and possibly some light industries. Each centre might have a multi-purpose cooperative society to provide cultivators with various services besides buying and selling. The importance of storage facilities for grain to protect it from various pests which at present reduce its prices in the markets, is obvious. The village would have a community of professionals to operate all the services.

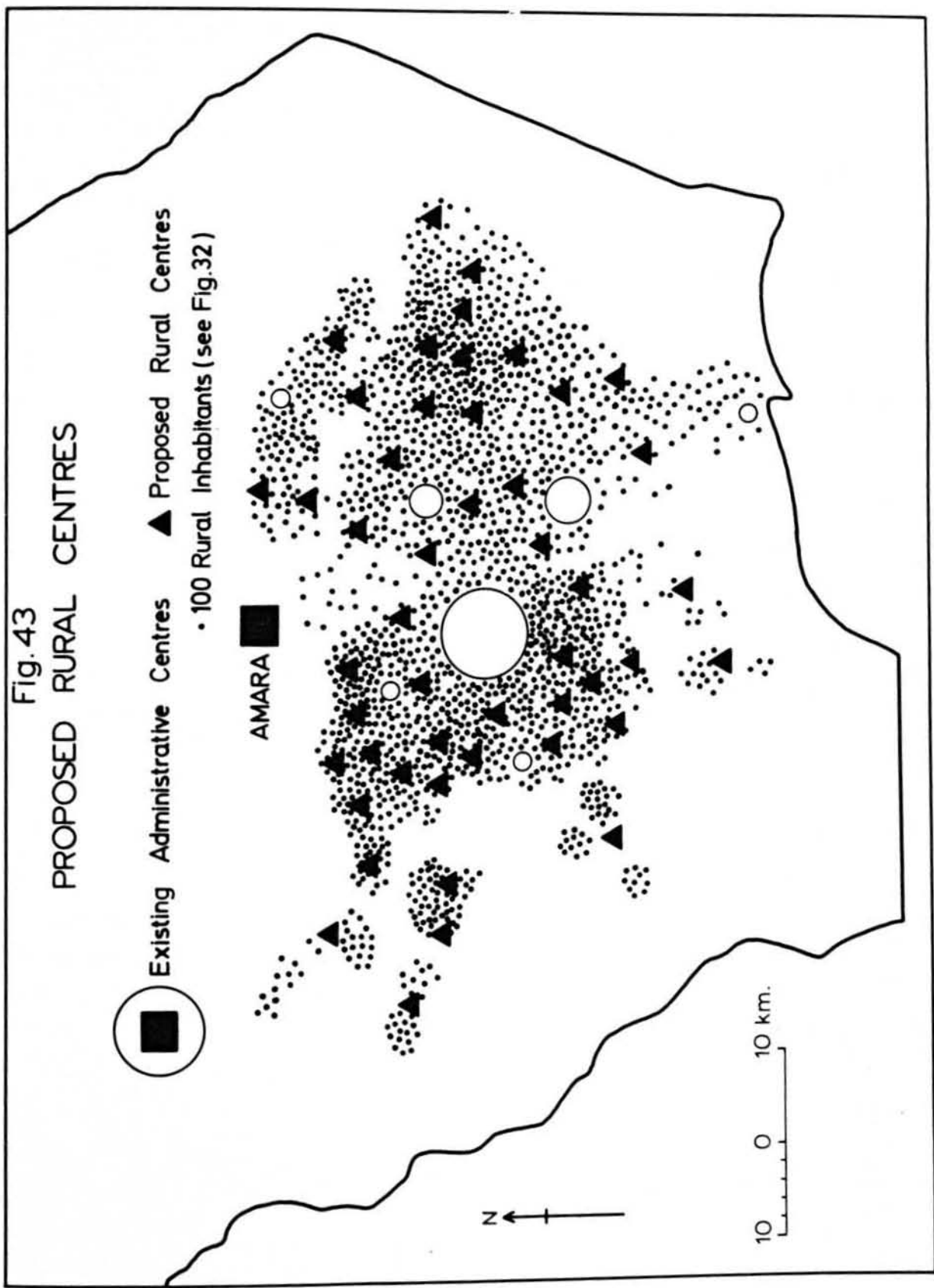
These centres will be more acceptable to cultivators since they would not involve moving any cultivators and would not disturb their tribal attitudes. They can visit the centres once a week or less frequently instead of the daily journeys to and from the fields in the above mentioned settlements. It will be more easier to send their children to schools or to buy the necessary articles for the family or the agricultural equipment. The

Fig. 43

PROPOSED RURAL CENTRES

- Existing Administrative Centres
- Proposed Rural Centres
- 100 Rural Inhabitants (see Fig.32)

AMARA



cultivators' traditional belief that services must come to them in their villages instead of seeking them in these centres might persist for some time, but this attitude will be gradually overcome as the standard of living in rural areas improves.

However, above all, attention must be given to the depressed housing conditions in the rural settlements. It is necessary to provide the cultivators with larger, healthier dwellings supplied with the necessary facilities such as purified water, electricity and sanitation instead of the dominant serifas and kukhs. It would not be necessary to build the dwellings in rural villages and the buildings in the rural centres with bricks since the giant reed and bulrush available in the region can be used as building materials easily and cheaply.

Permanent security is required in rural settlements, particularly in remote areas to reduce the tribal conflicts and protect properties of inhabitants. Lack of security and order in rural villages at present usually force a number of dwellers to find a refuge in towns. Police posts will encourage people to remain in their settlements and make proper use of their land.

It has been seen in chapter one that Amara possesses a very poor communication system, so that in order to get maximum benefit from any economic and social development a good and efficient communication network throughout the region is desirable. An extensive network of not less than 600 km. of good roads seems essential, and more attention should also be given to improve and develop the water transport. Good communications will not only provide an easy outlet for surplus agricultural and processed articles (especially perishable foodstuffs such as vegetables, livestock products and fish) but it will link the rural centres together with rural settlements, towns and the rest of Iraq. Good communications are also important in other respects to facilitate the introduction of more social amenities as well and to bring security into rural areas.

The treatment of the problem of rural depopulation in Amara does not involve insuperable difficulties. Many obstacles such as the political and economic influence of landlordism have already been abolished by the agrarian reform law of 1958. It is true that a great deal of investment is required, but the economic and social benefits will be of great importance. The agricultural production in Amara during the period under investigation fell chiefly as a result of the emigration of cultivators and by estimating the value of production lost during this period, the importance of reform can be appreciated. The annual average area of both wheat and barley during the five year period 1959-1964 constituted about 90 percent of the annual average in the five year period 1938-1943. At the same time the annual average production of wheat and barley in 1959-1964 was about 60 percent of the yield during the latter. On the other hand the annual average area of rice fell during the post war five year period 1959-1964 to about 51 percent of that in 1938-1943, and the annual average production decreased by about 54 percent in the same period. On the basis of the price levels of the three major crops of the 1950's and early 1960's the decline of the three major crops production in cash can be estimated as about I.D. 860,000 per annum for wheat and barley, and about I.D. 750,000 per annum for rice. In other words in the ten year period under investigation the amount of capital which was lost as a result of the farming deterioration in Amara was around I.D. 8,600,000 for wheat and barley and I.D. 7,500,000 for rice, or about I.D. 16 millions in all.

The capital which was spent by the nation because of the decline of agricultural production and rural depopulation on imported food underlines the significance of social and economic reform in Amara. About half of the local demand of rice in Iraq is now imported chiefly because of the emigration of rice cultivators from rice producing areas in Amara. Between 1956 and 1964 about I.D. 22 millions and about I.D. 30 millions were spent on imported rice and

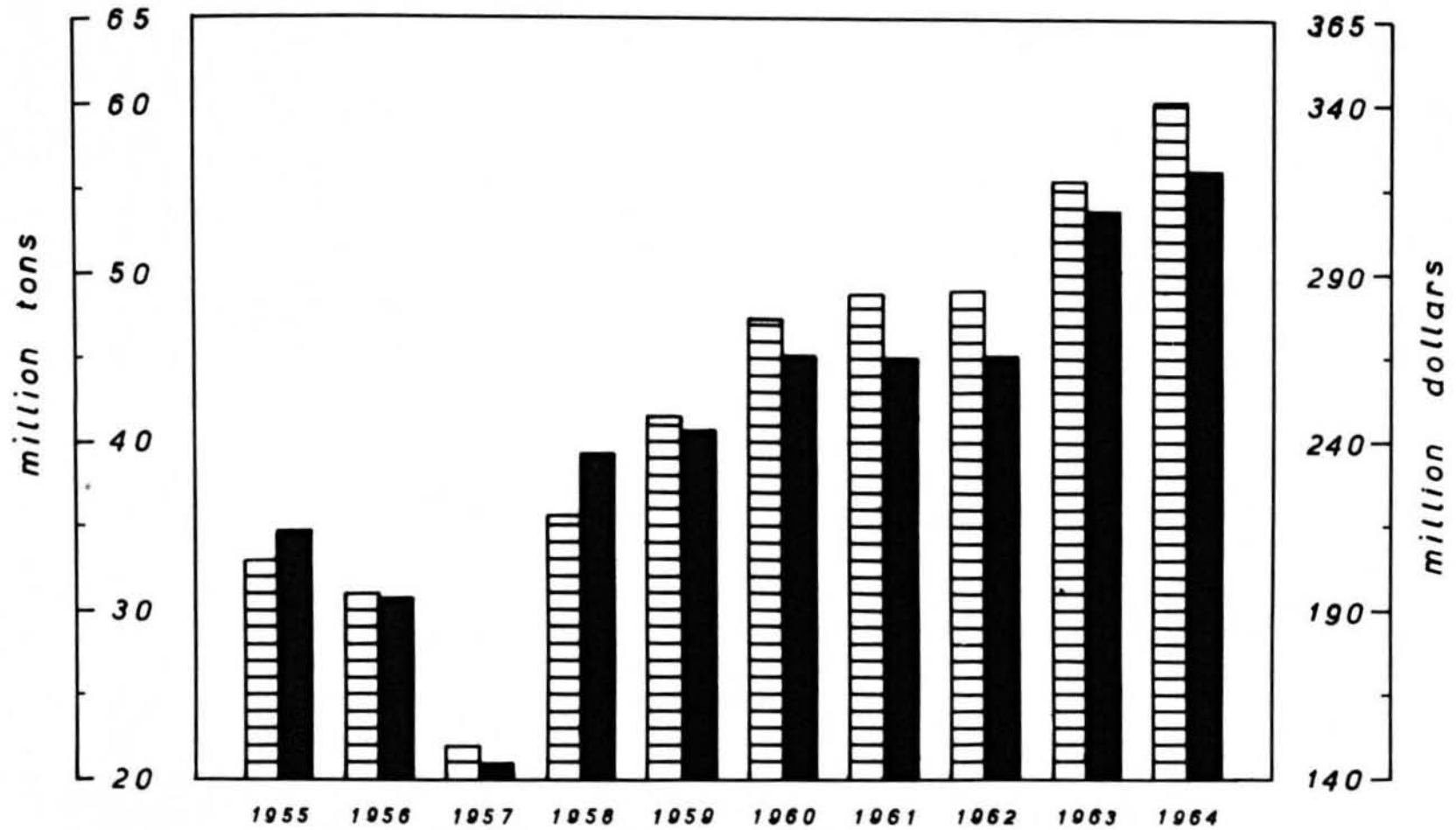
wheat respectively. Also, Iraq began to import more foodstuffs most of which can be easily produced locally. These included sugar, and some fruits with a total value of about I.D. 19 millions in 1955, while the list of imports today contains fresh vegetables, eggs, animal and vegetable fats, and milk and milk products. The value of such materials was about I.D. 40 millions in 1964, while in the two years 1960 and 1961 the value was about I.D. 70 millions. However, the imports of these items cost Iraq about I.D. 300 millions of foreign currency during the ten year period 1955-1964. If the other capital invested on the new housing and settlement schemes for rural migrants in Baghdad is included the total cost of migration becomes startling. If the average cost of a school in rural areas can be put as I.D. 3000, a dispensary I.D. 700 and a house I.D. 450, some idea may be obtained of the number of these vital services which could have been executed in the last fifteen years.

Iraq can be regarded a fortunate country compared with other Middle Eastern countries which are suffering from rural migration since the causes are different. Thus, rural inhabitants in African countries leave their villages because of strong pressure on the agricultural resources but the Amara region suffers from a shortage of labour force compared with its considerable agricultural resources. In addition, the oil royalties which exceed £100 millions per annum (Fig.44), a great part of which is going at present to import food, would provide an important source of capital to carry out development schemes.

Above all it must be stressed that the environment itself is not lacking potential and Amara can not be regarded a poor region. The climatic conditions are so diversified that they permit the cultivation of a wide variety of crops. The cultivator, for instance, can produce two or more crops in the different seasons of the year since the region is almost free of frost and the cloudless skies are dominant almost all the year around. The quality of soils is fair

Fig.44

CRUDE OIL PRODUCTION AND REVENUES IN IRAQ
FOR THE YEARS 1955-1964



and if there is a danger of salinity it is not serious, especially in rice producing areas where the continuous flooding of rice fields washes the salts from the upper layers of soils. The quality of water in the region is also good (see Chapter I) and the amount is more than sufficient for irrigation especially if adequate control and regulation methods are used. The vast marshes and lakes covered with rich vegetation are excellent habitat for a large number of water-buffaloes, cattle and a variety of fish and fowl. Furthermore, Amara contains vast areas of cultivable land and great natural pasture resources. The per capita ratios of arable land is one of the highest in Iraq. Having more than half a million head of sheep the region has one of the highest densities of sheep per capita in Iraq for example, and there is also scope to increase the sheep population.

On the other hand one might argue that the environment in Amara itself makes its contribution to the persistent migration from the region. The vast marshy lands associated with hot and humid weather constitute, for instance, an ideal home for various diseases. The soil salinity might have reduced the total yield of field crops locally and forced in turn some of the cultivators to leave the region. But, one should also remember at the same time that the soil salinity, for instance, constitute no serious problems in the paddy rice producing areas, while these areas still are the major sources of migration in Amara. In addition, if a piece of land is affected by salinity there is usually a substantial area of cultivable land ready to be put under the plough. It has been seen in chapter two that the landholders were using only a small fraction of the holdings they usually rent from the state, while the bulk lay idle. Furthermore, if the existence of salinity, marshes and harsh climate were major factors behind the rural exodus, one must wonder why such environmental factors have no substantial effects on rural dwellers in the other provinces of southern Iraq where they are found almost identical.

Migration from the adjacent Nasiriya province, for example, is rare. Consequently, one must turn to other factors mentioned many times by the interviewees and in many occasions throughout the thesis, which force the rural dwellers in Amara to leave their villages.

Such economic possibilities constitute a real basis for further economic and social progress and would justify large capital investment. They offer a great possibility to increase the production of both winter and summer crops either from the present cultivated area or by exploiting new arable land. Increase of the agricultural production is the key to any further economic and social improvement in Amara. It will improve the nutritional status of people and raise the standard of living. Amara can easily regain its reputation as a leading rice producing area in Iraq and a big producer of vegetables, animal products and fish which will be sufficient not only for local needs of the region but for export to adjacent big markets of Basra and Kuwait where demands for these products is great and constant. The importance of Amara as a producer of foodstuff can be easily appreciated from the fact that vegetables and most of agricultural food supply of Basra chiefly comes from central Iraq or about 500 km. while Amara is only about 150 km. from Basra. Furthermore, Kuwait which is linked with Amara by only about 300 km. of modern asphalted road imports its vegetables and agricultural products from Jordan, Lebanon and even Western Europe. Such products can also be easily marketed to Kuwait from Amara directly by water way through the Tigris and Shatt-Al-Arab.

However, the improvement of the standard of living and the social services in the rural areas of Amara can be regarded as important not because it will cure the causes of migration and keep people in their villages, but it will probably persuade a number of migrant families in Baghdad to go back to their home places. Although most of the interviewed migrant families showed no desire to resettle again in Amara, about 20 percent of them showed some motivation to return under certain conditions (Table.2). Attitudes of this group

TABLE 2.

INTERVIEWED MIGRANT FAMILIES FROM AMARA BY ATTITUDES TO PLACE OF SETTLEMENT. (PERCENT).

SUB-ADMINISTRATIVE UNIT.	PREFER TO RESETTLE IN AMARA.	PREFER TO STAY IN BAGHDAD.
<u>Amara Qadha</u>		
Amara Q.C.	17.9	82.1
Msharrah Nahia	6.2	93.8
Kumait Nahia	25.0	75.0
<u>Qalat Salih Qadha</u>		
Qalat Salih Q.C.	6.1	93.9
Kahla Nahia	13.5	86.5
Mijar Al-Kabir N.	6.9	93.1
Misan Nahia	-	100.0
<u>Ali Al-Gharbi Qadha</u>		
Ali Al-Gharbi Q.C.	35.5	64.5
Shaikh Sa'ad Nahia	22.2	77.8
Ali Al-Sharqi Nahia	100.0	-
<u>Maimouna Qadha</u>		
Maimouna Q. and Al-Salam Nahia	16.0	84.0
<u>SOURCE:</u>		
See <u>Table 1.</u>		

show the importance of the above mentioned socio-economic measures for they made it clear that they will not move back unless four conditions are met. In the first place a piece of cultivable land in Amara should be granted to them in private ownership. Secondly, financial and technical assistance should be provided for at least five years to help them make full use of their lands. Thirdly, a large number of schools, hospitals, dispensaries, comfortable houses,

good transport network, electricity and piped water services should be provided. Finally, security should be guaranteed in rural areas. These demands can be fulfilled in a comparatively short time by increasing agricultural production, and with less cost to the country than that devoted to importing cereals.

Table 2 also shows that the proportion of interviewed migrant families who were inclined to return back to Amara was higher among those who came from Ali Al-Gharbi Qadha and Kumait Nahia than those who came from other parts. This suggests the importance of good communications since these areas are linked with the rest of the country by the Baghdad-Basra asphalted road, and also the significance of the Sa'ad Canal Project as a pilot measures to reduce the mobility of rural dwellers in the region.

Furthermore, the attitudes of interviewed migrant families to various aspects of their lives both in Amara and Baghdad shown in table 3, indicate the opportunities to reverse the direction of the movement from Baghdad back to Amara. The interviewees can be divided into three categories according to these attitudes. The first group which constituted about 75 percent of the interviewed families included those who found the present life in Baghdad easier and better than in their former rural villages. Nearly all of these families mentioned conditions such as better employment and income, the stability of work and more social amenities being behind their choice.

The second group is composed of those who found their former life in Amara more comfortable than in Baghdad. These families constituted about 20 percent of the interviewees. They pointed out that they prefer to live in Amara where most of the essential needs of the family such as food and housing are available free while these items consume the largest proportion of the migrant family income in Baghdad as has been seen in chapter eight.

TABLE 3

INTERVIEWED MIGRANT FAMILIES BY ATTITUDES TOWARDS THEIR FORMER
LIFE IN AMARA AND THE PRESENT IN BAGHDAD.

(PERCENT)

SUB-ADMINISTRATIVE UNIT	PREFER THEIR PRESENT LIFE.	PREFER THE FORMER ONE	NO DIFFERENCE BETWEEN THE TWO
<u>Amara Qadha</u>			
Amara Q.C.	69.2	23.1	7.7
Msharrah N.	78.1	18.8	3.1
Kumait Nahia	55.0	30.0	15.0
<u>Qalat Salih Qadha</u>			
Qalat Salih Q.C.	84.8	9.1	6.1
Kahla Nahia	82.8	10.3	6.9
Mijar Al-Kabir N.	75.7	20.3	4.0
Misan Nahia	-	-	-
<u>Ali Al-Gharbi Qadha</u>			
Ali Al-Gharbi Q.C.	67.7	29.0	3.3
Shaikh Sa'ad N.	77.8	22.2	-
Ali-Al Sharqi N.	-	-	-
<u>Maimouna Qadha</u>			
Maimouna Qadha and Al-Salam Nahia	80.0	20.0	-
TOTAL	74.6	20.0	5.4
<u>SOURCE:</u>			
See <u>Table 1.</u>			

The third group which is composed of only five percent of the interviewed migrants could not find a clear difference between their conditions in both places. Their incomes and employment status, for instance, were almost the same in both Amara and Baghdad.

It is clear from the replies of migrants that there is a chance persuading some of them to settle again in Amara. If the

migrants from Amara in Baghdad began to return to their home villages it would be very important from the economic and social point of view. Urban society is a fertile home for the generation of ideas of social and economic changes and these would spread to rural areas by returning migrants. In most developed countries the migration between villages and towns has played an important role in bringing change to rural areas. Unfortunately, in Iraq the migration has had until the present time only negligible effects and is, therefore, unimportant as a tool for social and economic changes.

APPENDIX A

INTERVIEWS CARRIED OUT BY THE AUTHOR IN AMARA AND BAGHDAD BETWEEN
1963 - 1965.

Questionnaire No.1

Cultivators' Position and Income in Amara Before 1958
(1963)

1. What was the size of land which you were devoted for wheat, barley and rice before 1958 ?
2. What was the prevailing practice of land usufruction before the establishment of agrarian reform 1958 ? was it sharecropping, direct leasing contracts with the landholders or any other kind ?
3. What was the distribution of annual product of the major crops, wheat, barley and rice ?
4. Specify your share of these crops in tons, kgs. etc ...
5. How much of this share was going to pay your debts to the money lender or the landholder ?
6. Was this amount sufficient to satisfy the needs of the whole family if not how did you manage ?
7. How many persons are there in your family, men, women, children, relatives or other dependants ?

Questionnaire No.2

Agricultural Production in Amara (1963).

1. What are the kinds of major field crops you cultivate on your land ?
2. Do you grow other minor crops, vegetables or fruit trees ? Why ?
3. Do you apply the fallow system ? If so do you use it in both winter and summer cultivation, and why ?

4. How long do you usually leave your land fallow ?
5. What do you usually do with the land during the fallow period ?
6. Does your cultivation depend on flow-irrigation, pump-irrigation, flood-irrigation or rainfall ? and why ?
7. Could you explain briefly the methods of preparing the land for each one of the major crops ?
8. On what basis do you select the land for each crop ?
9. What kind of agricultural implements do you use ?
10. How frequently do you use machinery, fertilizers, insecticides in farming, and why ?
11. Could you mention the time for ploughing, sowing and harvesting the different crops ? approximately.
12. How much do you usually sow per meshara of both summer and winter crops ? and what yields are returned from these crops per meshara ?
13. What kind of weeds grow in your field ?
14. What are the most common animal and plant disease in your area ?
15. What are the kinds of livestock you normally raise ? how many of each kind ? How do you feed them ? and for what purpose do you keep them ?

Questionnaire No.3

Household Dietry and Housing Surveys in Amara (1964)

a. Food Consumptions:

1. What kind of food do you consume daily ? Which of these are the most important :
(a).Cereals. (b).meat, fish and fowl. (c). vegetables. (d) sugar and tea. (e) milk and milk products. (f) eggs. (g) dates and other fruit.
2. What is the major type of meat consumed ?
3. Do all members of the family consume the same food ?
4. What kind of food is usually given to the child during and after lactation ? does he drink milk and how much per day for instance ?

5. Can you give an idea about the most frequent disease which attack all members of the family in this village and in the surrounding areas ?

b. Social Welfare:

1. What kind of clothes are usually worn by the family in different seasons ?
2. Can you specify the type of furniture, cooking utensils and other possessions you have in your dwelling ?
3. What kind of dwelling are you living in ? Why do you choose to live in this specific type ? and what kind of facilities has it ?
4. Can you describe, generally, the ways of building these hutments ?
5. What are the type of rural settlements dominated in this place ? Why ?
6. What means of transport do you use to travel on from one settlement to another or to towns ?
7. Are there any shops or bazaars in this settlement ? If so what are the types of business and goods they deal with and who owns them ?
8. What kind of social and medical services are available in this settlement ? such as: a. Schools, b. dispensaries, c. electricity, d. piped water, e. police post.
9. How many people migrated from this village to Baghdad? do you know many of them ? If so are you in a constant contact with them ?
10. According to the information you receive from your relations or friends in Baghdad do you think their social and economic conditions are better now in the city than when they were here ?
11. Do you think your conditions will be better in Baghdad? and are you eager to emigrate ? if not, why ?
12. What are the kinds of development projects and plans you believe must be introduced to rural areas ?

Questionnaire No.4

Interviews with the Heads of Migrant Families in Baghdad Concerning their Socio-Economic Conditions (1964).

1. Former place of residence :
Liwa ----- Qadha ----- Nahia -----
2. Occupation in the former place
3. The amount of your monthly/annual income in the home place
4. Sources of this income
5. When did you move to Baghdad ?
6. Did you move with your family or migrated alone ?
7. Did you move directly to Baghdad ? if not specify other places you stayed in and how long did you spend there ?
8. Why did you move to Baghdad and not to other places ?
9. Where did you live when you arrived for the first time in Baghdad ? Why ?
10. Where do you live at present ? Why ?
11. Specify the type of your dwelling in these two places ?
12. What is the number of persons in your family ?
13. What is your occupation(s) ?
14. Are there other working members in your family ? if so how many and what are the types of jobs they do ?
15. How much do you earn monthly (I.D.) ? specify the monthly income of other members of the family in Baghdad ?
16. How do you spend this income or the distribution of the family expenditure ?
17. Do you spend all of the family earning ? if not what do you usually do with the surplus ?
18. Are you indebted in Baghdad and to whom ?
19. Can you tell the differences in various aspects of life in Baghdad and in Amara ? and what are the most important advantages and disadvantages of the life you found in Baghdad compared with rural villages ?

20. Are you still keeping the tribal attitudes and traditions in Baghdad as you were in rural society ?
21. Are you in a position that you would like to go back to your village ? if so why ?
22. If you do not like to go to your former place, have you any other particular places in mind ? why ?
23. What are your essential demands to accept any of the above suggestions ?
24. What kind of problems are you facing in Baghdad and what are the measures you think are better to reduce the effects of such problems ?

Questionnaire No.5

Dietary Status and Distribution of Migrant Household Expenditure in Baghdad (1965).

a. Food Consumption (Daily, Weekly or Monthly) :

1. Livestock Products (kg.) :
 - a. Meat (sheep, goat, cattle, buffalo and camel).
 - b. Chicken. c. Eggs. d. Fish.
2. Dairies:
 - a. Milk (litre.). b. Milk products ($\frac{1}{4}$ kg.), butter, cheese, thick cream.
3. Cereals (kg.):
 - a. wheat: wheat flour, bread, loaf. b. Rice.
 - d. Other kinds: lentil, green gram, sorghum, sesame.
4. Vegetables (kg.):
 - a. summer vegetables: okra, egg plant, tomato, cucumber, water melon, melon, all kinds of pumpkin.
 - b. winter vegetables: spinach, lettuce
 - c. dried broad beans.

5. Fruit (kg.):

- a. Oranges. b. Apples. c. Apricots. d. Dates.

6. Miscellaneous (kg.):

- a. Sugar. b. Tea. c. Tobacco and/or cigarettes (pkts).
d. Animal fats and/or vegetable ghee.

7. How much expenditure do you spend on the above items (monthly) ?

8. Are the above items of food consumed by all members of the family ? specify, for example, the kind of food for nursing women and children ?

9. Do you find important differences in the variety and amount of food supply between Amara and Baghdad ?

10. Do you believe that all kinds of food you need are available in Baghdad ? is it difficult to get them ? and are the prices of food high compared with your income ?

11. Before your movement to Baghdad did you expect an improvement in your diet ? and was that among the incentives for your migration to the city ?

b. Household Expenditure:

12. How much do the following items consume of your monthly expenditure (I.D.) ?

- a. Food. b. Clothing. c. Education. d. Furniture.
e. Health. f. Others.

13. Do you find difficulties in travelling between your place of residence and place of work ? How much does transport consume of your monthly budget ?

14. How much do you expend of your monthly income for the following purposes:

- a. Piped water. b. Electricity. c. Rent. d. Fuel.

APPENDIX B

DISTRIBUTION OF CULTIVATED UNITS AND HOLDINGS ACCORDING TO
SIZE, IN AMARA.

SIZE (MESHARA)	NUMBER	AREA (MESHARA)
Under one meshara	-	-
One meshara and under 4	451	1093
4 mesharas and under 10	1764	10952
10 mesharas and under 20	2513	32436
20 mesharas and under 30	2279	50834
30 mesharas and under 40	1584	49461
40 mesharas and under 50	319	12992
50 mesharas and under 60	624	32884
60 mesharas and under 80	372	24031
80 mesharas and under 100	125	12254
100 mesharas and under 120	134	13631
120 mesharas and under 150	123	15321
150 mesharas and under 200	126	20055
200 mesharas and under 300	130	27645
300 mesharas and under 400	71	22287
400 mesharas and under 500	59	24323
500 mesharas and under 600	56	29034
600 mesharas and under 800	60	40079
800 mesharas and under 1000	37	30840
1000 mesharas and under 1500	71	79197
1500 mesharas and under 2000	26	42208
2000 mesharas and under 4000	96	252289
4000 mesharas and under 10000	64	374912
10000 mesharas and under 20000	14	186087
20000 mesharas and under 50000	14	531712
50000 mesharas and under 100000	4	237780
100000 mesharas and over	-	-
TOTAL	11, 116	2,154,337
<u>SOURCE:</u>		
Ministry of Planning, Central Bureau of Statistics: <u>Results of Agricultural and Livestock Census of</u> <u>1958/59</u> , Government Press (1961), p.312		

APPENDIX C

DISTRIBUTION OF MANAGEMENT'S SHARE IN AMARA SINCE 1958

SHARE	PERCENT
Seeds	2
Agricultural loans	1
Guarding the Farm	2
Chemical Fertilizers	2
Insecticides	1
Supervision and Distribution of water	2
Administration	5
TOTAL	15

SOURCE:
Directorate of Agrarian Reform of Amara Province:
Regulation No.3 of the Agrarian Reform High
Committee (1965) (Mimeographed).

APPENDIX D

COOPERATIVE SOCIETIES : PAID-UP CAPITAL, MEMBERSHIP AND NUMBER OF SOCIETIES IN THE PROVINCES OF
AMARA AND BAGHDAD, 1955 - 1964.

1955	HOUSING			CREDIT			CONSUMERS			AGRICULTURAL		
	C.	M.	No.	C.	M.	No.	C.	M.	No.	C.	M.	No. ^(a)
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	144,279	3505	12	-	-	-	258	622	10	-	-	-
1956												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	290,024	5391	14	-	-	-	15257	2347	9	-	-	-
1957												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	432,582	6343	19	-	-	-	15976	2767	10	-	-	-
1958												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	856	4806	29	-	-	-	115	102	2	33	21	1
1959												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	10081	2033	7	-	-	-	61	120	1	169	70	3

Continued:

APPENDIX D - Continued:

	HOUSING			CREDIT			CONSUMERS			AGRICULTURAL		
	C.	M.	No.	C.	M.	No.	C.	M	No.	C.	M.	No.
1960												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	22793	5659	16	34368	2762	2 ^(b)	8063	2345	3	4911	330	2 ^(c)
1961												
Amara	-	-	-	-	-	-	2880	656	1	-	-	-
Baghdad	20623	6990	40	-	-	-	2085	493	7	1719	37	1 ^(c)
1962												
Amara	-	-	-	-	-	-	-	-	-	47	23	2
Baghdad	6658	2127	20	8754	2524	2	4942	1647	5	50	40	4
1963												
Amara	-	-	-	-	-	-	-	-	-	-	-	-
Baghdad	6145	1589	11	-	-	-	10711	2027	7	24	24	2
1964												
Amara	-	-	-	-	-	-	-	-	-	1728	1080	12
Baghdad	6875	2194	13	950	15	1 ^(c)	2953	179	3	4032	2520	28

SOURCE:

Ministry of Planning, Central Bureau of Statistics: Statistical Abstracts, 1955-1964.

(a) C = Paid-up Capital, M. = Total Members, No. = Number of Societies.

(b) Marketing Cooperatives.

(c) Production Cooperatives.

APPENDIX E^(a)

LOANS GRANTED BY THE AGRICULTURAL BANK IN AMARA AND DIWANIYA PROVINCES DURING THE FISCAL YEARS 1958/59-1963/64.

FISCAL YEAR	NUMBER OF LOANS	AMOUNT OF LOANS (I.D.)
1958/59		
Amara	8	4380
Diwaniya	314	89074
1959/60		
Amara	28	4080
Diwaniya	551	82612
1960/61		
Amara	26	2750
Diwaniya	367	68569
1961/62		
Amara	16	7695
Diwaniya	440	163660
1962/63		
Amara	28	10320
Diwaniya	61	29480
1963/64 ^(b)		
Amara	27	7230
Diwaniya	39	11700
<u>SOURCES:</u>		
(a). Republic of Iraq: <u>The Annual Reports on the Operations of the Agricultural Bank for the Fiscal Years 1958/59 - 1962/63.</u>		
(b). <u>Statistical Abstract for 1964, p.247.</u>		

APPENDIX F

AVERAGE AMOUNT OF SEED SOWN PER MESHARA OF MAJOR WINTER AND
SUMMER CROPS IN SELECTED SUB-ADMINISTRATIVE UNITS OF AMARA
PROVINCE DURING 1955-1964 (KILOGRAMS)

<u>SUB-ADMINISTRATIVE UNIT</u>	<u>AVERAGE</u>
Kahla Nahia	
Wheat	23.2
Barley	28.8
Rice	30.0
Mijar Al-Kabir Nahia	
Wheat	23.2
Barley	30.0
Rice	30.0
Maimouna Qadha and Al-Salam Nahia	
Wheat	21.3
Barley	30.0
Rice	29.4
Ali Al-Gharbi Qadha Centre	
Wheat	21.9
Barley	26.3
Rice	31.3
Shaikh Sa'ad Nahia	
Wheat	21.3
Barley	26.3
Rice	29.4
AMARA LIWA'	
Wheat	23.1
Barley	28.6
Rice	30.0

SOURCES:

- (a) Ministry of Agriculture, Agricultural Economics Section:
Annual Agricultural Abstracts 1958-1964.
- (b) Ministry of Agriculture, Directorate General of
Agriculture: Files No. 6/306, 3/306 and 4/28.
- (c) Interviews in Amara (See Appendix A Quest.2)

APPENDIX G

AVERAGE YIELDS OF WHEAT, BARLEY AND RICE IN IRAQ AND
SELECTED COUNTRIES (KILOGRAMS PER MESHARA).

COUNTRY	CROP	YEAR	
		1953/54-1956/57	1960/61-1962/63
	WHEAT		
Iraq		165	150
U.A.R.		576	627
Turkey		309	255
Denmark		944 *	1021
United Kingdom		777	955
United States		325	422
	BARLEY		
Iraq		273	218
U.A.R.		630	646
Turkey		289	301
Denmark		889 *	900
United Kingdom		750	838
United States		382	431
	PADDY RICE		
Iraq		385	330
U.A.R.		1243	1308
Iran		417	490
Italy		1232 *	1334
Morocco		-	1215
Taiwan		686	801
United States		815	987

SOURCES:

- (a) United Nations, F.A.O. : Year Book of Food and Agricultural Statistics for 1957, XI (1958), pp. 33-38 and 48-49.
- (b) United Nations, F.A.O. : Production Year Book for 1963, XVII (1964), pp.37-42.
- * Average of 1953/54-1955/56.

APPENDIX H

PRODUCTION AND CULTIVATED AREAS OF MINOR SUMMER CROPS IN AMARA 1958-64.

CROP	Y E A R						
	1958	1959	1960	1961	1962	1963	1964
Sesame							
Production (tons)	262	119	111	104	249	330	371
Cultivated Area (mesharas)	2100	980	850	850	1765	2235	2330
Green gram							
Production (tons)	419	204	660	-	420	521	568
Cultivated Area (mesharas)	2220	1250	2870	-	2320	2690	2840
Cow beans							
Production (tons)	197	160	50	165	211	226	405
Cultivated Area (mesharas)	1090	870	350	1045	1280	1700	1910
Sorghum							
Production (tons)	1624	1038	1189	984	1032	-	1485
Cultivated Area (mesharas)	8350	5290	5540	5250	5250	-	4350
*Vegetables							
Production (tons)	-	-	-	21013	16616	15530	17780
Cultivated Area (mesharas)				12367	9612	9010	9685
<u>SOURCE:</u>	Ministry of Agriculture, Agricultural Economics Section: <u>Annual Agricultural Abstracts 1958/59 - 1963/64.</u> * No official figures are available for cultivated areas and yields of summer vegetables in Amara before 1961.						

APPENDIX I

TOTAL OF SLAUGHTERED LIVESTOCK IN BAGHDAD AND AMARA DURING
1955-1964 (IN 000 HEAD).

YEAR	PROVINCE	KIND OF ANIMAL				
		SHEEP	GOATS	CATTLES	BUFFALOES	CAMELS
1955	Baghdad	593	136	48	6	0.2
	Amara	22	2	12	1	0.01
1956	Baghdad	657	170	53	7	0.4
	Amara	24	2	12	1	0.01
1957	Baghdad	715	192	58	6	1
	Amara	22	2	13	1	0.1
1958	Baghdad	790	195	58	6	1
	Amara	24	3	13	1	0.1
1959	Baghdad	824	203	73	9	0.5
	Amara	22	3	11	1	0.0
1960	Baghdad	905	219	58	11	6
	Amara	22	1	15	1	0.0
1961	Baghdad	898	268	45	12	8
	Amara	17	2	13	0.5	0.2
1962	Baghdad	819	312	56	6	3
	Amara	16	2	13	1	0.3
1963	Baghdad	937	236	64	10	5
	Amara	17	4	13	1	0.2
1964	Baghdad	927	236	72	11	5
	Amara	17	2	17	0.3	0.1

SOURCE:

Ministry of Agriculture, Directorate General of
Animal Resources and Veterinary Services:
Annual Reports for the Years 1953-1964, Government
Press, Baghdad.

APPENDIX J

ESTIMATED DAILY ENERGY REQUIREMENT OF NORMAL MAN AND WOMAN
IN AMARA (WEIGHT OF MAN 65 kg., OF WOMAN 55 kg., MEAN
ANNUAL TEMPERATURE 24°C.)

MAN	CALORIE REQUIREMENT
8 hrs. working activities mostly standing.	1116
8 hrs. non-occupational activities - walking, sitting, dressing, active recreation and domestic work.	1395
8 hrs. rest in bed.	465
TOTAL	2976
WOMAN	
8 hrs. working activities in the home, mostly standing.	816
8 hrs. non-occupational activities, dressing, washing, walking, sitting, active recreation and domestic work.	930
8 hrs. rest in bed.	391
TOTAL	2138
<p><u>SOURCE:</u> Calculated from : United Nations, F.A.O. : <u>Calorie Requirements</u>: Rome (1957), p.25 and p.56.</p>	

APPENDIX K

TOTAL OF MIGRANTS FROM AMARA BY THE SUB-ADMINISTRATIVE UNITS 1955 - 1964.

SUB-ADMINST. UNIT	Y E A R										
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	TOTAL
<u>Amara Qadha</u>											
Amara Q.C.	206	471	536	710	1371	971	360	1155	840	225	6845
Kumait N.	104	100	74	194	999	435	112	456	274	52	2800
Msharrah N.	125	302	327	290	667	859	226	317	239	110	3462
<u>Qalat Salih Q.</u>											
Qalat S.Q.C.	139	303	370	390	1020	711	219	275	181	77	3685
Kahla Nahia	653	572	596	1018	2738	2755	414	846	587	295	10474
Mijar Al-Kabir N.	459	495	511	497	1946	1317	468	383	348	204	6628
Misan N.	102	205	228	106	301	240	114	146	135	55	1632
<u>Ali Al-Gharbi Q.</u>											
Ali Al-Gharbi Q.C.	165	133	148	305	566	502	142	392	212	83	2648
Shaikh Sa'ad N.	105	85	122	201	442	537	97	212	190	67	2058
Maimouna Q. and Al-Salam N.	590	570	675	619	2323	1492	315	1477	781	230	9072
GRAND TOTAL	2648	3236	3587	4330	12373	9819	2467	5659	3787	1398	49304
<u>SOURCE:</u> Directorate General of Civil Status: <u>Monthly Statistical Books of Amara, 1955-1964.</u>											

BIBLIOGRAPHY

ALTHOUGH NO DIRECT REFERENCE HAS BEEN MADE TO THEM
THE FOLLOWING SOURCES ALSO PROVED USEFUL.

BOOKS

Adams, D. : Iraq's People and Resources, University of California Press, Berkeley (1958).

Balogh, T. (Assistant and Translator M.S. Hassan) : Policy of Economic Development in Iraq, Al-Ani Press, Baghdad (1958).

Derwish, A.J. : A Preliminary List of Identified Insects and Some Arachnids of Iraq, Ministry of Agriculture, Government Press, Baghdad (1965).

Duncan, O.D., Cuzzart, R.P., and Duncan, B. : Statistical Geography, Free Press of Glencoe, Illinois (1961).

Garnier, J.B. (Translator S.H.Beaver): Geography of Population, Longmans and Green, London (1966).

George, L.H. : Iraq, Its People, Its Society, Its Culture, Hraf Press, New Haven (1958).

Lange, O. : Economic Development Planning and International Cooperation, Monthly Review Press, N.Y. (1963).

Langley, K. : The Industrialization of Iraq, Harvard University Press, Cambridge, Mass. (1962).

Lee, E.S., Miller A.R., Brainerd, C.P. and Easterlin, R.A. : Population Redistribution and Economic Growth, United States 1870-1950, Vol.I, Methodological Considerations and Reference Tables, American Philosophical Society, Philadelphia (1957).

McC. Adams, R. : Land Behind Baghdad, University of Chicago Press (1965).

Oscar, L. : Village Life in Northern India, University of Illinois Press (1958).

Prothero, R.M. : Migrants and Malaria, Longmans and Green, London (1965).

Salim, S.M. : Marsh Dwellers of the Euphrates Delta, University of London, The Athlone Press, (1962).

Semaj, B.S. : Slums of Old Delhi, Atma Ram and Sons, Delhi (1958).

Zelinsky, W. : A Bibliographic Guide to Population Geography, University of Chicago, Department of Geography, Chicago, Illinois (1962).

ARTICLES.

Abou El-Ezz, M.S. : "Some Aspects of Migration in Cairo", Bulletin de La S'ocietie de Geographie d'Egypt", XXXII (1959), pp.121-141.

Abu-Lughod, J. : "Migrant Adjustment to City Life : the Egyptian Villager in Cairo", Ekistics, XII (1961), pp.192-202.

Abu-Lughod, J. : "Rural-Urban Differences as a Function of the Demographic Transition : Egyptian Data and Analytical Model", American Journal of Sociology, LXIX (1963), pp.476-490.

Ackerman, E.A. : "Geography and Demography", in P.M. Hauser and O.D. Duncan (eds.), Study of Population, Chicago University Press, Chicago, Illinois (1964), pp.717-727.

Adams, D. : "Current Population Problems of Iraq", Middle East Journal, X (1956), pp.151-164.

- Baali, F. : "Social Factors in Iraqi Rural-Urban Migration", American Journal of Economics and Sociology, XXV (1966), pp.359-364.
- Bogue, D.J. : "Internal Migration", in P.M.Hauser and O.D.Duncan (eds.) : The Study of Population, 4th Impression, University of Chicago Press, Chicago, Illinois (1964), pp.486-509.
- Bright, M.L., and Thomas, D.S. : "Interstate Migration and Intervening Opportunities", American Sociological Review, VI (1941) pp.773-783.
- Burns, N. : "Development Projects in Iraq, The Dujaila Land Settlement", Middle East Journal, V (1951), pp.362-366.
- Caesar, K. : "Grundlagen und Struktur der Irakischen Landwirtschaft", Berichte Uber Landwirtschaft, XXXVIII (1960), pp.188-208.
- Crary, D.D. : "The Villager", in S.N.Fisher (ed.): Social Forces in the Middle East, Cornell University Press, London. (1955) pp.43-59.
- Critchley, A.M. : "The Health of the Industrial Worker in Iraq", British Journal of Industrial Medicine, XII (1955), pp.73-75.
- Davies, D.H. : "Observations on Land Use in Iraq", Economic Geography, XXXIII (1957), pp.122-134.
- Davies, W.K.D. : "Latent Migration Potential and space Preferences", Professional Geographer, XVIII (1966), pp.300-304.
- Dewey, R. : "The Rural-Urban Continuum", American Journal of Sociology, LXVI (1960), pp.60-66.
- Dimmock, L. : "The Waterways of Iraq", Journal of Royal Central Asian Society, XXXII (1945), pp.307-313.
- Dresch, J.D. : "Utilization and Human Geography of the Deserts", Transactions of the Institute of British Geographers, Publication No.40 (1966), pp.1-10.

- Drower, Lady. : "Marsh People of South Iraq", Journal of Royal Central Asian Society, XXXIV (1947), pp.83-90.
- Drower, Lady. : "Arabs of the Hor Hawiza", in H.Field (ed.) : The Anthropology of Iraq, II (1949), pp.368-406.
- El-Badry, M.A. : "Some Aspects of Fertility in Egypt", Milbank Memorial Fund Quarterly, XXXIV (1956), pp.22-43.
- El-Badry, M.A. : "Trends in the Components of Population Growth in the Arab Countries of the Middle East. A Survey of Present Information", Demography, II (1965), pp.140-187.
- Fisk, B. : "The Wadi Tharthar Flood Control Project", Middle East Journal, V (1951), pp.366-370.
- Fryer, D.W. : "Jogjakarta .. Economic Development in an Indonesian City State," Economic Development and Cultural Change, VII (1955), pp.452-464.
- Gibbs, J.P. : "A Note on Industry Changes and Migration", American Sociological Review, XXIX (1964), pp.266-270.
- Gulick, J. : "Baghdad, Portrait of a City in Physical and Cultural Change," Journal of American Institute of Planners, XXXIII (1967), pp.246-255.
- Habib, M. : "Sugar Cane Industry In Hawaii and Iraq", The Industrialist, Iraqi Federation of Industries, No.4 (1966), pp.10-15 (Arabic).
- Habib, M. : "Sugar Cane Project in Mijar Al-Kabir," The Engineer, Iraqi Association of Engineers, No.2 (1965), pp.27-35 (Arabic).
- Hamdan, G. : "Some Aspects of the Urban Geography of the Khartoum Complex," Bulletin de La Societie de Geographie d'Egypt, XXXII (1959), pp.89-120.

- Hamilton, C.H. : "Population Pressure and Other Factors Affecting Net Rural-Urban Migration", in J.J. Spengler and O.D. Duncan (eds.) Demographic Analysis, III (1956), pp.419-424.
- Hamilton, C.H. : "Effects of Census Errors on the Measurements of Net Migration", Demography, III (1966), pp.393-415.
- Hamilton, C.H. : "Some Problems of Method in Internal Migration Research," Population Index, XXVII (1961), pp.297-307.
- Harrison, R.S. : "Migrants in the City of Tripoli, Libya", Geographical Review, LVII (1967), pp.397-423.
- Hashimi, R.M.H., and Edwards, A.L. : "Land Reform in Iraq : Economic and Social Implications", Land Economics, XXXVII (1961), pp.68-81.
- Hellbusch, S.W. : "Die Kulture der Ma'dan in Gegenwart und vergangenheit, dans," Sumer, XII (1956), pp. 66-75.
- Hirsch, G.P. : "Migration from the Land in England and Wales, 1871-1950" , Farm Economist, VI (1951), pp.270-280.
- Hunter, J.M. : "Cocoa Migration and Patterns of Land ownership in the Densu Valley near Suhum," Transactions of the Institute of British Geographers, Publication No.33 (1963), pp.61-87.
- Hunter, J.M. : "Ascertaining Population Carrying Capacity under Traditional Systems of Agriculture in Developing Countries", Professional Geographer, XVIII (1966), pp.151-154.
- Jones, H.R. : "A Study of Rural Migration in Central Wales," Transactions of the Institute of British Geographers, Publication No.37 (1965), pp.31-45.
- Kariel, H.G. : "A Proposed Classification of Diet", Annals of the Association of American Geographers, LVI (1966), pp.68-79.

- Kariel, H.G. : "Selected Factors Arealy Associated with Population Growth due to Net Migration," Annals of the Association of American Geographers, LIII (1963), pp.210-223.
- Kindleberger, C.P. : "Mass Migration, Then and Now", Foreign Affairs, VII (1965), pp.647-658.
- Lawenthal, D.C.L. : "Migration and Depopulation", Geographical Review, LII (1962), pp.195-210.
- Lebon, J.H.G. : "The New Irrigation Era in Iraq", Economic Geography, XXXI (1955), pp.47-59.
- Lebon, J.H.G. : "Population Distribution and the Agricultural Regions of Iraq", Geographical Review, XLIII (1953), pp.223-228.
- Lennie, A.B. : "Agriculture in Mesopotamia in Ancient and Modern Times", Scottish Geographical Magazine, LII (1936) pp.33-46.
- Loua, M.T. : "The Migration of the Population in France," Journal of the Statistical Society, XLVIII (1885), pp.652-667.
- Margaret, L.B. and Thomas, D.S. : "Interstate Migration and Intervening Opportunities, American Sociological Review, VI (1941) pp.773-783.
- Mather, D.B. : "Migration in the Sudan," in R.W.Steel and C.A.Fisher (eds.): Geographical Essays on British Tropical Lands, George Philips and Son, London (1956), pp.115-143.
- Miller, V. : "Types of Mesopotamian Houses", Journal of American Oriental Society, LX (1940), pp.151-180.
- Miner, H. : "The Folk-Urban Continuum", American Sociological Review, XVII (1952), pp.529-537.

- Mitchell, R.C. : "Physiographic Regions of Iraq", Bulletin de la Societe de Geographie d'Egypt, XXX (1957), 75-96.
- Mitchell, R.C. : "Instability of Mesopotamian Plains," Bulletin de la Societe de Geographie d'Egypt, XXXI (1958), pp.127-140.
- Naylor, P.E. : "Farming Organization in Central Iraq", Empire Journal of Experimental Agriculture, XXIX (1961), pp.19-34.
- Niewenhuijze, C.A. : "The Near Eastern Village : A Profile", Middle East Journal, XVI (1962), pp.295-308.
- Nixon, J.W. : "Classification of the Population by Economic Activities", Journal of the Royal Statistical Society, CXXIV (1961), pp.526-543.
- Olsson, G. : "Distance and Human Interaction. A Migration Study", Geografiska Annaler, XLVII (1965), pp.3-43.
- Percil, D.A. : "Some Features of A Peasant Population in the Middle East", Population Studies, III (1949), pp.192-204.
- Peterson, W. : "A General Typology of Migration", American Sociological Review, XXIII (1958), pp.256-266.
- Poliak, A.N. : "Agrarian Problems of the Middle East," Middle Eastern Affairs, III (1952), pp.165-170.
- Porter, R. : "Approach to Migration Through its Mechanism", Geografiska Annaler, XXXVIII (1956), pp.317-343.
- Powers, W.L. : "Soil and Land-Use Capabilities in Iraq: A Preliminary Report", Geographical Review, XLIV (1954), pp.373-380.
- Prothero, R.M. : "Continuity and Change in African Population Mobility", in R.W. Steel and R.M. Prothero (eds.): Geographers and the Tropics: Liverpool Essays, (1964), pp.189-211.

- Prothero, R.M. : "Socio-Economic Aspects of Rural-Urban Migration in Africa South of the Sahara", Scientia, LIX (1965) pp.1-7.
- Pullen, G. : "Some Problems of Rapid Urbanization in Lagos, Nigeria," Journal of Tropical Geography, XXIII (1966), pp.55-61.
- Quint, M.N. : "The Idea of Progress in an Iraqi Village", Middle East Journal, XII (1958), pp.369-384.
- Rose, A.M. : "Distance of Migration and Socio-Economic Status of Migrants", American Sociological Review, XXIII (1958), pp.420-423.
- Rose, A.M. and Warshay, L. : "The Adjustment of Migrants to Cities", Social Forces, XXXVI (1957), pp.72-76.
- Sevian, V.J. : "Economic Utilization and Development of the Water Resources of the Euphrates and Tigris", Bulletin de la Societe de Geographie d'Egypt, XXIV (1951), pp.177-200.
- Shorter, F.C. : "The Application of Development Hypothesis in Middle Eastern Studies", Economic Development and Cultural Change, XIV (1966), pp.340-354.
- Simkins, P.D. and Wernstedt, F.L. : "Growth and Internal Migration of the Philippine Population, 1948 to 1960", Journal of Tropical Geography, XVII (1963), pp.197-202.
- Simmons, J.L. : "Agricultural Development in Iraq: Planning and Management Failures", Middle East Journal, XIX (1965), pp.129-140.
- Smith, S. : "The Geographic History of the Mesopotamian Plains", Geographical Journal, CXX (1954), pp.395-396.
- Stauffer, E.A. : "Intervening Opportunities: The Theory Relating Mobility and Distance, American Sociological Review, V (1940), pp.845-867.

- Stauffer, T.B. : "The Industrial Worker", in S.N.Fisher (ed.): Social Forces in the Middle East, (1955), pp.83-98.
- Stewart, C. : "Migration as a Function of Population and Distance, American Sociological Review, XXV (1960), pp.347-356.
- Szabo, M.L. : "Area Differential Productivity of Agricultural Resources and Off-Farm Migration on the Canadian Prairies", Geographical Bulletin, VIII (1966), pp.113-133.
- Tannous, A.I. : "Social Change in an Arab Village", American Sociological Review, VI (1941), pp.650-662.
- Trewartha, G.T.: "The Case for Population Geography, Annals of the Association of American Geographers, XLIII (1953), pp.71-97.
- Udo, R.K. : "The Migrant Tenant Farmer of Eastern Nigeria", Africa XXXIV (1964), pp.326-339.
- Ullman, E.L. : "Human Geography. Area Research", Annals of the Association of American Geographers, XLIII (1953), pp.54-66.
- Veen, J.P. : "Some Aspects of Land Use for Livestock Product in South West Asia, with Particular Reference to Iraq", Land Economics, XXXVIII (1962), pp.256-269.
- Wolfe, R.I.: "Recreational Travel : The New Migration", Canadian Geographer, X (1966), pp.1-14.
- Yedelman, M. : "Some Issues in Agricultural Development in Iraq," Journal of Farm Economics, XL (1958), pp.78-88.
- Zachariah, K.C. : "Bombay Migration Study : A Pilot Analysis of Migration to an Asian Metropolis," Demography, III (1966), pp.378-392.
- Zimmer, B.G. : "Participation of Migrants in Urban Structure" American Sociological Review, XX (1955), pp.218-224.

UNITED NATIONS PUBLICATIONS

- U.N.E.S.C.O. : Social Implications of Industrialization and Urbanization in Africa South of the Sahara, Paris (1964)
- F.A.O. : Evaluation of Agrarian Structure and Agrarian Reform Progress, Rome (1966).
- _____ : Training and Extension in the Cooperative Movement, Rome (1964).
- _____ : Possibilities of Increasing World Food Production, Rome (1964).
- _____ : Dietary Surveys, Their Technique and Interpretation, Rome (1953).
- _____ : Nutritional Deficiencies in Livestock, Washington D.C. (1960).
- W.H.O. : Expert Committee of Malaria, Geneva (1961).
- _____ : Expert Committee on Tuberculosis, Geneva (1960).
- _____ : Scientific Meeting on Rehabilitation in Leprosy, Geneva (1961).
- _____ : Second African Conference on Bilharziasis, Geneva (1961).
- _____ : Expert Committee on the Public Health Aspects of Housing, Geneva (1961).
- _____ : Urban Health Service, Geneva (1963).

BASE STATISTICAL MATERIALS FOR FIGURES.

Figure.

- 4,5,6,8, M. Allahwerdi & Assoc. and Cekop : Irrigation Improvements in the Amara Area, Ministry of Agriculture, Directorate General of Irrigation (1963).
- 10,22,35 Ministry of Planning, Central Bureau of Statistics: Results of the Agricultural and Livestock Census of 1958/59.
- 11,42 See Appendix A, 4.
- 12 Annual Reports of the Operations of the Agricultural Bank for the Fiscal Years 1955-1964.
- 14,15 Ministry of Agrarian Reform: The Agrarian Reform in the Six Years 1958-1964.
- 16,19,20,38,39 Ministry of Agriculture: Annual Statistical Abstract of Agriculture 1957/1964
_____ : Files No.: 5/306, 6/306 and 4/128.
- 17,28,30,31,32
33 (C&D),34 Ministry of Interior, Directorate General of Census: Census of Population of 1957, Province Volumes.
- 23,24,25,26 Ministry of Planning, Central Bureau of Statistics: Statistical Abstracts, 1955-1964.
_____ : Results of Educational Census of 1960/61, 1961/62 and 1962/63.
Directorate of Education in Amara : Primary, Intermediate and Secondary Schools in Amara Province, 1965.

- 27 Health Authority of Amara : Hospitals, Dispensaries
and Medical Staff in Amara 1965.
- 29,36,37 Ministry of Interior, Directorate General of Civil
Status : Monthly Statistical Books.
- 33(A) General Register Office : Census of 1961, England
and Wales.
- 33(B) United Nations : Demographic Year Book for 1965.
- 40 Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts 1956-1964.
- 44 The Economist Intelligence Unit: Annual
Supplement (Iraq) 1961 and 1965.
- Ministry of Planning, Central Bureau of Statistics:
Statistical Abstracts, 1956-59, 1962-63.