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AN ANALYSIS OF POPULATION GROWTH IN

ISFAHAN CITY SINCE 1956

by

Sohiela Noorbakhsh-Khiabani

A thesis presented for the degree

of

Master of Arts (Geography)

University of Durham

August 1977

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To my parents

CONTENTS

	Page No.
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
INTRODUCTION	1
REFERENCES	5
CHAPTER I HISTORIAL REVIEW OF THE POPULATION OF ISFAHAN	
1. INTRODUCTION	6
1.1 ISFAHAN UNTIL 1500	6
1.2 THE SAFAVI PERIOD (1500-1722)	8
1.2.1 Population Estimates	9
1.2.2 The Suburb of Julfa	10
1.2.3 The Suburb of Gabrabad	11
1.2.4 Other Population Groups	12
1.2.5 After Shah Abbas I	13
1.3 THE QAJAR PERIOD (1790-1925)	14
1.3.1 Estimates of Population	15
1.3.2 Minority Groups	17
1.4 THE PAHLAVI PERIOD (1925 onwards)	18
1.4.1 Population Estimates	20
1.5 CONCLUSION	20
REFERENCES	22
CHAPTER II THE SOCIO-ECONOMIC CHARACTER OF ISFAHAN	
2. INTRODUCTION	25
2.1 THE SOCIO ECONOMIC CHARACTER OF IRAN 'As a whole"	26
2.2 MANPOWER IN ISFAHAN 1956-1966	34
2.2.1 Age Structure of Manpower in Isfahan	35
2.2.2 Sex Structure of Manpower in Isfahan	36
2.2.3 Unemployment in Isfahan	40
2.3 CONCLUSION	42
REFERENCES	46

CHAPTER III	POPULATION COMPOSITION IN ISFAHAN	
3.	INTRODUCTION	47
3.1	SEX COMPOSITION OF ISFAHAN'S POPULATION	47
3.1.1	Differentials in the Sex Ratio by Age Group	48
3.2	AGE COMPOSITION OF ISFAHAN'S POPULATION	50
3.2.1	The Age Pyramid of the Population of Isfahan	52
3.2.2	The Dependency Ratio in Isfahan	53
3.3	THE MARITAL COMPOSITION IN ISFAHAN	54
3.3.1	The Change in Marital Status in Isfahan	54
3.3.2	Marital Status According to the Age Group and Sex Composition in Isfahan	57
3.4	POPULATION COMPOSITION OF OTHER PERSIAN CITIES	59
3.4.1	Sex Composition in other Persian Cities	60
3.4.2	The Age Composition of other Persian Cities	63
3.4.3	Marital Composition in other Persian Cities	64
3.5	CONCLUSION	68
	REFERENCES	70
CHAPTER IV	FERTILITY IN ISFAHAN	
4.	INTRODUCTION	72
4.1	BIRTHS AND FERTILITY IN ISFAHAN	73
4.2	BIRTHS AND FERTILITY IN IRAN	74
4.3	FAMILY PLANNING IN ISFAHAN	77
4.3.1	Family Planning Activities in Isfahan	81
4.3.2	The Model Family Planning Project in Isfahan	85
4.4	RELIGION AND FAMILY PLANNING	86
4.5	CONCLUSION	87
	REFERENCES	89
CHAPTER V	FAMILIES AND HOUSEHOLDS IN ISFAHAN	
5.	INTRODUCTION	91
5.1	COMPOSITION OF THE FAMILY IN ISFAHAN	92

5.2	HOUSEHOLDS IN IRAN AND ISFAHAN PROVINCE	96
5.3	CONCLUSION	97
	REFERENCES	99
CHAPTER VI	MORTALITY IN ISFAHAN	
6.	INTRODUCTION	100
6.1	MORTALITY IN ISFAHAN	100
6.2	MORTALITY IN IRAN	102
	6.2.1 Infant Mortality in Iran	104
	6.2.2 Mortality by age and sex in Iran	105
6.3	MORTALITY IN TEHRAN	106
6.4	CONCLUSION	108
	REFERENCES	110
CHAPTER VII	MIGRATION IN ISFAHAN	
7.	INTRODUCTION	111
7.1	REASONS FOR MIGRATION TO ISFAHAN	114
7.2	MIGRATION IN ISFAHAN SHAHRESTAN	116
7.3	MIGRATION IN IRAN	117
7.4	REASONS FOR MIGRATION	120
7.5	CONCLUSION	121
	REFERENCES	123
CHAPTER VIII	AREAL EXPANSION IN ISFAHAN	
8.	INTRODUCTION	124
8.1	ISFAHAN'S EXPANSION SINCE THE 17th CENTURY	124
8.2	CONCLUSION	128
	REFERENCES	129
CHAPTER IX	POPULATION GROWTH IN ISFAHAN	130
	REFERENCES	133
	CONCLUSION	134
	BIBLIOGRAPHY	139

ABSTRACT

This thesis mainly analyses the very rapid annual growth (4.5 percent) of population in Isfahan City since 1956, and is divided into nine chapters.

In a preliminary analysis of the historical background of population fluctuations throughout the centuries, the unofficial and unreliable estimates of travellers and visitors have been examined. Subsequently, an effort has been made to understand the influence upon population growth of the changing economic characteristics of the city, notably the increasing numbers of factories and workshops and particularly the new steel mill, which have attracted numerous migrants, largely from the rural areas and smaller towns around Isfahan City.

The thesis is also concerned with the population composition and structure in Isfahan City, and the way that sex composition, age structure and marital status influence population growth.

Consideration is then given to measuring the influence of natural increase on the population growth, particularly the two basic elements of births and deaths in the city and their changes over a period of twenty years. The evolution of families and households in the city has been surveyed, which has revealed an interesting reduction in the number of extended families and the increase in the number of smaller nuclear families.

Finally the pattern of areal expansion of the city since the 17th century has been considered, especially to see the relationships between population growth and areal expansion.

The main difficulty throughout the study was the lack of reliable census and vital registration data for Iran as a whole and also for Isfahan City. Therefore a wide variety of sources had to be used.

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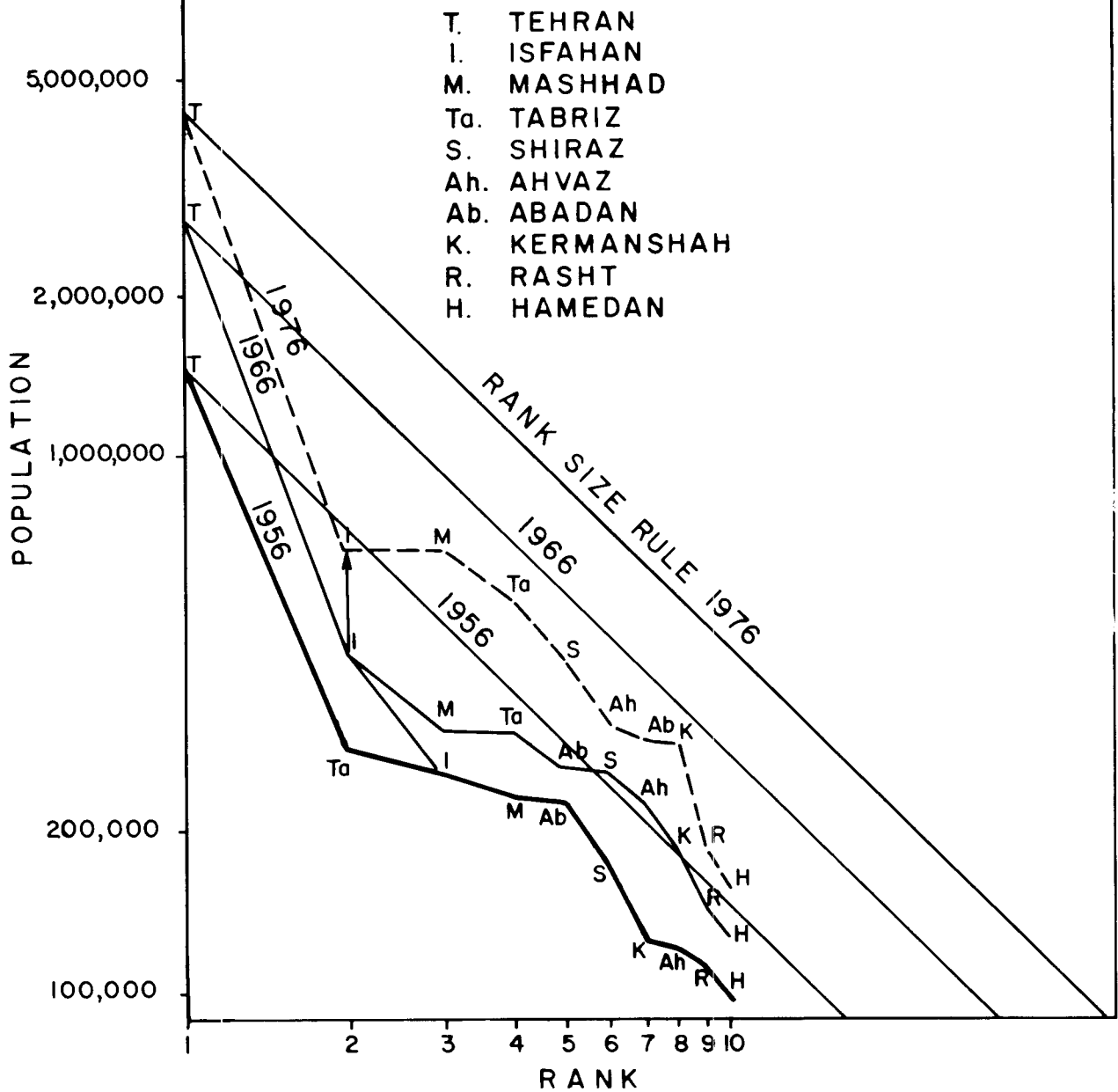
INTRODUCTION

Isfahan City, the regional capital of the 10th province of Iran, Isfahan, has some special significant characteristics among all the Persian cities, from economic, political and social stand points. The beautiful capital of Shah Abaas, although suffering for a long time after him, has started to regain its lost reputation as a centre of economic activities and production.

The city is situated on a plain of the Zayandeh-Rud river some 420 Km. towards the south of Tehran, and is very well known for its good and moderate climate throughout the year, and also its very fertile soil. The average altitude of the city is very close to 1590 metres above the sea level.

According to the Second National Census of Iran in 1966, Isfahan gained 169,337 people more than the first enumeration ten years before and overtook Tabriz as the second largest Iranian City after Tehran (Fig.1) with a total population of 424,045. The city gained further importance first when it was considered as most suitable for the establishment of a steel mill in 1966, and eventually after the actual siting of the factory, 34 Km. to the south of the city, when industrial activities increased. The Third National Census of Iran in 1976 reported the total population of Isfahan as 671,825, 247,780 more than the second enumeration and 417,117 (more than twice) greater than the first census. Bearing in mind the very rapid population growth in Isfahan City, at a rate of 4.5 per cent per annum, the present survey has attempted to analyse the pattern of the population growth since 1956. The study is two-fold in aim. It tries to measure the influence of natural increase on the population growth, through which the two major factors of births and deaths in the city and their variations during the twenty years are considered. Secondly, it

Fig.1 RANK SIZE CURVE OF THE TEN LARGEST CITIES IN IRAN 1956-1976



examines the impact of the developing economic characteristics of the city upon the population growth. In that approach special emphasis has been put on the newly established factories and plants, for example the steel mill, the helicopter factory, many textile plants and workshops and also the new project for an oil refinery factory, which have attracted numerous migrants mostly from the rural areas and therefore has changed the picture of the population in the city.

The thesis is divided into nine chapters. An historical review of the evolution of the city's population since the very beginning has been composed in the first chapter, which is totally dependent upon the unofficial and also less-reliable estimates of the travellers and visitors. This chapter gives a historical background of the population fluctuations in the city throughout the centuries. Four different and significant periods have been considered in that part of the study.

In chapter two one of the most important elements of population change in a region, socio-economic characteristics, has been considered in relation to the growth of the population in Isfahan City. Different characteristics of manpower, employment, unemployment and the shifts between the traditional and modern industry also receive attention.

In chapter three an attempt has been made to study the population composition and structure in Isfahan City. Sex composition, age structure and the marital status of the population are examined in detail because of their effects on population growth.

Analysis of natural increase, the main factor of population growth in Isfahan City, is the aim of two chapters, chapters four and six. The first element of high natural increase, fertility, has been described in chapter four, along with the main reasons for high birth rates in Iran as a whole, and also in Isfahan City, as well as the recent activities against this growing factor of population increase. Mortality decline in

Iran and Isfahan City, one of the fundamental results of recent development, is dealt with in chapter six. The process of mortality decline in Isfahan City since 1956 is the main subject.

An attempt has been made to survey the evolution of the families and households in Isfahan in chapter five. The most interesting factor in that study is the reduction in the number of extended families and the increase in the smaller ones.

The migration characteristics of the population of Isfahan, another very important factor of the population growth in the city, is the subject of study in the seventh chapter, which intends to illustrate the pattern of migration shifts in the city since 1956. The great influence of the economic changes on the migration status in Isfahan has been considered as far as the available data in that particular subject permits.

Chapter eight outlines the pattern of areal expansion of the city of Isfahan since the 17th century. The growth of the city itself is another element which is associated with population growth, although as in some other parts of the world, areal expansion and population growth may not necessarily go together.

Finally, bearing in mind all the different important elements of population change, the total population growth in Isfahan city, has been considered in the last chapter, in which annual growth of the population of Isfahan as well as some other large Iranian cities has been calculated.

Unfortunately, population data for Iran as a whole, and particularly for smaller scale regions, are far from comprehensive and accurate, and Isfahan City is no exception. The First National Census of Iran was held in 1956. Prior to this date, the guesswork of the travellers, merchants and political emissaries, who visited and stayed in the country for a period of time are the only available documents. "Much of the information was based on hearsay or by the counting of tents or houses and by the use

of a multiplier, in the case of towns, usually 5-8 persons per unit."⁽¹⁾

Ten years later in 1966 the Second National Census took place, and in 1976 the third. Due to some alterations in statistical units and also some different and extra questions which have been asked in 1966, the results of the 1956 and 1966 censuses are not always comparable.

Although the census totals for 1966 are believed to be more accurate and reliable than those of 1956, the census totals are not fully accurate for the following reasons:

- (1) People's low level of knowledge about the national census and the importance of their correct representation.
- (2) The less trained and skilled manpower who were engaged in the census taking.
- (3) Not very good communications which, particularly in the first census, caused many problems and sometimes an ignorance for the more remote parts of the country.
- (4) The mobile characteristics of the tribal population. Some of these factors do not apply to Isfahan City, but on the whole population data in Iran, as in other Middle-Eastern countries, do not help a very accurate and scientific survey.

Vital registration, another essential population data source, is also not very correct and reliable in Iran. Registration of births and deaths and other vital events were not until recently considered an important obligation of the people. Unreported deaths, particularly infant and female mortality, caused numerous mistakes and made the vital reports untrustworthy. This characteristic is more or less a usual picture in the Middle East. Clarke (1972) described the position in the Middle East and wrote, "... for vital statistics the situation is usually worse, because registration of birth and death is so deficient."⁽²⁾ Although vital registration is becoming more frequency and correct

in Iran these days, the reports of deaths, births, marriages and divorces should still be used carefully.

Bearing in mind all the unreliable characteristics of the available population data for Iran as a whole and thus, for Isfahan City, this study had to use a wide variety of sources either generally about Iran, or specifically on Isfahan City. In each chapter, an attempt has been made to have a comparison with Iran as a whole, some other large Iranian cities, and different small or medium-sized cities, either in Isfahan province, or in other close or remote provinces in Iran.

Finally, the study has attempted to survey all the different and specific factors of population growth in a rapidly expanding city in a developing country. Like Isfahan, there are at least six other Persian cities and, no doubt, many others in the Middle East and elsewhere, where continuous development is taking place. It is hoped that the facts and suggestions presented in the population study of the previously flourishing capital city of Shah Abbas the Great, and the second largest Iranian city, as well as one of the most important centres of the industrial activities of the country at present, would help further more researches in that field.

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CHAPTER I

HISTORICAL REVIEW OF THE POPULATION OF ISFAHAN

1. INTRODUCTION

Before analysing the present characteristics of Isfahan's population and the patterns of growth in a period between the two official censuses of 1956 and 1966, as well as the first results of the 1976 census, we will review the historical evolution of the city's population. Such a study is dependent upon those estimates of travellers which are available, and these are, of course, neither official nor very reliable. There are two reasons why this approach should be included. First, in the past Isfahan experienced considerable fluctuations in population, and secondly, this has greatly affected the population characteristics of the city. In addition, a review of the importance of the historical background enables one to acquire greater understanding of the basis of Isfahan's population. In a study of the origin and historical evolution of Isfahan four distinct periods may be distinguished: (i) until 1500; (ii) 1500 to 1790 (Safavi and Afshar period); (iii) 1790 to 1925 (Qajar period); (iv) 1925 onwards (Pahlavi period).

1.1 ISFAHAN UNTIL 1500

It is said that King Kay Kaus, of the mythical Kayanian dynasty, built the Citadel of Tabarak, which is now in the eastern part of Isfahan. In Parthian times (249 B.C.-A.D.226) Isfahan was already the capital of a large province, and under the Sasanid dynasty (A.D.226-632) it was a twin town and continued to be an important administrative centre. The two parts of this twin town, which were established to the west of the modern town, were named Yahudiyeh or Jewish town and Gadh or Gai.

Opinions differ as to the origin of the Jewish town. According to some authorities, it was Nebuchadnezzar (604-562 B.C.) who settled some of the exiles from Jerusalem there, but it seems more probable that it was Queen Shushan-Dukht, the Jewish Consort of the Sasanid King Yezdigird I (A.D. 399-420), who founded the town about a thousand years later.⁽¹⁾ After the Arab Conquest of Isfahan around A.D.640, Gai became known as Shahrestan or Madineh (city)⁽²⁾.

In the 10th Century, Isfahan still consisted of those two distinct quarters, Yahudiyeh and Shahrestan, lying about two miles apart⁽³⁾. Nasir-i-Khusraw⁽⁴⁾ in Safar Nameh (A.D. 1050) describes Isfahan as a town situated on a plain, which has an agreeable climate and where if one sinks a well to a depth of ten 'gaz' (about 36 feet) very cold and good water flows out. He says that the walls of the city were three and a half 'farsangs' (slightly over twelve miles) in length. He adds, he did not see a single building in ruins. He notices many bazaars and in one of these, which was that of the money changers, there were 200 men of this profession. He had never seen anywhere in Iran, a finer, larger or more prosperous town than Isfahan.

In 1388, Timur Lang captured Isfahan, and, like the Arabs and Mongols before him, spared it and its inhabitants. The Isfahanis, far from being grateful for his clemency, subsequently revolted, whereupon Timur exacted a terrible vengeance, slaughtering no less than 70,000 of them and making a huge pyramid of their skulls⁽⁵⁾. This figure, however exaggerated, gives a rough idea how large the city was. Recovery was quick, and when Barbaro visited Isfahan in the 1470's, he gave an estimate of 50,000 inhabitants, and even at its most prosperous time before the Safavi era, Isfahan had under 100,000 inhabitants⁽⁶⁾.

1.2 THE SAFAVI PERIOD (1500-1722)

In 1501 Shah Ismail the first King of the new line, Safavi, established his capital in Tabriz. He often used to visit Isfahan, where he laid out the spacious garden called Nagsh-i-Jahan. Shah Tahmaspb, his successor, chose Ghazvin as his capital, but frequently stayed at Isfahan. Although Isfahan was not the capital at that time, the King thought a lot about it, and in particular its water supply. By digging a tunnel he wanted to divert a part of the Karoon's water into the Zayandeh-Rud, but the Shah's engineers were not successful. Nonetheless, the Isfahan we admire today, "the city that in the seventeenth century attracted merchants, adventurers and the idly curious from Europe, the city to which emperors, kings and popes were eager to send ambassadors and envoys, was the creation of Shah Abbas. The west came to the Persia of Abbas to admire and to learn, and not, as was later to be the case, to render aid to an underdeveloped country."⁽⁷⁾

For Isfahan the time of Shah Abbas The Great was a flourishing one. The situation of the city close to the centre of Iran, its remoteness from every frontier, and finally its good climate encouraged the King to establish his court there in the spring of 1598. During his time, Isfahan changed from a provincial city into one of the greatest capitals in the world, and its population more than doubled during this time. For a long time it looked like a forest, and the intermingling of buildings and trees made it difficult for travellers to recognize the real size of the city. Chardin's estimate of its circumference in the 17th Century was not less than 12 'leagues' (24 miles), which included the suburbs and made Isfahan one of the largest cities in the world. Other estimates vary from 9 to 48 English miles, but both De Lande and Tavernier considered Isfahan similar in size to Paris, although its

population was less⁽⁸⁾. As a metropolis of Persia for two centuries (16th - 17th), Isfahan was given a great deal of attention. To connect the palace quarter to the Allah-verdi-Khan Bridge, Shah Abbas ordered the creation of Chahar Bagh Avenue in 1596. This was the first public work of this great King. In 1892 Curzon wrote, "From the palace I now pass to the great Avenue, that conducts from the centre of the city for a distance of 1,350 yards to the bridge of Allah -Verdi".⁽⁹⁾ One of the most splendid public works of Shah Abbas was the creation of the Imperial Bazaar, built in 1619 - 20, and it is the largest and the most famous one in Isfahan. Bradley writes, "It is the second largest trading mart in Persia and in spite of decay that has overtaken this city of the Safavi Kings, its prosperity shows no sign of wearing."⁽¹⁰⁾ Don Juan⁽¹¹⁾ in 1600 claimed there were 10,000 shops and 600 caravanserais in Isfahan. The bazaar still remains today as miles of long, narrow, covered lanes, and certain streets still having the same crafts that they have had for ages. Although there has been some breakdown of this system, where tourism has intervened, with new shops in the new main streets out of the bazaar, where salers and craft-workers remain in the bazaar. The Imperial Bazaar has remained impressive while those behind the 'maydan' to the east are somewhat neglected.

1.2.1 Population Estimates

Various estimates of population have been given by travellers, who visited Isfahan during the Safavi period. Don Juan in 1600 gives an estimate of about 80,000 householders and 360,000 inhabitants.⁽¹²⁾ There is another estimation of Isfahan's population by Thomas Herbert⁽¹³⁾ during his visits to Persia (1627 - 1629): "Isfahan is in compass at this day about nine English miles, including towards seventy thousand

houses, and of souls (as may be conjectured) contains about two hundred thousand, for, besides natives, there are merchants of sundry nations, as English, Dutch, Portuguese, Pole, Muscovite, Indian, Arabian, Armenian, Georgian, Turk, Jew and others." Olearius⁽¹⁴⁾ in 1676 gives 18,000 houses and 500,000 people. Don Juan says there were about 4 persons per house and Herbert gives an extraordinary figure of 30 per house. It is probable that the population was rising rapidly at this time. Chardin⁽¹⁵⁾ said that Isfahan was as populous as London, which was then, as he rightly remarked, "La ville la plus peuplée de l'Europe." In the mid-17th Century he gave two estimates of Isfahan's population, 600,000 and 1,000,000 which seem to be extremes and the true figure was probably somewhere between. Using traveller's estimates Malcolm in his "History of Iran" gives a figure of between 600,000 and 700,000 for Isfahan's population at the time of its prosperity when it was the Safavi capital.⁽¹⁶⁾

Obviously estimates of population for Isfahan in Safavi times vary. However, with the tributary villages of the oasis (of which there were 1,460 according to Olearius, or 1,500 according to Chardin), the higher figure of a million may well have been reached. Supplies for such a large number were obtained mainly from the oasis itself, which is very fertile and well-watered, but were supplemented by supplies from other provinces."⁽¹⁷⁾

1.2.2 The Suburb of Julfa

Besides endowing Isfahan with beauty and with rising new buildings, Shah Abbas decided to gather together skilful people from all over Iran. Thus, he moved thousands of Armenian families, often forcibly (by cutting off water supplies and armed attacks) from Julfa near the Araxes river, and settled them across the Zayandeh-Rud. About 1604 a new suburb arose

on the south-west of the river immediately west of Hazar Jarib garden which was named New Julfa, after the Armenian town of that name on the Araxes, and later simply Julfa. Some of the Armenians were settled in the Isfahan area, and most of them became Muslim. As Bradley⁽¹⁸⁾ distinguished, Julfa the suburb, lies wholly apart from Isfahan. Separated by the broad stream of Zayandeh-Rud, they are as different in character as two cities could be. Julfa was once a very large place, having 24 well populated parishes. It soon became extremely prosperous, firstly because of the ability and quality of its settlers, and secondly because of the special encouragement it was given by the tolerant king. In a short while it added considerably to the industry and commerce of Isfahan. The Armenian Cathedral was built in 1606-1654. They even had their mayor. As Sykes⁽¹⁹⁾ writes, "Julfa is a maze of narrow streets bordered by high walls but a glimpse inside these walls will reveal many fine old buildings which bear witness to periods of great prosperity." "The houses in Julfa are all built of mudbricks some of them are very ancient, going back to four hundred years."⁽²⁰⁾ In his visit of 1627, Herbert estimated the population of Julfa to be 10,000 inhabitants. Chardin (1669-1671) gives an estimate of 3,400 houses and 30,000 persons, while Fryer at the same time reports 6,000 families.⁽²¹⁾ Julfa flourished under Shah Abbas' liberal treatment but not under his successors, and the number of inhabitants declined. Under Shah Abbas II other groups of Christians were sent to Julfa. A Carmelite report of 1657 suggests that colonisation of new Julfa was an attempt to purify Isfahan for religious reasons.⁽²²⁾

1.2.3 The suburb of Gabrabad

Gabrabad or the Zoroastrian suburb was another non-Muslim part of Isfahan to the east of Julfa. Jackson writes that this was his first

opportunity to see some of the Persian followers of the prophet of ancient Iran. He adds, "Although I found six of them doing business in the bazaar, only three resided regularly in Isfahan, the rest were 'Gabars' from Yazd."⁽²³⁾ He says, "I have designated them as Gabars, after the native fashion, but this term is derogatory being equivalent to 'unbelievers' and is never employed by the Zoroastrians themselves."⁽²⁴⁾ Thomas Herbert writes, "Gowerabed 'another suburb' takes its name from the 'Gowers' that inhabit it, nick-named from their idolatry being relics of the ancient Persians, such as at this day the Persians be in India. The Persians have them in small account, partly for that they are original people of that country, partly for that by their industry. These people are for the most part mechanics or husbandmen, few of them either 'scholars', 'soldats' or 'soldagars', as they term their merchants."⁽²⁵⁾ According to De Landes⁽²⁶⁾ and Le Bruyn⁽²⁷⁾, this suburb consisted of only one long narrow street. Chardin estimated about 1,500 families of Zoroastrian from Kerman and Yazd, many of whom returned after the death of Abbas I. At this time there were only 300 houses of Zoroastrians working as ploughmen, goatherds and handlers of goat's wool.⁽²⁸⁾

1.2.4 Other Population Groups

According to estimates by Olearius⁽²⁹⁾ and Tavernier⁽³⁰⁾, in the 17th Century there were groups of Indians, Banians as they were called, in Isfahan City. They give a figure 10 to 12,000, while Thevenot⁽³¹⁾ mentions 14,000. They were merchants, bankers or money lenders who used to live in Caravanserais where they stored their goods. Shah Abbas created some muslim colonies in Isfahan as well. Tabrizabad, populated with people from north west Iran, was to the west of Chahar Bagh, and was later named Abbasabad. With the old city of Isfahan this new addition

comprised a kind of tetrapole, which according to Della Valle was a conscious creation by Shah Abbas. ⁽³²⁾

1.2.5 After Shah Abbas I

The decline of the Safavi Empire set in after the death of Shah Abbas The Great in January 1629, and it was the misfortune of Persia that the Safavi line rapidly degenerated, although it only adds to his glory that the Empire held together for so many years after his death. But Isfahan continued to be the greatest metropolis of the Empire until the fall of the dynasty in 1722, when Mahmood, an Afghan chieftain, invaded Persia with an army of 50,000 men. Although Isfahan probably had a population of 600,000 he had little difficulty capturing the capital of the Safavi dynasty after a siege. He ordered a wholesale massacre, and Isfahan has never fully recovered from the combined effects of the siege and massacre in which over nine-tenths of the population lost their lives. ⁽³³⁾ In 1821 Sir Robert Porter, while writing about this invasion stated that, "The streets are everywhere in ruin, the bazaars silent and abandoned, the caravanserais equally forsaken, its thousand villages hardly now counting two hundred, its palaces solitary and forlorn, and the nocturnal laugh and song which used to echo from every part of the gardens now succeeded by the yells of jakals and the howls as of famishing dogs." ⁽³⁴⁾

Isfahan was patronised by Nadir Shah, but this King established his Court in Mashhad and held Isfahan in lower esteem than Mashhad, a factor affecting the population growth of the city. Moreover Nadir Shah's several wars and the internecine struggles of the Zands and Qajars had the same effect. During the Afghan invasion, Julfa suffered terribly, its population being reduced to 600 families. ⁽³⁵⁾ During the Nadir's time they suffered from the Shah's unjustifiable suspicions that they had

helped the Afghans during the siege. Immediately upon the news of his death in 1747 they left Iran for Georgia, India, Burma, Malaya and Baghdad in hundreds and thousands, and the population shrank. Le Bruyn⁽³⁶⁾ in 1730 estimates not more than 2,000 families with a few European missionaries, craftsmen and traders, which appears inconsistent with the previous figure.

1.3 THE QAJAR PERIOD (1790-1925)

Agha Mohammad Khan, the head of the Qajar dynasty, moved to Tehran and established the court there in the early 19th Century. At this time Isfahan remained only as an administrative centre and lost all its functions as a capital, and most of its commercial and cultural importance. After the terrible time of Afghan and Nadir Shah's wars, Isfahan was nothing more than a deserted city, which was sadly ruined. Almost two-thirds of the city was destroyed, and even the houses which were still inhabited were in ruins. Only an area of 2 miles in diameter remained inhabited, although some of the western suburbs were still somewhat active. Since in Persia isolated dwellings rarely exist on their own, it is improbable that the suburbs were populated while the centre of the city was in ruins. The same applies to the surrounding rural areas, many of the villages had disappeared and the few which remained consisted only of huts and very poor cultivated areas which were able to serve only a very small part of the city's needs. Under Hajji Mohammad Husayn Khan's governance in the early 19th Century, new building and rebuilding of every kind took place. He encouraged agriculture in deserted villages and populated the habitable streets and attracted commerce to its old channels. Along the trade routes to Isfahan some of the caravanserais were opened again and during this time Kinner recognizes Isfahan as still the first commercial city of the Persian Empire.

At the beginning of the 20th Century, Isfahan was still two-thirds in ruins, but in a short while with the coming of European merchants from England, and others from India, Isfahan gradually changed to the most important city commercially and politically in Western Iran. After 1920 modernization took place in Isfahan, as was also the case in Tehran. The walls were destroyed and the gates pulled down, but this did not lead to expansion, as the walls were so far from the populated area.

1.3.1 Estimates of Population

There is no official census for the Qajar period, and the only source of information is the estimates of travellers. These estimates vary very much and at different times since the Afghan invasion, and the great fall of Isfahan, exaggerated accounts have been given. Although Isfahan's population did fluctuate with the visits of the army and the Court, these estimates show an even greater variation and fluctuation. This is due to the fact that travellers would see the crowds in the bazaar and from this estimate the city's population, not realising that the rest of the town was empty. According to Curzon,⁽³⁷⁾ Ferrieres-Sauveboeuf in 1784-5 actually give the total as 300,000. Olivier⁽³⁸⁾ in 1790 quotes 50,000, while Jaubert⁽³⁹⁾ in 1821 and Dupre⁽⁴⁰⁾ in 1819 quote 100,000, Ouseley⁽⁴¹⁾ in 1823 and Kinner⁽⁴²⁾ 200,000, and Morier in 1818 mentions 400,000⁽⁴³⁾. Boie⁽⁴⁴⁾ and Dubeux⁽⁴⁵⁾ estimate in 1841 a population reduced to only 60,000, while Flandin⁽⁴⁶⁾ estimates about 100,000 in 1850. In 1840 Coste gives a map of the inhabited area of Isfahan showing the different quarters and considers that there were about 8,370 houses. If we think of an average of 5 residents for each house we will reach an estimate of 41,850 inhabitants, but if 10 per house, it would come to nearly 83,700 people. This is the most credible estimate of Isfahan's

population during this time, for it was made by serious work and study of the city with local men considering distribution.

Lady Sheil⁽⁴⁷⁾ in "Life and Manners in Persia" speaks of the population as being under 100,000 in 1859, which is supported by several other authors as an estimate for the mid-19th Century. For the second half of the 19th Century, Curzon⁽⁴⁸⁾ writes, "Any Persian will probably give the total figure of about 200,000 souls, but it is reduced by competent authorities to a maximum of not more than 70,000 to 80,000."

In the early 20th Century there are still no official population censuses, but only travellers' unofficial and sometimes unreliable estimates, give a figure of 100,000 for 1900⁽⁴⁹⁾, which is probably trustworthy. Neville⁽⁵⁰⁾, in 1920 gives a surprisingly low estimate of 40,000 while Godard⁽⁵¹⁾ gives a number of 120,000 for 1930. Although these estimates do not show the growth of population as a whole, a re-growth is reasonable, as after the terrible time of the Afghans and Nadir's war period, the Qajars established a peaceful period. During Hajji Mohammad's governorship and after that under Zill-us-Sultan, Isfahan rose gradually from the ruins. It still had a big influence on Iran's commerce, and by encouraging European investment it established itself as a centre of trade and began to expand its population. Nevertheless exaggerated figures have been given, and this is due to the nature of the city at that time. Large areas were empty, and many houses were uninhabited, and travellers overlooking this, over-estimated the population. Moreover, from travellers' estimates alone it is impossible to deduce any demographic characteristics, such as mortality, fertility and migration. Among those travellers, however, Lady Sheil in 1859 in her book "Life and Manners in Persia"⁽⁵²⁾ mentions briefly the mortality of children in Iran. "Ladies of even moderate wealth and station never nurse their children,

and do not seem to care for them when they are very young." She says, "Dr. Cloquest, the Shah's French physician, son and nephew of the two famous surgeons of the same name, expressed to me his conviction that not above three children in ten outlived their third years."⁽⁵³⁾

1.3.2 Minority Groups

The Armenian quarter, Julfa, in the Qajar period consisted of some narrow, unpaved, dirty streets with a few retired old men and women. They had suffered under both Afghans and Nadir. The estimate for the population of Julfa varies. Olivier⁽⁵⁴⁾ in 1790 reports 800 families. He recognized that both the buildings and the population suffered badly. Morier⁽⁵⁵⁾ in 1811 and Ouseley⁽⁵⁶⁾ in 1823 estimate 300 to 400 families. Porter⁽⁵⁷⁾ estimates 300 families in 1818, Lumsden 500 in 1820, Ussher 3,000 inhabitants in 1861, Goldsmid 500 families in 1874.⁽⁵⁸⁾

For the second half of the 19th Century, Curzon gives a total population as 2,500 souls, eighty per-cent of whom are Armenians.⁽⁵⁹⁾ Lady Sheil in 1859, while describing Julfa as an Armenian quarter, writes, "They have been reduced to great poverty, one sees the streets crowded with young men sauntering, or seated at their doors without any employment."⁽⁶⁰⁾

With the 20th Century, however, by establishing new banks and telegraph facilities, Armenians were employed and conditions changed for the better. In 1908 Aubin⁽⁶¹⁾ estimates 3,200.

As for the Jewish quarter in north east Isfahan, in the 19th Century it was still a very poor, dirty and ruined condition. This squalid and miserable part of the city contained very narrow, twisted, unpaved and dirty streets, with some wretched families. Gordon⁽⁶²⁾ in 1833 found only 300 Jews. Morel⁽⁶³⁾ in 1840 counted 120 Jewish houses,

and if we think of 10 per house, we will reach an estimate of 1,200. By the 20th Century the conditions had improved for Jews as well, and as Aubin⁽⁶⁴⁾ and Bricteux⁽⁶⁵⁾ say, the Jewish population grew to 5 or 6,000 people.

No Zoroastrians are spoken of in the 19th Century estimates of population, except 6 in 1883, although Stewart in 1911 claimed that some came from Yazd for the opium harvest.⁽⁶⁶⁾

1.4 THE PAHLAVI PERIOD (1925 onwards)

Reza Shah, the founder of the Pahlavi dynasty, unlike his predecessors, did not change the capital and the court remained in Tehran. Isfahan retained its administrative functions and remained a provincial centre. Like other Iranian cities during this period, Isfahan underwent extensive modernisation. The new administration, headed by the army, had its headquarters in Chehelsutun. The police and Gendarmerie built new quarters with a prison. The new period brought a new look to the city. Modern hotels sprang up in Chahar Bagh, new houses were built in European style and became the residences of Bakhtiari Chiefs and other rich men. The education department took over the Talar-i-Ashraf and the Opium Monopoly building, north of the Ali-Qapu. Many schools sprang up, and in 1939 the Arts and Crafts School was established near Zayandeh-Rud, by the Ministry of Industry and Mines. In 1920 Isfahan had no modern factories, but within 15 years there were about six large textile factories with modern electrically powered machinery. Banks and telegraph offices were also founded and in 1950 the University of Isfahan, which at first had only a medical faculty.

Sykes⁽⁶⁷⁾ in 1946, distinguished three main parts in Isfahan: a, the old city, where the great mass of the population lived and which

included the bazaar; b, the residential area, and c, the industrial area across the river. In the old city are housed the greater part of the 200,000 inhabitants. It mostly remained very much as it was 400 years before and there were hardly any new roads to be seen among the narrow, twisted, unpaved streets, nor were there many changes in the population, as they behaved in the same way they used to ages ago with the same pattern of life, the same difficulties, the same diseases, the same environment. This was the poorest part of Isfahan with an over-crowded wretched population living in low houses, often underground, with little light and neither electricity nor water. As in many other Iranian cities the centre of trade and commerce in Isfahan was still the bazaar. Although a number of craftsmen had moved to the shops in the Chahar Bagh, mostly those of the silver trade, the bazaar was still the centre with its tiny old shops.

The new residential quarter spread along the north bank of the river. New houses were built at a rapid pace, but because of the high price of land, these houses, usually two storeys high, had no gardens, only sometimes a small court yard with a tiny artificial pond. There were many other drawbacks, the excessive number of doors and windows let in dust in summer and the cold in winter, and cheap materials were used in building.

As Isfahan was well placed for collecting raw materials and marketing and for labour, many factories were established on the south bank of the river, especially textile mills, as this was the traditional industry in the area. By 1941 there were factories producing textiles, matches, shoes and towels. Isfahan was an obvious choice as an industrial centre, and its development was rapid. Germany sent many technicians to help the erection and starting up of the factories, and deserved considerable credit for supplying the machinery. Trade and Commerce were

stimulated and Isfahan became the second commercial centre of Iran after Tehran.

1.4.1 Population Estimates

In December 1940 an estimation indicated that within a radius of 6 Km. from the centre of Isfahan including Julfa and some other smaller villages, there were 204,598 people.⁽⁶⁸⁾ In comparison with the previous estimate of 120,000 in 1930 this may indicate rapid growth following industrialisation, but it also indicated that Isfahan was the third largest city after Tehran and Tabriz (see Table 1). Another enumeration in March 1950 gives a number of total population of 1,622,000⁽⁶⁹⁾ for Isfahan as a province, and for Isfahan City 196,000⁽⁷⁰⁾ which seemed to affirm its third position after Tehran (619,000) and Tabriz (279,000) (see Tables 2 and 3) .

Estimates for the population of Julfa give 10,000 inhabitants in 1940, 6,000 in 1946 and 5,000 in 1950⁽⁷¹⁾, but it is not certain whether or not these estimates reflect a real decline in population. Figures 2 and 3 show the population of Isfahan and Julfa since 15th (for Isfahan) and 17th (for Julfa) Centuries.

1.5 CONCLUSION

Owing to its special situation near the centre of Iran, its remoteness from every frontier, its good climate and its location at the junction of one of the most important trade roads of the world, Isfahan has long been one of the most attractive cities of Iran. Its most splendid period was under the Safavis. Shah Abbas, by choosing Isfahan as the capital of his great Empire, began one of its most important periods in history. During this time the population of Isfahan, as we can see from the travellers' estimates and in particular from Chardin's estimate, may

Table 1: Population of 12 large Cities in Iran

Cities	1940 - 1
Tehran	540,087
Tabriz	213,542
Isfahan	204,598
Mashhad	176,471
Abadan	N.A.
Shiraz	129,023
Kermanshah	88,622
Ahvaz	N.A.
Rasht	121,625
Hamedan	103,874
Rezaiyeh	N.A.
Qom	52,637

Source: Clarke, J.I. and Clark, B.D.

Kermanshah, 1969, Chap.2, p.5.

Table 2: Population of Iran by administrative units
(ostan). 1950.

Ostan	Pop. in Thousands	% Rural	% Urban	Largest City
Gilan	2,441	83.3	16.7	Ghazvin
Mazandaran	2,970	67.9	32.1	Tehran
East- Azarbayijan	2,289	78.7	21.3	Tabriz
West- Azarbayijan	723	83.4	16.6	Rezaiyeh
Kurdestan	2,066	84.2	15.8	Kermanshah
Fars	1,531	80.3	19.7	Shiraz
Kerman	1,202	87.8	12.2	Kerman
Khorasan	2,290	81.7	18.3	Mashhad
Isfahan	1,622	78.7	21.3	Isfahan

Source: United Nations Demographic Year Book, 1952.

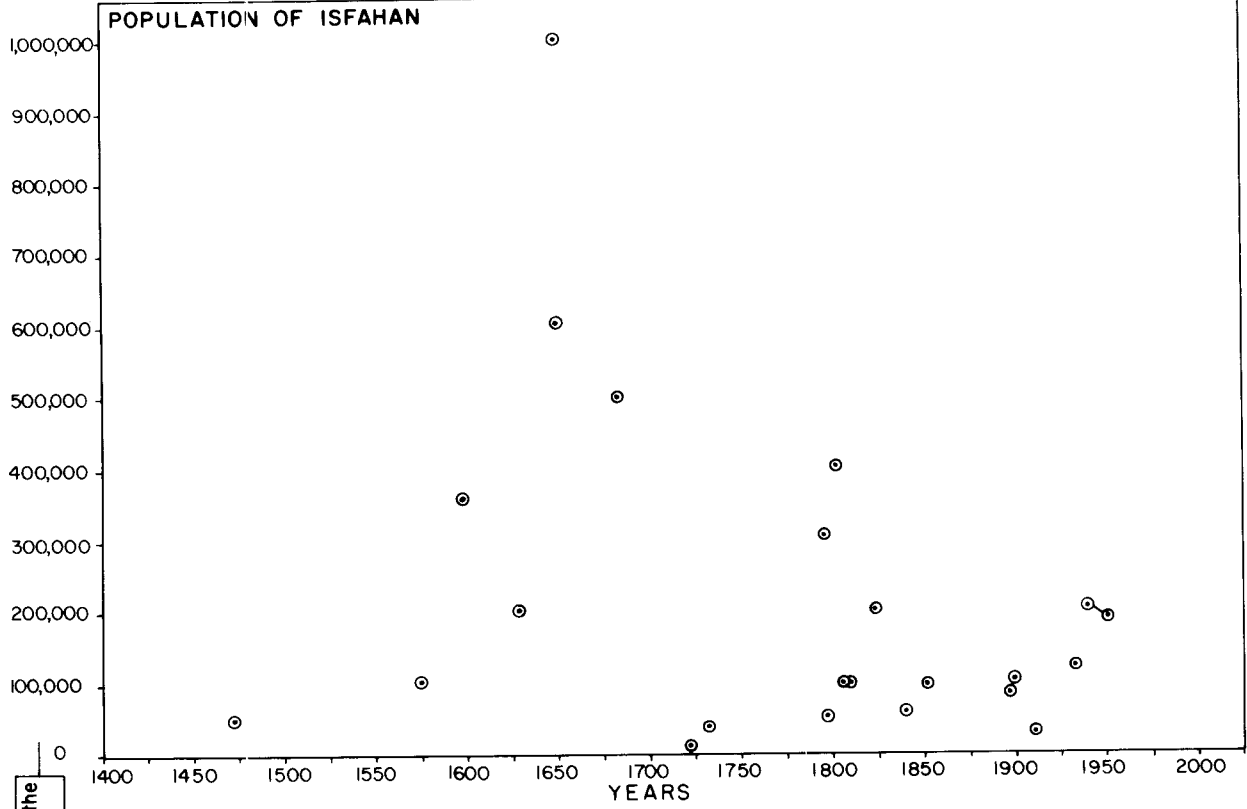
Statistical Office Department of Economic
Affairs, New York, 1953.

Table 3: Population of Iranian Cities 1950

Cities	Population in Thousands
Tehran	619
Tabriz	279
Isfahan	196
Mashhad	192
Hamadan	124
Shiraz	116
Rasht	112
Kermanshah	108
Ghazvin	81
Yazd	58

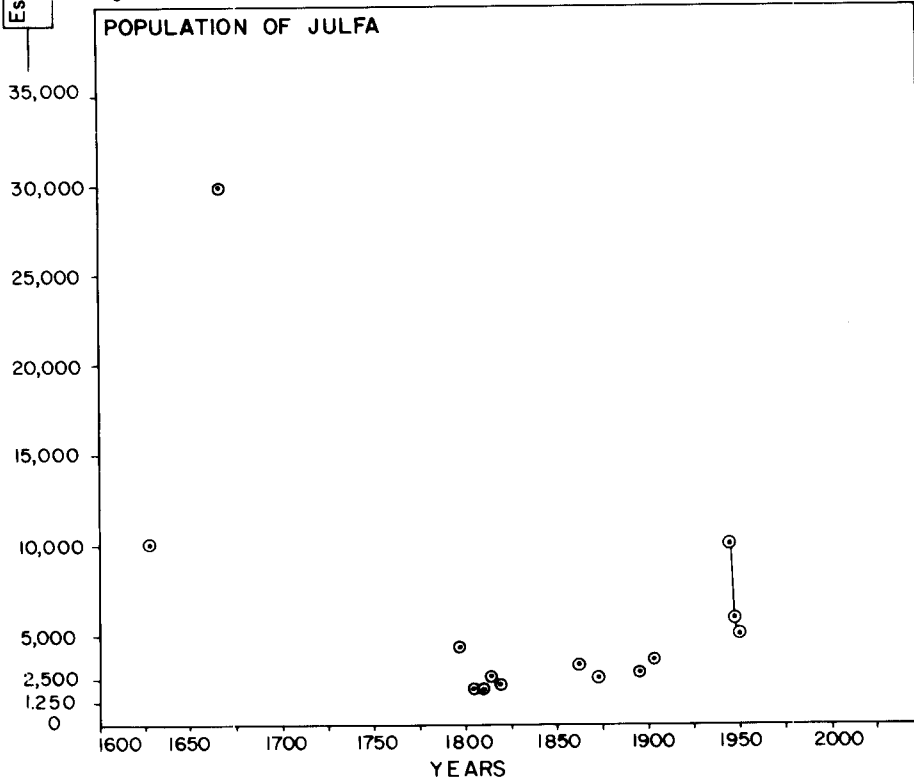
Source: United Nations Demographic
Year Book, 1953.

Fig.2



Estimate of the Population

Fig.3



well have reached 1,000,000 and the city was comparable with other large cities in the world of that time, such as London and Paris. After Shah Abbas the decline of Isfahan began. The Afghan invasion brought ruin to Isfahan and the population declined very rapidly, so that in 1720-1722 it had been reduced to less than 50,000 inhabitants. For two centuries it experienced no substantial improvement or population growth and it was only with the beginning of the Pahlavi dynasty that Isfahan, like other Persian cities, began the pattern of modernization. The establishment of important factories along Zayandeh-Rud, and the implementation of new plans, assisted its rapid progress and the population grew to 120,000 inhabitants in 1930 and 196,000 in 1950. Although none of these estimates either by travellers or by Persians, reveal demographic characteristics such as fertility, mortality and migration, they do give some indication of the way that Isfahan developed over the ages.

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CHAPTER II

THE SOCIO-ECONOMIC CHARACTER OF ISFAHAN

2. INTRODUCTION

In surveying the growth of the population in an urban area, one of the most important factors to be taken into consideration is the socio-economic character of the city concerned. The employment structure of an urban area in the underdeveloped world has often been used as index by which to measure the relative degrees of urbanisation and urban growth. The main changes in the traditional features of large cities occur through the movement of those who leave rural villages and towns, attracted by the efficiency of production centres in urban areas and the possibility of better jobs and a higher standard of living there.

The socio-economic structure of the City of Isfahan is one of the most important factors influencing its population growth. This influence can be seen in all aspects of its growth, namely the natural increase, migration and areal expansion. Consequently in studying the growth of the population of Isfahan a careful survey is required of the socio-economic situation and its impact on the structure of the city's population. This is particularly important in the case of Isfahan, which has always been the centre of Industry and manufacturing in Iran, and there are also many new factories and workshops. The new steel mill in Isfahan is another reason for the importance of this study, for the existence of such a big and important mill in any region transforms the traditional structure of its population.

Before describing Isfahan's socio-economic character between the available official censuses, we will have a look, though a brief one, at the socio-economic character of Iran as a whole. We shall also refer to

Tehran and some other Persian provincial capitals: Mashhad, Shiraz and Tabriz. The composition of the work force in the major industrial sectors will be studied briefly, and also the age structure of both the active and inactive population, the composition of the age group in the major economic sectors, the composition of employment and the character of unemployment.

2.1 THE SOCIO ECONOMIC CHARACTER OF IRAN 'As a whole'

According to the two censuses of 1956 and 1966, the employed population of Iran engaged in the agricultural sector declined from 56.3% in 1956 to 46.2% in 1966 (See Table 4). After agriculture, the manufacturing activities had the highest rate of employment, with 13.8% in 1956 and 18.4% in 1966, a notable increase of 4.6% of the total employed population, and a reflection of the fact that Iran is industrializing particularly in urban areas. The economy of rural Iran is still based on agricultural activities, but the impact of this sector in the economic character of major urban centres like Isfahan is insignificant. Other sectors were less important and engaged fewer workers. For instance, services (commerce, transport, storage, communication and all other kinds of service activities) involved 23.6% and 26.7% of the total employed population in 1956 and 1966 respectively (Table 4). As these two figures indicated, although the growth of this sector in Iran was less than that of industry, services were also becoming important.

In 1956 47.5% of the total population in Iran aged 10 and over were active, and 97.3% of these were employed, whereas the 1966 census shows declines to 45.9% and 90.4% respectively. The intercensal reduction in the employed population was because many people moved from the villages into the cities in search of a better standard of living and more income. The excessive labour supply and the stable or little increased demand enlarged

Table 4: The Percentage of the employed population 10 years of age and over in major industrial groups in IRAN, 1956 - 1966

	Agriculture		Mining & Quarrying		Manufacturing		Construction		Electricity, Water, Gas & Sanitary Services		Services, Commerce, Transport, Storage & Communication	
	1956	1966	1956	1966	1956	1966	1956	1966	1956	1966	1956	1966
IRAN as a whole	56.3	46.2	0.4	0.4	13.8	18.4	5.7	7.4	0.2	0.9	23.6	26.7
URBAN area	12.1	7.6	0.5	0.3	26.2	27.7	9.9	10.2	0.5	1.8	50.8	52.4
RURAL area	75.8	70.0	0.4	0.4	8.3	12.8	3.8	5.7	0.1	0.1	11.6	11.0

Source: National Census of population and housing,

Total Country - settled population, Nov. 1966, Vol.168, p.10.

the number of unemployed. As the censuses indicate, 2.7% of the total active population was unemployed in 1956, but this figure was 9.6% in 1966. Within the unemployed population 3.8% were looking for a job and 5.8% were seasonally unemployed in 1966 (unfortunately this classification was not shown in the 1956 census).

In 1956 the highest rate of employment, among 10 year age groups, was in the 25-34 age group (25.7), followed by the 34-44 and 45-54 age groups, which included 18.9% and 16.3% respectively of the total employed population. However 31.3% of those in the 10-19 age group were active, and of them 15.2% were employed in various industrial sectors. It can be seen that the proportion employed in that age group was relatively very high. This special characteristic is due both to the young people's lack of interest in education, and also to low family incomes which make it necessary for young people to work.

In 1966, the 5 year age group 30-34, with 12.7% of the total employed population, had the highest rate of employment, the 25-29 and 35-39 age groups having the next highest rates (11.8% and 11.1%). Of the total number of people aged 10-19 in 1966, 32.3% were active, and of these 20.6% were employed. The fact that so many young people were employed, once more proves the relatively low importance of education, and the need of the household for their labour. The figures for rural areas are more striking than those for urban areas, due to the greater education facilities in cities than in the rural areas.

Tehran, the capital of Iran, is the centre of Iran's most populated province, and has completely different characteristics from Iran as a whole. The services sector (except commerce, transport, storage and communication) engaged 32.3% of the total work force in 1966. Agriculture involved a very small and declining percentage of workers, 1.6% of the

total in 1956 and 1.1% in 1966. On the other hand, the percentage of the total employed population in manufacturing increased from 23.2% in 1956 to 26.3% in 1966, reflecting the existence of the major industrial factories and the chain of the work shops and factories (Table 5).

Out of the total population of Tehran aged 10 years and over 46.4% were active in 1956, but this decreased to 41.4% in 1966, the most important reason being an increase in the number of students in 1966 in comparison with the year 1956. The percentage of the active men was 78.4% in 1956 while it was only 69.6% in 1966. The figures for women were 9.4% and 8.9% respectively. The reduction in the number of male workers was bigger than that of females reflecting the importance of boys' education in Iranian society. Out of the total active population in 1956, 95.6% were employed in various industrial sectors, the percentage being 95.2% in 1966. The percentage of the total 10 years of age and over of Tehran was 44.4% in 1956 which decreased to 39.1% in 1966. As these figures show, there was an increase in unemployment from 4.4% in 1956 to 4.8% in 1966. These characteristics did not indicate the stagnation of the economy in 1966. On the contrary, the ever increasing number of workers, mostly with no skill or proficiency, and also the limited ability of the industrial sector to employ them were the main two reasons for the increase in unemployment. Unfortunately this property was shared by all large Persian cities and did not belong to Tehran alone. As far as Tehran was concerned, the most active age groups were between 20 and 54 in 1956 and 1966. In 1956, the 25-34, 35-44 and 45-54 age groups had the highest rates (29.1%, 19.7% and 12.2% of the total employees respectively). In the combined 10-19 age groups, 12.5% were employed in 1956, so there were more young workers than old. The demand of the families for another source of income made the employment of the young people necessary. In

1966 the highest rate of employment belonged to the age group 25-29 with a percentage of 15.5% of the total employed population. The age groups of 20-24 and 30-34, by having the proportions 15.1% and 14.6% were placed next. It is logical to have an important proportion of employment in these three age groups since the people aged between 20-34 are supposed to be the most active ones. The percentage for the age groups 10-19 was 11.6%, although this figure had decreased noticeably since 1956, the proportion was still high.

The city Mashhad, the centre of Khorasan province, has a socio-economical structure similar to that of Tehran. In Mashhad as in Tehran, the agricultural sector did not engage a very large proportion of the employed population in 1956 and 1966, and it declined from 6.1% to 4.1% of the total employed population. The industry sector, on the other hand, had the highest proportion of the employment in both 1956 and 1966: 29.2% and 29.0%. The figures for services (except commerce, transport, storage and communication) were 24.1% and 30.2%, an increase of nearly 6.1% during the 10 years (See Table 5). Out of the total population of 10 years of age and over in Mashhad City 45.1% were active in 1956, the remainder consisting of housewives, students and those unable to work. Out of the total active people, 97.6% were employed accounting for 43.9% of the total number of population 10 years of age and over. The 2.4% unemployed included the seasonal unemployed persons and those looking for jobs. In 1966, out of the total population of 10 years of age and over in Mashhad, only 41.1% were active, 4.0% less than in 1956, because of the higher number of students, a common feature for all Iranian cities including Isfahan. Out of the total active population of Mashhad 96.7% were employed in 1966, 0.9% less than in 1956. This, again like the case of Tehran, indicates that the concentration of the manual labour and unskilled workers did not

attract sufficient economic activities. The percentage of the unemployed population out of the total active population rose by 0.9% to 3.4% in 1966. In 1956 the highest rate of employment belonged to the 25-34 age groups (24.9%) followed by the 35-44 age groups (18.8%), the 20-24 age group (15.2%) and the 10-15 age group (14.8%). This latter percentage, as in Tehran, indicates the relative unimportance of education among the young people in Mashhad. In 1966 the highest portion of the employed population belonged to the 20-24 age groups (15.7%), followed by the 30-34 and 25-29 age groups with 12.4% and 12.0% of the total employed population respectively. The combined age group 10-19 had the same proportion as in 1956, 14.8%. A comparison of the relatively stable proportion of the employed people in Mashhad to the decreasing one in Tehran is suggestive of the fact that education in Mashhad had less attention and concern than in Tehran. The main reason why the youngsters started to work at the very age suitable for studying was simply due to the need of their families for their incomes.

The third example, Shiraz, has very many similar characteristics to Isfahan. According to the 1956 census, Shiraz, the capital of the Fars province, had the highest proportion of employment in the services sector (except, commerce, transport, storage and communication). Only 6.3% of the total employed population were engaged in the agricultural sector which had the least number of workers, while 21.7% were engaged in industry and 27.4% in the services sector. Mining and quarrying in Shiraz, like the rest of Iran, had the least number of workers engaged in 1956 which was not more than 0.1%. The development plans caused an increase in the number of workers in construction activities, so that 11.5% of the total employees were engaged in this group. During the following ten years the attraction of the services sector in Shiraz

increased, and by the second National Census this sector had 37.4% of the total employed people. The increasing importance of this sector in large Iranian cities was clear. In contrast, the industry sector showed a decline and accounted for no more than 19.6% of the total employed population in 1966. One reason may have been the declining importance of household industry, which was formerly very important in Shiraz. The agricultural sector also declined in Shiraz, as in all large Iranian cities, and the proportion decreased by almost 1.6%. Construction activities, however, rose to 12.6% of the total employed population, largely because of the influence of the development plans (Table 5).

The proportion of active population over the age of 10 of Shiraz was 43.3% in 1956, but it declined to 38.5% in 1966, owing to the increase in the number of students. Out of all the active population 94.8% were engaged in various economic activities in 1956. This figure in relation to the total population of 10 years and over was 41.1%. In 1966 there was a slight decline in the proportion employed, as in other large Persian cities, to 93.9%. This increase in the number of unemployed does not indicate a stagnating economy in Shiraz, but rather the excessive number of unskilled and manual workers, beyond the absorptive of the economic system. The 25-34 age groups by having 25.0% of total employed population, was the most active in 1956, followed by the 35-44 age group with 18.8% and the 20-24 age group with 17.9%. At the same time the combined age group of 10-19 with 11.9% of the total, seemed to be very active, which was unexpected. The most active age group in 1966 was the 20-24 year olds which had 16.1% of the total, after that were the age group of 25-29 and 30-34 with rates of 13.2% and 12.9% respectively. The combined age group of 10-19 had 13.8% of the total employed population, indicating that the degree of activities in this age group, as in Tehran

and Mashhad, did not decline. Most active of the combined age group were the 15-19 year olds, whose proportion of the active population increased by 1.5% between the two censuses. The main reason for this, apart from the need of their families for their income, was that the young people were doing jobs in their leisure time after their daily studies were over.

Tabriz, the large centre of the east-Azarbayijan province, has completely different characteristics from the small towns and villages, and is another case of comparison. The industrial sector had the highest employment percentage in 1956, 38.4%, while the service sector (except commerce, transport, storage and communication) employed 20.5%. At the same time agriculture, the least important sector after mining and quarrying, had only 3.8% of the total. On the whole, activities like construction and commerce and communications had a large proportion in 1956. This special characteristic demonstrates clearly the great changes in the socio-economic structure of Tabriz. In 1966 manufacturing employment had risen to 43.2% of the total, while the agricultural sector fell to only 2.5%. Services remained stable with 21.4% of the total employed population (Table 5). In 1956 44.8% of the total population over the age of 10 were active, slightly larger than in 1966, when 43.4% of the total population 10 years of age and over were active, possibly, as previously mentioned, because of the large number of students at the time of the last census. Of the total active population in 1956, 95.4% were engaged in productive activities and were mentioned as employed, almost the same as in 1966, when the proportion was 95.6%. In Tabriz, contrary to some other big Iranian cities, the rate of employment did not decline in 1966, perhaps because of its many workshops and factories and because of some new, big factories built there. The unemployment was 4.6% in 1956 and decreased in 1966 to 4.4% of the total active people.

Table 5: Percentages of employed population in major industry groups in Iran and four large Persian Cities 1956 and 1966

	Agriculture, Forestry, Fishing & Hunting	Mining & Quarrying	Manufacturing	Construction	Electricity, Water, Gas & Sanitary Services	Commerce	Transport, Storage & Communication	Services	Activities Not Reported
1956	56.3	0.4	13.8	5.6	0.2	6.1	3.5	11.2	2.9
IRAN 1966	46.2	0.6	18.4	7.4	0.8	8.0	3.3	13.5	1.8
1956	1.6	0.1	23.2	10.9	0.6	16.4	8.4	34.3	4.5
TEHRAN 1966	1.1	0.1	26.3	8.9	2.2	18.3	7.8	32.3	3.0
1956	6.1	0.1	29.2	10.3	0.9	16.2	6.6	24.1	6.5
MASHHAD 1966	4.1	0.1	29.0	11.8	1.6	15.7	6.4	30.2	1.1
1956	6.3	0.1	21.7	11.5	0.8	15.4	6.9	27.4	9.9
SHIRAZ 1966	4.7	-	19.6	12.6	1.6	15.1	7.2	37.4	1.8
1956	3.8	-	38.4	11.4	0.7	14.6	6.2	20.5	4.4
TABRIZ 1966	2.5	0.1	43.2	9.1	1.6	14.4	5.5	21.4	2.2

Sources: First National Census of Iran, Vol.1, p.37, Vol.2, p.35, Vol.5, p.50, Vol.7, p.41 and Vol.3, p.37.

Second National Census of Iran, Vol.168, p.31, Vol.10, p.50, Vol.115, p.44, Vol.34, p.49 and Vol.107, p.52.

The highest rate of employment in 1956 belonged to the age group of 25-34 which had 24.1% of the total employed population, the age group of 35-44 and 20-24 had 17.6% and 13.4% of the total employed respectively. The combined age group of 10-19 included a big proportion (almost 17.5%) of the total employed population in 1956, indicating that education was not as important as it might have been in Tabriz, and these young people were mostly engaged as manual labourers in small workshops or in household industry or on farms. In 1966 the 30-34 age group had 13.7% of the total employed, the two age groups of 25-29 and 35-39, having 11.5% and 11.2% respectively. One point which is surprising is the excessive number of young people aged 10-19 engaged in the various industrial groups, 19.6% of the total in 1966. Some were not so-well-off school boys, who to increase the income of their families, took temporary jobs in their leisure time, such as working on farms and in households industry. Some became seed and lottery ticket sellers, and as in almost all of the big cities of Iran, it is common practice to see very young boys sitting on the pavement along the streets selling sweets while doing their homework!

In conclusion, this study of the socio-economic characteristics of some of the large cities of Iran, emphasizes the growing importance of the services and industrial sectors, and the decline of the agricultural sector. With the exclusion of Mashhad and Tabriz which were more engaged in industrial activities, the rest of the cities studied had an increasing number of workers absorbed in the services sector. The decrease in the proportion of the employed population was another common point among the cities studied. The reason, as has already been mentioned, was the excessive number of the active population with no profession or skill.

The age groups between 20-44 were the most active ones. Especially according to the 1956 census, the age group of 25-34 was enjoying the

highest employment in all large Persian cities and in the whole country we encounter the same situation in the 1966 census where the age group of 25-29 was the most dominant one. The rate of employment in the cities as well as the country itself, was remarkable for the age group of 10-19 in 1956, but it showed a decrease in 1966 in most places, excluding Shiraz and Tabriz. The exclusion meant that the education of the young people had been given insufficient attention.

2.2 MANPOWER IN ISFAHAN 1956-1966

The industrial sector in Isfahan engaged 44.5% of the total employed population in 1956 and 49.4% in 1966, while the services sector (except commerce, transport, storage and communication) engaged 20.1% in 1956 and 19.8% in 1966. Commerce 14.1% and 13.9%, and transport, storage and communication 7.9% and 5.6%. Agriculture, with 7.4% of the total employed population in 1956 and 7.8% in 1966, was less important than other sectors. Noticing that the industrial sector as well as services have higher rates of income and numbers of employees, compared with the agriculture, one can immediately conclude that in the city of Isfahan major incomes originated from the industry and service sectors (Table 6). In 1956, 44.1% of all the population of 10 years of age and over were economically active in the City of Isfahan. This figure was 40.1% in 1966, the reduction explicable by the higher number of students. In 1956, 77.3% of all the male population of 10 years of age and over were economically active, while the proportion for females was only 7.8%. The corresponding figures for the year 1966 were 69.7% for males and 9.3% for females.

Table 6: Percentage employed in major industry groups in Isfahan City, 1956 and 1966

Agriculture, Forestry, Fishing & Hunting	Mining & Quarrying	Manufac- turing	Construc- tion	Electricity, Water, Gas & Sanitary Services	Commerce	Transport, Storage & Communica- tion	Services	Activities Not Reported	Total
7.4	0.1	39.9	4.6	0.4	14.1	7.9	20.1	5.5	100.0
7.8	0.7	41.3	8.1	1.3	13.9	5.6	19.8	1.5	100.0

Sources: First National Census of Iran, vol.4, p.57 .

Second National Census of Iran, vol.24, p.67 .

2.2.1 Age Structure of Manpower in Isfahan

According to the two censuses the majority of employed population in the city of Isfahan were aged between 15 and 44. The main problem of having a correct comparison between the reported figures of the manpower in 1956 and 1966, is the age group difference between these two censuses. The 1956 census is based half on 5 year age groups and the rest 10 years (0-4, 5-9, 10-14, 15-19, 20-24, 25-34, 35-44 etc.), while the 1966 census is entirely based on 5 year age groups. Although comparison is not possible for all age groups, some comparison is possible.

In 1956, 19,035 of all the people in the 25-34 age group were economically active (53.1%) and 18,679 of these were employed, 24.1% of the total employed population. The 35-44 age group was in second place, with 14,205 people active, 51.8% of all the population in this group; of all the active people, 13,959 were employed (98.2%) with 17.9% of the total employed population. The 20-24 age group had 11,008 active persons in 1956 (49.1%) out of all the active population of that age group 10,704 were employed. This group, although 5 years age group and not normally comparable with the other two, with a percentage of 13.9 of the total employment was in third place in 1956.

The most employed age group in 1966 was the 30-34 age group; 13,862 were active, 98.4% being employed, 12.1% of all the employed population. The 25-29 age group had 13,938 economically active population (11.9% of all the employed) and was in the second position in 1966. The third important group in 1966 was the 15-19 age group with 13,845 economically active, 94.1% employed, and 11.4% of the total employed (see Table 7).

It is logical to expect a large number of workers and employees in the 20-44 age groups, where males are more active and productive. In

Table 7: Active and inactive population of Isfahan, by age groups, 1956 and 1966

Age Group	Total Population	ACTIVE				INACTIVE						
		Total Active	Employed	Unemployed	% Active	Total Inactive	Housewife	Student	Not Reported			
1956												
10 years & over	179,586	78,977	76,905	2,072	44.1	100,609	68,482	21,280	10,847			
10 - 14	28,137	4,892	4,845	47	17.0	23,245	5,135	14,476	3,634			
15 - 19	21,456	7,528	7,173	355	35.1	13,928	8,557	5,203	168			
20 - 24	22,410	11,008	10,704	304	49.1	11,402	10,011	1,221	170			
25 - 34	35,824	19,035	18,679	356	53.1	16,789	16,238	313	238			
35 - 44	24,858	14,205	13,959	246	51.8	10,653	10,370	38	245			
45 - 54	21,008	10,879	10,582	297	51.8	10,129	9,349	14	766			
55 - 64	14,757	7,592	7,285	307	51.4	7,165	5,422	11	1,732			
65 & over	10,992	3,749	3,589	160	34.1	7,243	3,367	-	3,876			
Not reported	144	89	89	-	61.8	55	33	4	18			
1966												
10 years & over	290,269	117,784	113,650	4,134	40.1	172,485	95,893	55,187	21,405			
10 - 14	55,721	10,141	9,444	697	18.0	45,580	7,316	37,426	838			
15 - 19	42,011	13,845	13,025	820	33.2	28,166	13,484	14,258	424			
20 - 24	30,970	14,093	12,953	1,140	45.3	16,877	13,735	2,724	418			
25 - 29	26,366	13,938	13,543	395	52.1	12,428	11,553	537	338			
30 - 34	25,566	13,862	13,647	215	54.2	11,704	11,213	151	340			
35 - 39	22,046	12,200	12,039	161	53.3	9,846	9,484	51	311			
40 - 44	21,151	12,449	12,259	190	58.2	8,702	8,221	26	455			
45 - 49	13,784	7,755	7,620	135	56.4	6,029	5,430	14	585			
50 - 54	14,072	6,704	6,571	133	47.1	7,368	5,921	-	1,447			
55 - 59	7,533	3,236	3,166	70	43.0	4,297	3,086	-	1,211			
60 - 64	12,817	5,060	4,959	101	39.1	7,757	3,600	-	4,157			
65 & over	18,232	4,501	4,424	77	24.0	13,731	2,850	-	10,881			

Sources: First National Census of Iran, Vol.4, p.42.

Second National Census of Iran, Vol.24,p.37.

the case of Isfahan, however, a large number of the young people aged 10-14 and 15-19 were employed in 1956 and 1966. The reasons may be ⁽¹⁾:

(a) the lack of the facilities and enough attention to the education of youth, and (b) insufficient income of their families. The majority were employed in the agricultural and industrial sectors. It is not unexpected to see the farmers' children working on the farm when they are very young, for farmers live near to their lands. In the case of industry, a large number of the employed people aged 15-19 worked in household industries which were important in Isfahan. As in the agricultural sector, the children start work at home when they are very young. For the same reason these two sectors employed a relatively high percentage of old people aged 55-64 and even 65 and over.

2.2.2 Sex Structure of Manpower in Isfahan

A high proportion of active women are employed in the industrial and service sectors. In 1956 34.8% of women were engaged in industry and 51.7% in services, while in 1966, 56.4% were in industry and 37.5% in services. In the industrial sector it was due to the importance of the household industry, which engaged more female workers. In the case of the service sector, this characteristic was due to the large number of female workers employed in special activities such as domestic service, cooking, cleaning, washing, hairdressing, housekeeping and ironing. The employment of women in some other activities was very rare, especially in mining and quarrying activities, in the electricity, gas, water and sanitary services, and also in transport, storage and communication. In fact, the major portion of female employment was in the age groups of 10-14 and 15-19: 11.1% and 16.7% of the total employed female population were in these age groups in 1956, while in 1966 the corresponding figures

were 21.7% and 12.2%. The reason was two-fold: firstly the insufficiency of the income of the families which resulted in the employment of the young people, and secondly the lesser importance of children's education, especially for girls. The percentages of female students in Isfahan were 15.9% for the 10-14 age group, and 30.2% for the 15-19 age group in 1956, and 13.3% and 19.2% in 1966, less than the corresponding figure for the male population. The reduction in these figures within 10 years was due to the less active proportion of young women in 1966.

Men were mostly occupied in industry, 30.1% of them were engaged in various parts of the industrial sector in 1956, and 39.3% in 1966, while 16.5% were in the service sector in 1956 and 17.5% in 1966, and in commercial activity 15.3% in 1956 and 15.5% in 1966. In comparison with the rate of female employment, males in the age groups of 10-14 and 15-19 were less active. One of the main reasons was the greater importance of education for males.

In 1966 more than four-fifths of the uneducated employed population, were engaged in the agricultural and industrial sector. The dominance of educated employees in professional, technical, clerical and management activities was apparent, and some three-quarters of the educated population were engaged in professional and administrative activities. According to the sample census of Isfahan, which was taken in 1967, there was a direct relationship between education and the income of employed population. The correlation was even closer for the employees with university qualifications. The same sample census indicates that the income of the uneducated employed population in the city of Isfahan was more than those working in small towns, villages and the countryside. Therefore, as far as the uneducated people were concerned, the city of Isfahan was the greatest attraction for those who were looking for a better income.

According to the same census, the income of the employed people with a secondary diploma and 50.1% of those with 10 or 11 years' study (less than the secondary diploma) was less than 5,000 Rials (\$625 or £357.14). As the censuses indicate, there is a positive correlation between the income of a person and his degree of skill as well as his education.

The percentage of the employed population increased to 47.8% during 1956-1966, and the population of 10 years of age and over in Isfahan increased from 179,586 to 290,269, an increase of 61.6%. Table 8 shows the increases and decreases in the number of the workers in the major industrial groups. Employees in construction increased by 3.5% from 4.6% to 8.1% within the 1956-1966 period. The manufacturing sector had the second highest proportional increase. The agricultural sector showed an increase, but it was not more than 0.4% and there was no change in mining and quarrying. There was a slight decrease in the proportion of the people engaged in the services sector, which had 20.1% of the total employed population in 1956, but only 19.8% in 1966. The sharpest decrease in the proportion of the employed population can be seen in the combined field of transportation, storage and communication, 7.9% of the total of the employed population were engaged in this sector in 1956, while the corresponding figure for the year 1966 was only 5.6%. Another sector which showed a proportional fall in 1966 was commerce, the decrease in the employment being nearly 0.1%. There was an absolute reduction in the proportion of employed people not reported as members of one of those major industrial groups. This could be due to the amount of accuracy involved in collecting the statistics.

On the whole, the trend of activities in Isfahan was towards the industrial side. As for construction, which had the highest increase during the 10 years, the following remarks could be added: (2)

Table 8: Number and percentage of employed population in major industry groups for Isfahan City 1956 and 1966

Major Industry Group	1956		1966		Change
	Employed Population	%	Employed Population	%	
Total	76,905	100.0	113,644	100.0	
Agriculture, Forestry, Fishing & Hunting	5,693	7.4	8,915	7.8	+0.4
Mining & Quarrying	50	0.1	81	0.1	-
Manufacturing	29,964	39.9	46,891	41.3	+1.4
Construction	3,588	4.6	9,244	8.1	+3.5
Electricity, Water, Gas & Sanitary Services	366	0.4	1,494	1.3	+0.9
Commerce	10,830	14.1	15,850	14.0	-0.1
Transport, Storage & Communication	6,121	7.9	6,384	5.6	-2.3
Services	15,500	20.1	22,534	19.8	-0.3
Activities Not reported	4,793	5.5	2,251	2.0	-3.5

Sources: First National Census of Iran, vol.4, p.63.

Second National Census of Iran, vol. 24, p.57.

Table 9: Employed population in Isfahan City by employees and self-employed workers, 1964 and 1967

Activities	Total	Employees	Self-employed Workers				
			Total	Manual Labourers	Skilled Workers	Expert	Specialist
Total 1964	16,063	1,060	15,003	2,995	11,061	839	108
Agriculture	775	130	645	645	-	-	-
Industry	15,288	930	14,358	2,350	11,061	839	108
Total 1967	28,833	443	28,390	11,317	15,329	1,664	80
Agriculture	1,555	33	1,522	1,428	94	-	-
Industry	27,278	410	26,868	9,889	15,235	1,664	80

Sources: Sample Censuses of Isfahan, 1964, and 1967, p.10 and p.27.

- (i) the growth of population of Isfahan from 254,708 to 424,045 posed the immediate problem of accommodation,
- (ii) the trend of Isfahan's economic activities towards the industry sector meant more factories and workshops,
- (iii) during the second development plan (1956-1963) road construction had been given priority, employing a vast number of people,
- (iv) Isfahan, as an historical city of Iran, with many ancient buildings with beautiful architectural designs, attracts the attention of tourists from all over the world further intensifying the problem of the shortage of accommodation, hence the activeness of the construction sector.

To get a better idea of employment in Isfahan, some information about an even more important factor, namely the improvement in the quality of labour, such as skill, educational qualifications and technical training should be considered. The number of employed population had increased by 79.5% during the years 1964 to 1967 (reported by the sample censuses of 1964 and 1967), from 16,063 to 28,833. The increase was mostly due to the increase in the number of self-employed workers, meanwhile, there was a reduction in the number of employees. Table 9 shows the number of the self-employed workers increased from 15,003 in 1964 to 28,390 in 1967, an increase of 89.2%, while the number of the employees (wage labourers and salaried employees) had been reduced from 1,060 to 443 in the same period. The majority of the self-employed workers were working as manual labourers or as skilled and professional workers. Manual labourers increased from 2,995 to 11,317, that is more than 3.7 times, in less than three years. This indicates that the factor of automation in the factories and workshops of Isfahan was not high and they were looking for labour.

To support this, we quote that there were only 1,744 specialists and expert workers in 1967, while the number of manual workers and semi-skilled workers was more than 26,646. Although the figures indicate an increase in the number of skilled and professional workers (67 specialists per 1,000 manual workers), the need for an even larger number of professionals was felt, and this proved that there was still a big demand for educational and technical training in Isfahan.

2.2.3 Unemployment in Isfahan

Out of the total unemployed population in 1966, 90.1% of them were seeking jobs, and unemployment had increased from 2.6% in 1956 to 3.5% in 1966. Even by subtracting the seasonal employed population from the total number of unemployed in 1966, one still finds an increase in unemployment compared to the figures of 1956. In 1956 2.8% of the total active male population were unemployed and 0.3% of the females. The figures constituted 98.7% and 1.2% respectively of the total unemployment. The increased figures of unemployment in 1966 for both men and women were 3.7% and 1.6% respectively, which embodied 94.6% and 5.4% of the total unemployment. The reasons are varied. The population 10 years of age and over increased substantially from 179,586 in 1956 to 290,269 in 1966, an increase of 61.6%. The percentage of active population 10 years of age and over decreased from 44.1% in 1956 to 40.1% in 1966, due to an increase in the number of students, yet there was an augmentation in the actual number of the active population, from 78,977 in 1956 to 117,784 in 1966, an increase of 49.1%. The factor of natural growth cannot explain the rise by itself, since it is related to the equally important factors of migration and areal expansion also.

Female unemployment was lower than that for males, because the majority of women were engaged in household industry. Therefore, they were able to be employed as soon as they wished. It was a different case for men, since, firstly they had to work outside with all the difficulties of getting a job involved, and secondly, they were always in continuous danger of losing their jobs by a single decision of their employers.

The age structure of unemployed people shows that the majority were young. On the other hand, for the age group 35-44 in 1956 and 35-39 in 1966, the figures were 1.7% and 1.3%. This is reasonable because middle aged people have the required experience, skill and knowledge of work and a fair amount of work. Young unemployed people included those who had started to look for a job for the first time, and those who were engaged in some temporary occupations.

Educated unemployed embodied 61.6% of the unemployed population in Isfahan City in 1966, from which 5.1% were without any certificates, 13.7% were holding primary schools; secondary school certificate holders were 23.1%, and those holding any other certificates higher than secondary school, 19.7%. (There is no official estimate for 1956). The rise in unemployment among more educated people does not, however, indicate the excessive number of active educated population since in cities like Isfahan, the number of educated people is less than the uneducated. On the other hand, the economic activities of Isfahan were not capable of absorbing all the educated people. Obviously this is due to the type of demand of the market which existed then. It is a big surprise to know that Isfahan, an industrial city, had 75 persons unemployed with University education⁽³⁾. Moreover, the number of unemployed people looking for jobs was larger than that of the seasonal unemployed in Isfahan in 1966 (the percentage of job seekers was 90.3%, whereas that of seasonally unemployed was 9.6%).

2.3 CONCLUSION

A simplified picture of the occupational structure of the city of Isfahan has been presented, as well as a short survey of other Iranian cities similar to Isfahan. As can be seen, Isfahan would appear to have many of the characteristics of under-developed cities and at the same time, is changing its traditional features and becoming more developed.

Isfahan and all other large Persian cities, share some special factors: (i) a stagnant agricultural sector, (ii) developing industrial sector, (iii) a decrease in the proportion of active population, and (iv) a decline in the percentage of employment. The desertion of the small towns and villages, which were not able to support reliable incomes because of the lack of the agricultural machinery and absence of any remarkable industrial sector, and the rush towards the big cities to earn better incomes and reach a higher standard of living, caused more unemployment. The recently developed industry in the city was not able to engage all of them, since a large mass of them were manual labourers with no skills or professions. The decline in the proportion of the active population in all large Persian cities and Iran as a whole, bore some relation to the increase in the percentage of students at the same time.

It is obvious that a greater percentage of the employed population were engaged in the industrial sector rather than in agriculture, since industry was developing and flourishing while agriculture was hardly expanding at all.

From a survey of the percentage of activity of all age groups it is logical to expect the middle-aged to have the highest level, but this survey also discovered another less predictable feature of activity,

which is common to all large Persian cities and Iran as a whole, this unusual feature is the employment of young people 10 to 19 years old, who were engaged in various activities when many or most should have been students. Their employment could possibly be explained by low household incomes which they could supplement with their meagre earnings, and also the inability of the family to afford education. Under the new law in 1968 of free and compulsory education for children up to 12 years old, the second problem has been solved. From another point of view the existence of jobs in farms, household industry, and also in some factories, increased the rate of employment for the young. The employment of young females was more common than that of males, for their education is considered less important.

The noticeable increase in the percentage of activity and employment over 10 years, once more shows the impact of the migration to Isfahan, for natural growth could not cause this increase. The increase in male employment, which nearly trebled in 10 years, could be another reason for the movement of men from the other cities of Isfahan province, and from all over Iran, because they were interested in Isfahan's flourishing industrial sector. As will be seen in the following chapter, the number of new and developing factories and workshops changed Isfahan into one of the most popular cities for migrant workers.

Construction activity had the highest rate of increase, to meet the needs of the immigrants for accommodation and to improve communications between Isfahan and other cities. Isfahan's historical attractions necessitated the mending and repairing of the ancient buildings and the establishment of new accommodation for the tourists which also helped to increase the rate of construction activity. Growth of the manufacturing sector (which was slightly lower than construction), due

to the establishment of many factories and workshops, was inevitable. By this time, the importance of the agricultural sector had increased in comparison with its status 10 years ago. Although the increase in this sector was small compared with other activities, agriculture in Isfahan did not decline as in some other large Persian cities. This increase was due to the encouragement which the farmers received from the government, the arrival of semi-automation and machinery in the farms, and because the farmers had more money, which they had received as a loan from the agricultural cooperatives under the new law of Lands Reform. The most unexpected feature which became clear as a result of this survey was the reduction and decline in transport, storage and communication activities, which had the highest rate of decline. This may not be very reliable, for the new Isfahan with its developing factories and industrial sector as a whole ought to have had the correlation of a more active transport, storage and communication sector. The decline in the proportion of workers named "employees not reported" was probably due to the more careful statistical work done in 1966.

The increase in the percentage of self-employed workers, according to the sample censuses, increased the productive activities in both industrial and agricultural sectors. A noticeable portion of this employed population were manual labourers and semi-skilled workers who were engaged in their own workshops and small factories and also in their farms. This shows again that automation and mechanisation in Isfahan's workshops and factories had not reached a level of development requiring skilled workers.

Considering that four-fifths of the uneducated employed population were engaged in agriculture and industry in 1966, it can be claimed that these two activities were the most suitable ones for these people.

Those in the industrial sector were possibly either in household industry or engaged in factories as manual labourers. The employed people with more education were mostly engaged in the professional, technical, clerical and managerial activities. On the whole, Isfahan offered a better income to uneducated people than many other parts of Isfahan province. This caused the expected movement of uneducated manpower from other parts towards Isfahan in search of a better standard of living. Most of them had no skills and were only manual labourers, so in a short while, after the fulfilment of the need of the factories and workshops, a huge number of them were unemployed. That was the main reason for the increase in the percentage of unemployment in Isfahan in 1966, which must not be assumed to be an indication of a stagnating economy in Isfahan. Education was not the only way to higher incomes. In some cases it was common to see an uneducated employee earning more than an educated one. According to the censuses there was a direct relation between the man's skill, his education and his higher income.

Unemployment increased during the 10 years up to 1966. The proportion of unemployed males was larger than that of females, owing to female employment in household industry. The high proportion of youngsters unemployed once more indicated the problem of employing school-leavers. They were mostly engaged in temporary jobs, like construction and road building, while, as expected, the rate of unemployment for the middle-aged group was not significant. Another striking feature was the high rate of unemployment among the active population with higher degrees, not because of the large number of active population with higher degrees, but because of the inability of Isfahan's economy to employ them. This once more illustrates Isfahan's economic characteristics which were more

fit for the less educated population (and caused their rush towards Isfahan) and less attractive to those with higher degrees (causing their movement away from Isfahan towards other large cities).

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CHAPTER III

POPULATION COMPOSITION IN ISFAHAN

3. INTRODUCTION

Population Composition affects population growth. The primary factor influencing the proportion of the population married is age structure, which, in turn, influences fertility, and directly, mortality and migration. Meanwhile every change in the socio-economic characteristics of a region directly affects both the sex and age composition of the population.

In Isfahan, a growing city of Iran, new factories and workshops are the most significant cause of change in the sex and age structure and marital status of the population.

Although the two available censuses (1956 and 1966) and the very first results of the latest one (1976) are not very reliable, they provide direct data on age-sex structure, and a survey of each of these characteristics for Isfahan City is the purpose of this chapter.

3.1 SEX COMPOSITION OF ISFAHAN'S POPULATION

The enumeration of females is usually not very reliable in underdeveloped countries. In many regions in Iran in 1956 and 1966 the case of unreported female population was quite common, for the father, or sometimes the older brother, preferred to report the number of the male members of the family and ignore the females, although unreported males aged 18-22 were quite common, because of the fear of military service duty. The number of unreported females had another explanation, namely low level of understanding about the importance of correct reports and representation.

Many different features of the population directly affect the sex ratio of which the migration factor is one of the most important. Isfahan City, as a large centre of in-migration, has a changing sex ratio, as many other large Persian cities, like Tehran, Tabriz, Mashhad and Shiraz, with important effects on population growth.

The population of Isfahan City in 1956 was 254,708 of which 130,412 (51.2%) were males and 124,296 (48.8%) females. The figures for the Second National Census (1966) were 424,045 for the total population of which 219,503 (51.8%) were male and 204,542 (48.2%) female. The first results of the latest National Census of Iran (1976) indicate that the total population of Isfahan City is 671,825 of which 355,418 (52.9%) are males and 316,407 (47.1%) females. It is clear that although there were no great changes over the 20 year time span, there was a slight increase in the male proportion.

The sex ratio for Isfahan City rose from 104.9 males per 100 females in 1956 to 107.3 in 1966 and to 112.3 in 1976, with a noticeable high increase over the last 10 years (1966-1976). The developing economy of Isfahan City, which is attracting migrants, and the declining mortality rate (especially infant mortality) are major reasons for this trend, which is shown by the more reliable census of 1976.

3.1.1 Differentials in the Sex Ratio by Age Group.

One of the major differentials in sex composition is that based on age group. Tables 10 and 11 indicate the differences between the sex ratio of the various age groups in Isfahan City over the 10 years 1956-1966. The following conclusions may be derived from both the tables and Figures 4 and 5.

Sex ratio by age group in Isfahan City

Table 10:

1956

Age Group	No. of males per 100 females
0-4	104.1
5-9	103.8
10-14	106.3
15-19	105.8
20-24	107.2
25-34	104.3
35-44	116.6
45-54	91.2
55-64	107.6
65-74	89.4
75-84	74.4
85 and over	46.9
All ages	104.9

Source: First National Census of
Iran, 1956, Vol.4, p.10.

Table 11:

1966

Age Group	No. of males per 100 females
0-4	107.6
5-9	107.8
10-14	93.9
15-19	109.8
20-24	94.7
25-29	105.6
30-34	107.4
35-39	107.8
40-44	124.9
45-49	122.1
50-54	91.1
55-59	87.7
60-64	103.5
65 and over	101.7
All ages	107.3

Source: Second National Census of
Iran, 1966, Vol.24, p.22.

Fig. 4

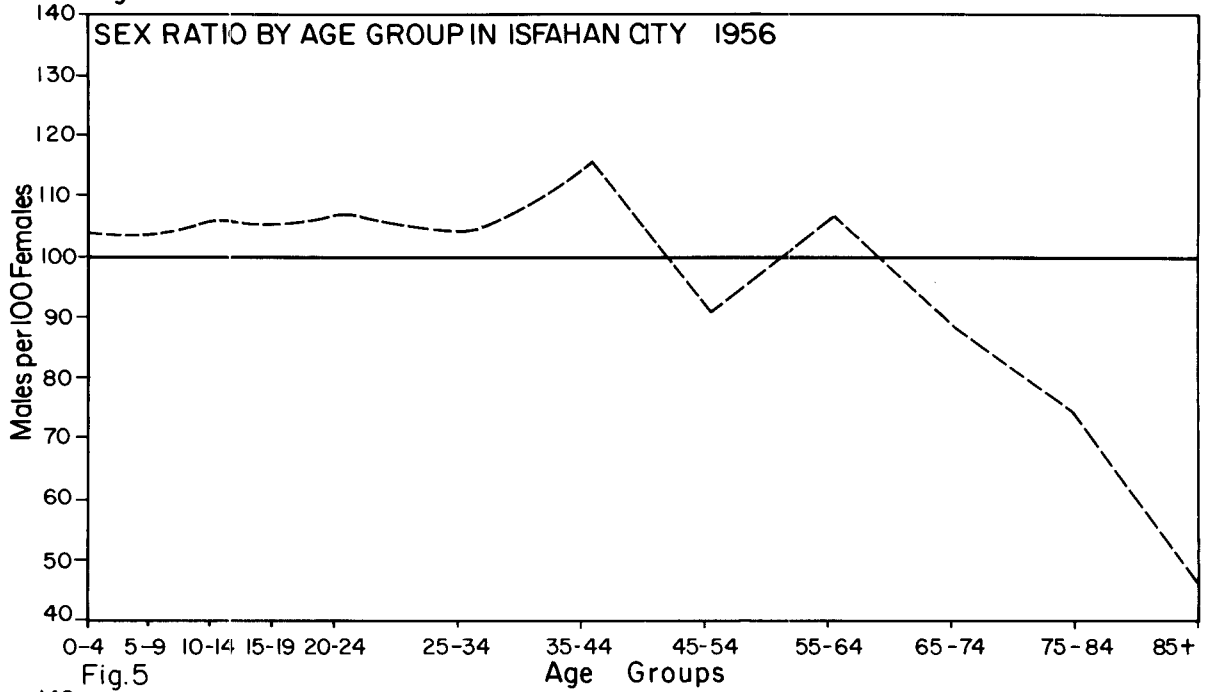
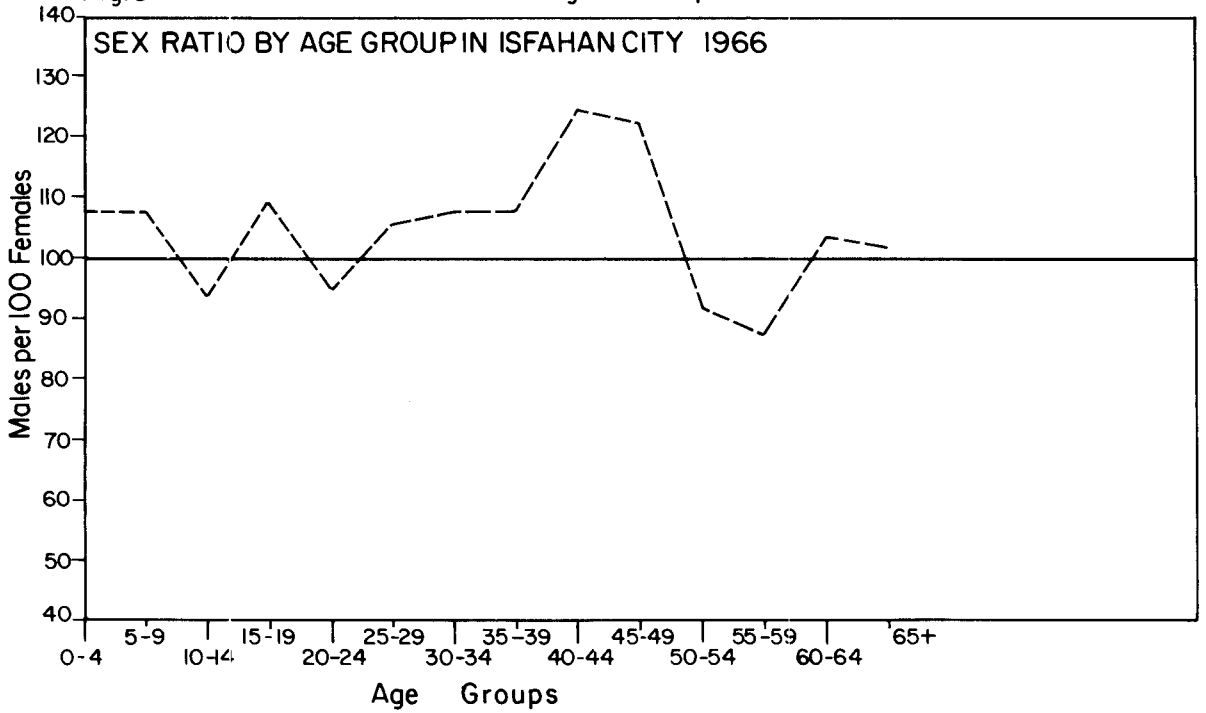


Fig. 5



1. The increase in the sex ratio of the age group 0-4 and 5-9 may be because of the preponderance of male births or the misstatement of female births.
2. The substantial decline in the sex ratio of the 10-14 age group in 1966 may be a result of the decline in the number of young workers (aged 10-14) who were students at that time and did not move to Isfahan for employment.
3. The increase in the sex ratio of the age group 15-19 reflects the movement of males towards Isfahan City at the age of first employment.
4. The age of the movement of females is usually later than that of males, because of the many cultural and social attitudes. This usually happens at ages 20 and over, and the decrease in the sex ratio of the 20-24 age group reflects the increase in the number of females who have come to Isfahan to obtain their first jobs or to join their husbands and families.

The remaining age groups are not the same for 1956 and 1966, because of the different methods employed in presenting data in censuses, which was based on 5 year age groups in 1966 and 10 year age groups after the age of 24 in 1956. So comparison is not valid. On the whole the sex ratio indicated the increasing number of males between the ages of 25 to 64 from 1956 to 1966. The increase can be easily explained by the large number of men moving to Isfahan for better jobs, higher incomes and standards of living, usually leaving their families in their home town or village. When they retire, they naturally move back home and that is one reason why the sex ratio after the 64th year is less than 100 in both 1956 and 1966. The other reason for this characteristic is, of course, the higher male mortality with age.

Sex ratios vary within the city, and as it can be seen from Table 12, the sex ratios in all the districts. Isfahan City in 1966 are more than 100, but differs from 102.5 in district 6 to 119.5 in district 11, (see Fig.6). As is clear, districts in the centre of the City (e.g. 1, 2, 3, 4, 6 and 7) are smaller in size and larger in population than those far from the centre. Among all, district 11 had the highest sex ratio in 1966. The complex of factories and workshops, mainly involving textiles, in the South West and also West part of Isfahan may be considered as the major reason, as in the case of districts 12 and 13, which are placed second and third.

3.2 AGE COMPOSITION OF ISFAHAN'S POPULATION

The composition of the three age groups, 0-14, 15-64 and 65 and over, is a variable demographic feature which can be changed by fertility, mortality and migration, as well as the variations in the historical pattern and socio-economic evolution of the region. Nearly all of the characteristics of the age composition of a given population represent the vital features of some seventy or eighty previous generations, while tending to show the same factors for the very recent ones, and Isfahan does not differ in this respect.

The introduction of many health programmes has brought a relatively high standard of hygiene into Iran, especially the large cities and the provincial centres. The decline in the mortality rate, especially infant mortality, was the most important result.

The socio-economic characteristics of nearly all the large Persian cities were changed by the establishment of many new factories, which offered more jobs and attracted masses of people from smaller cities and also from the villages, through which the age composition

Table 12: Isfahan City population and sex ratio by districts, 1966

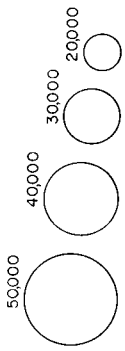
Districts	Total	M	F	Males per 100 Females
Total.	424,045	219,503	204,542	107.3
1	22,542	11,807	10,735	110.0
2	37,386	19,236	18,150	106.0
3	38,743	19,808	18,935	104.6
4	28,193	14,402	13,791	104.4
5	32,266	16,633	15,633	106.0
6	53,930	27,298	26,632	102.5
7	42,348	21,734	20,614	105.4
8	24,478	12,586	11,892	105.8
9	28,293	14,634	13,659	107.1
10	26,332	13,476	12,856	104.8
11	37,338	20,326	17,012	119.5
12.	25,774	13,695	12,079	113.4
13	26,422	13,868	12,554	110.5

Source: Second National Census, 1966, Vol.24, p.12.

POPULATION OF ISFAHAN BY DISTRICTS

Fig.6

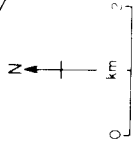
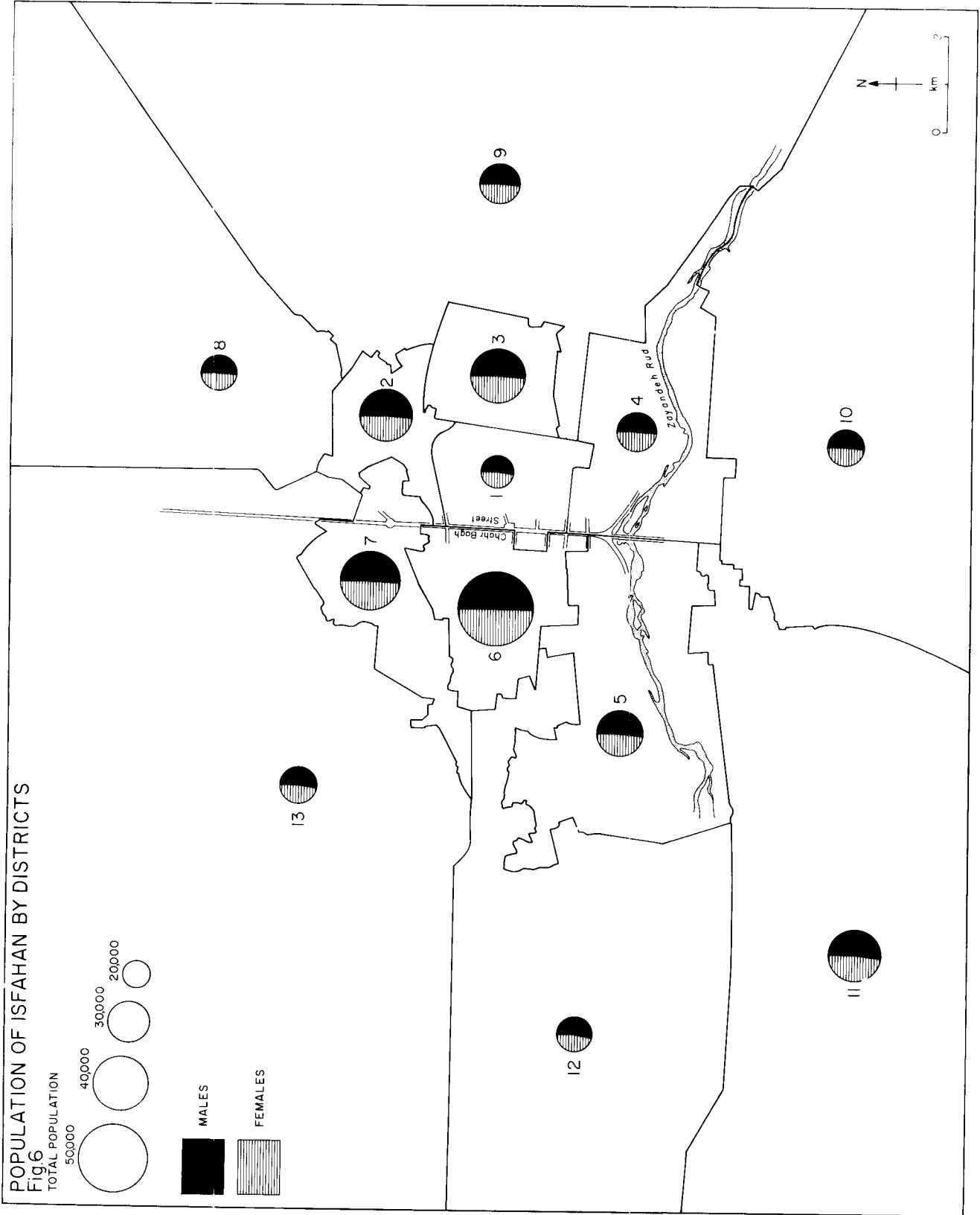
TOTAL POPULATION



MALES



FEMALES



of the cities changed very much. Isfahan exhibited this trend and gradually changed its composition and many other characteristics besides.

Table 13 indicates the trend of the three age groups, 0-14, 15-64 and 65 and over, in the total population for Isfahan City between 1956 and 1966, from which the following trends emerge.

1. There has been an increase in the percentage of the children 0-14 from 1956 to 1966, attributable to the decline in the mortality rate, particularly infant mortality, whereas the birth rate did not change very much and remained high. The general health and hygiene have been given more attention in all development plans in Iran, and the decrease in the mortality rate was a feature in all Persian cities.
2. The percentage of the adult group aged 15-64 decreased in 1956-66, while their number increased nearly 1.5 times; their percentage has been determined by the increase in the children group. As can be seen from Table 13, although the proportion of younger adults (15-34) in 1966 was less than those in 1956, the increase in the number of this age group in 1966 was obvious. The same table shows that the proportion of the older adults declined in 1966. The increase in the percentage of the younger adults compared with the total adults (15-64) in 1966, indicates the greater number of younger people who had moved to Isfahan, where they were able to get better jobs, higher salaries and a higher standard of living. In the case of the older adults, although their number increased in 1966, the increase in the number of the younger adults was greater, so their percentage showed a decline in 1966.
3. In the case of the aged population, the proportion did not change very much. Although there was a negligible increase in their proportion in 1966, their number increased by nearly 1.6 times over a decade. This

Table 13: The trend of age composition in Isfahan city, 1956 - 1966

Years	15 - 64										65+		
	0 - 14		Total			Young Adults			Old Adults			Number	%
	Number	%	Number 15-64	%	Number 15-34	Total 15-64 %	Number 35-64	Total 15-64 %	15-64 %				
1956	103,258	40.5	140,312	55.0	79,690	31.2	56.7	60,622	23.8	43.3	11,137	4.5	
1966	189,497	44.0	216,316	51.1	124,913	29.6	57.7	91,403	21.5	42.3	18,232	4.9	

Sources: First National Census of Iran, Vol.4, p.10.

Second National Census of Iran, Vol.24, p.22.

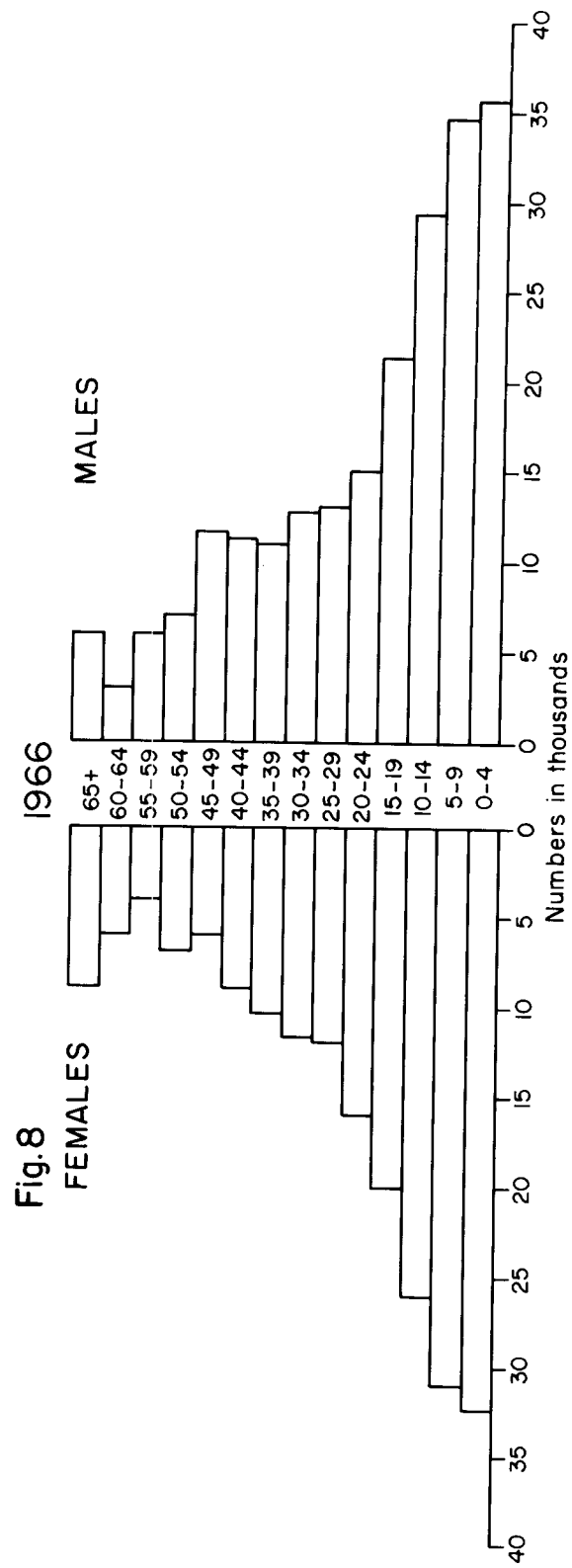
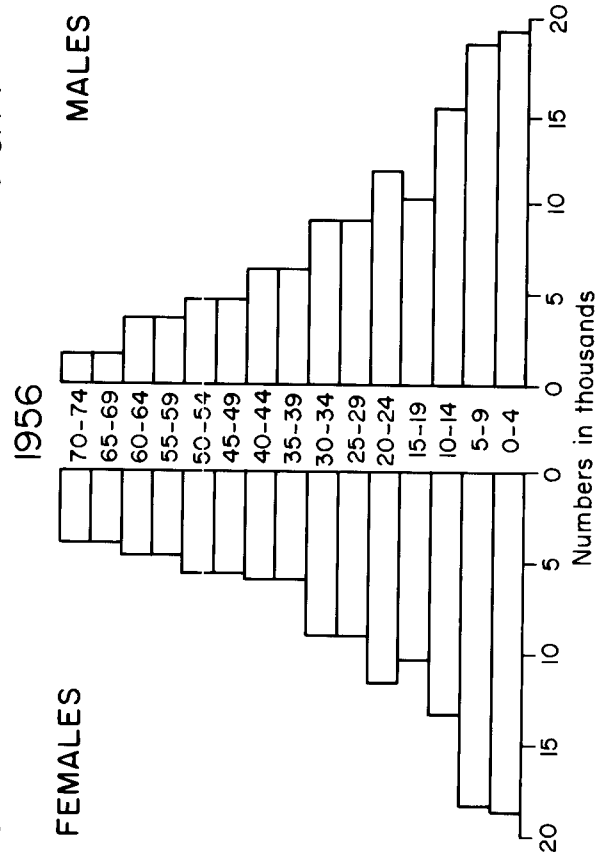
results from the better health conditions and therefore decline in the mortality rate. Because of the lack of information from the 1976 census, more recent features of the age structure of the population of the city are not clear.

3.2.1 The Age Pyramid of the Population of Isfahan.

Figures 7 and 8 illustrate the detailed age structure of Isfahan City by the conventional age pyramid by five year age groups for 1956 and 1966. From these two pyramids the following points emerge:

- (i) because of the increase in the number of births and also decline in infant mortality, the base of the pyramid in 1966 was much broader than that of 1956, so the population of Isfahan had a progressive trend during this period. In 1956 the percentage of the children under 5 years of age was 15.5% (of the total population). This age group increased to 16.1% in 1966 and male births were in excess of female births in both censuses.
- (ii) the pyramid was relatively broad among the younger adults in 1966, indicating the large number of people in that age group who were forming the bulk of the labour force, and resulting from the migration into Isfahan.
- (iii) the pyramids in both cases became significantly narrow towards the top, although the top of the pyramid in 1966 was broader than that of the 1956 one. This feature once more indicated the declining mortality and the increase in life expectancy. The number of females in the advanced ages of 65-69 was greater than those of males in both censuses. "This fact is virtually universal."⁽¹⁾ This form of the pyramid is characteristic of a young population.

Fig. 7 AGE COMPOSITION OF ISFAHAN CITY



3.2.2 The Dependency Ratio in Isfahan.

The dependency ratio is defined as the ratio of the number of children (0-14) plus aged people (65 and over) to the number of adults (15-64) multiplied by 100. In other words, "the dependency ratio compares the proportion of the population in the non-active ages with those of working age." (2) Since not all the people in the age groups 0-14 and 65+ are unproductive, or all the adults (15-64) productive at a given time, this ratio must be thought of only as an approximate measure.

Using the following simple statistics, the dependency ratio can be measured.

$$\text{Dependency Ratio (DR)} = \frac{P_{0-14} + P_{65 \text{ and over}}}{P_{15-64}} \times K$$

or

$$DR = \left[\frac{P_{0-14}}{P_{15-64}} \right] (K) + \left[\frac{P_{65 \text{ and over}}}{P_{15-64}} \right] (K)$$

where

- P₀₋₁₄ = is the number of youth
- P₆₅₊ = is the number of aged
- P₁₅₋₆₄ = is the number of adults
- K = is a constant, usually 100.

Dependency ratio can be calculated in two parts, youth dependency ratio (YDR) and aged dependency ratio (ADR). The sum of these two parts is the total dependency ratio (TDR).

In Isfahan City the sum of YDR in 1956 was 73.5, the ADR 7.9 and the TDR 81.4. The corresponding ratios in 1966 were YDR 87.6, ADR 8.4 and TDR 96.0. The major load of dependency in Isfahan City comes from the enormous number of children. Comparing the dependency in 1956 and 1966, an increase can be noticed in TDR which may be attributed mainly to the increase in the YDR, whilst the ADR shows a negligible increase.

The dependency ratio in the urban areas of Isfahan province was 99.9 in 1966 while in the rural areas it was 114.5. It will be noted that the dependency ratio of Isfahan City is lower than these two other ratios, largely because of the more developed society, and the in-migration of adults. Because of the lack of information the equivalent figures are not available for 1976.

3.3 THE MARITAL COMPOSITION IN ISFAHAN

As Islam generally encourages marriage, in Iran the subject of getting married is a very important one and receives very much attention. Many verses of the Koran direct people towards marriage and promise good fortune and happiness by having more children; verses like, "Marry and let your generation increase", or "In Islam nothing is more blessed and nearer to the Lord than marriage."⁽³⁾ The religious duty correlates with the social situation and increases the number of marriages. This increase varies from urban to rural areas and among different occupational groupings. The universality of marriage is more apparent in rural than urban areas, and usually manual labourers and unskilled or semi-skilled workers marry more than those who are more skilled or work in higher positions, such as managers or engineers. Hopefully the meaning of marriage is changing and women have more say in the consideration and determination of their marriage. The influence of their father and brothers on their new life is changing and giving way to more of their own decisions. Nowadays, education is more appreciated for a wife, as well as having a source of income.

3.3.1 The Change in Marital Status in Isfahan

For a long time early marriage has been a common practice in Iran,

and most groups in the country. As Rice in 1923 said, "Jewish girls in Iran are betrothed when they are very young, eight or nine, but not married until they are about sixteen, and as a rule there is no great disparity in age between husband and wife. Among Bakhtiari tribes children are often betrothed when they are tiny, but the wedding does not take place for some years and the marriageable age for girls is steadily rising."⁽⁴⁾ Piggot in 1974 writes, "... though children are occasionally betrothed in infancy, a Persian girl is generally fourteen or fifteen when she is married, and her husband not less than sixteen."⁽⁵⁾

For the first time in 1935, Iran, like many other countries, legislated a higher minimum marital age. According to Article 1041 of the Iranian Civil Code, the marriage of females before the full age of fifteen and males before the full age of eighteen is forbidden. "If a girl wishes to marry before the age of 15, legally she must not only have the permission of her parents, but also must be examined by a court doctor to establish if she has reached the age of puberty."⁽⁶⁾ A noticeable number of early marriages is still seen in rural, tribal communities and some smaller cities. Moezi⁽⁷⁾ reports, "... that according to a 1965 fertility survey in rural areas of Iran, 19.7% of women and 4.7% of men interviewed had married before reaching the legal age." The noticeable difference between the percentage of early married females and males may be due to the "Iranian Culture and Islamic religion which has always greater pressure on girls than on boys to get married."⁽⁸⁾

Bogue's⁽⁹⁾ classification of the median age of women in different nations of the world at the first marriage classifies, "Child marriage" nations as those with the median age less than 18, "Early marriage" nations with the median age of 18 or 19, "Marriage at maturity" nations with the median age of 20 or 21, and "Late marriage" nations with

the median age of 22 or over. Iran is in the "Early marriage" rank.

In Isfahan City the crude marriage rate⁽¹⁰⁾ declined from 398.5 per 1000 in 1956 to 382.1 per 1000 in 1966 and for both males and females (see Table 14).

Table 14: Crude Marriage Rate in Isfahan, 1956-1966

	Male	Female	C.M.R. per 1000
1956	199.8	198.6	398.5
1966	191.7	190.3	382.1

Sources: First and Second National Censuses of Iran, 1956 and 1966, Isfahan Shahrestan, Vol.4, p.23 and Vol.24, p.41.

This decline may be explained by the increased number of children (under the age of marriage), which increased the total population (one of the basic factors in the CMR formula).

Although there was a decline in the crude marriage rate, the percentage of the total married people to the total people aged 15 and over increased from 67.1 in 1956 to 69.1 in 1966 (see Table 15). The reason could be the mass of people aged 15 and over who migrated into Isfahan, and the higher standard of living that they experienced there. There was also a decline in the percentage of the widowed people in 1966 (from 11.5 in 1956 to 8.8 in 1966), which could possibly be explained by the decline in the mortality rate in 1966. While the percentage of the single (never married) population in 1966 did not change very much (from 20.1 in 1956 to 20.7 in 1966), the percentage of divorced people declined in 1966. As the results of the recent National Census of Iran (1976) are not available, it is not possible to give a new picture of marital status in Isfahan at the present.

Table 15: The trend in marital status, Isfahan 1956 - 1966

Year	Total Population Aged 15 & over	Married	%	Widowed	%	Divorced	%	Single	%	Not reported	%
1956	151,305	101,441	67.1	17,497	11.5	1,977	1.3	30,390	20.1	-	-
1966	234,548	162,028	69.1	20,758	8.8	1,944	0.4	48,747	20.7	1,071	1.0

Sources: First National Census of Iran, Vol.4, p.24.
 Second National Census of Iran, Vol.24, p.42.

3.3.2 Marital Status According to the Age Group and Sex Composition in Isfahan

To show the extent to which people of marriage age are married, become divorced or widowed, or are still single, requires the information classification by age and sex. In the case of Iran, their information is usually available from the registration office, but as usual is not very reliable. In many villages, towns and sometimes in large cities, like Tehran, the marital registration contains mistakes and misstatements. Young people often get married before the age that they should. Many married men who wish to remarry prefer not to report it because of the law which forbids them to do so. Although these features are more common in small regions, it can be seen in Isfahan as well.

As may be inferred from Tables 16(A) and (B) for Isfahan, and as it is relatively general, marital status varies distinctly with age:

- "(i) children and adolescents tend to be single;
- (ii) young adults and adults tend to be married;
- (iii) divorce tends to be greatest at the adult ages, 35 to 40;
- (iv) widowhood is concentrated at the older ages."⁽¹¹⁾

1. Single Population

According to the censuses, the proportion of the single population of Isfahan varied with sex and age. The total percentage of the male population of Isfahan who were 15 years old and over, and single, was 37.1 in 1956, while the same percentage for female population was only 7.8. By 1966 the male percentage was only 30.4%, but single females rose to 10.6%. The economic characteristics of Isfahan City may be one of the most important reasons for this feature, because with more income the young man was able to afford the marriage cost, which sometimes is

very expensive. The same economic characteristics have the reverse effect for females, (financial dependency is one of the most important incentives for getting married for females who are not active and do not have a monetary income). Since they tend to be less dependent, because of their growing employment and higher income, more are single. As can be seen in Figure 9, there was in 1956 a significant difference between the percentages of single males and females aged 15-19. In 1956 65.1% of females aged 15-19 were married and only 34.2% single, while only 1.6% of males were married and 98.4% single. In 1966 the married percentage for the female population 15-19 years old was 53.2 and the single percentage was 45.4, while the same figures for the males were 2.1% married and 96.9% single. Although the earliest age of marriage is 15 years for females and 18 years for males, according to the common law, in 1966 there was 942 (3.6%) married females and 9 (0.1%) married males aged between 10 and 14. This category did not show in the 1956 census.

2. Married Population

As illustrated in Figure 10, the proportion of early marriages (15-19 age group) for females declined from 65.1% in 1956 to 53.2% in 1966, which could be possibly because of the increase in socio-economic and educational activities in which they participated in 1966.

The maximum rate of marriage for females belonged to the age group 25-34 in 1956, while for males it was the age groups 35-44 and 45-54. Because of 10 year age groups in 1956 and 5 years in 1966, the comparison is not suggested. In 1966 the highest rate of marriage for females belonged to the 5 year age group 25-29, while for males it was the age group 45-49. The discrepancy between the two sexes is attributed to the tendency for males to marry females of younger age, or conversely for women to get married at a younger age than men.

Fig.9

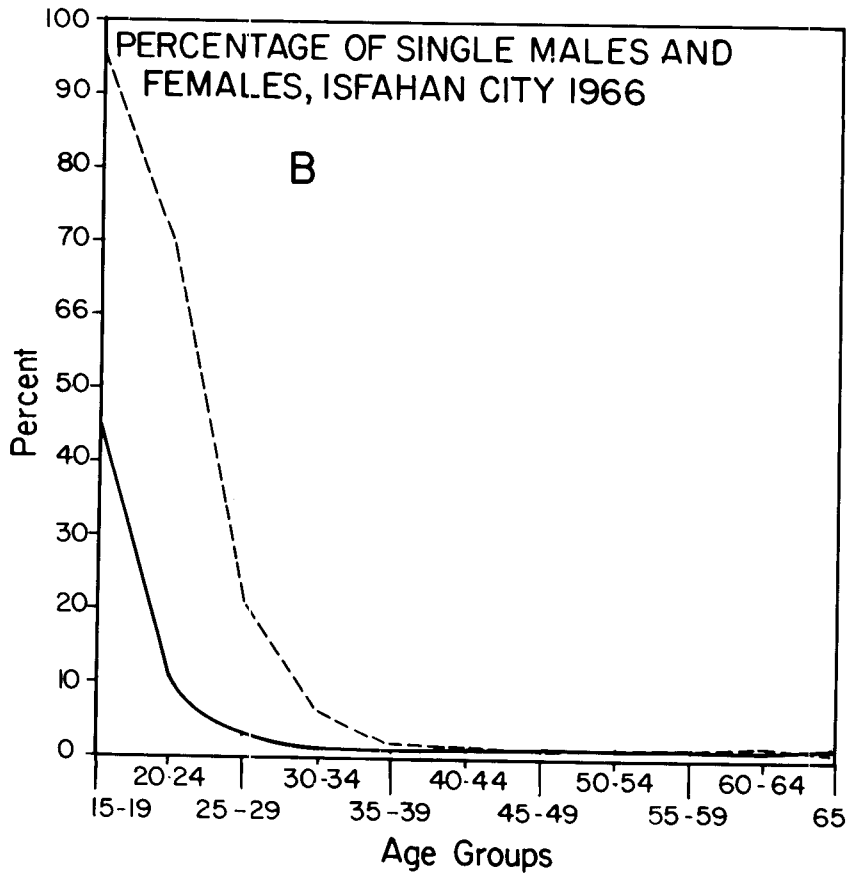
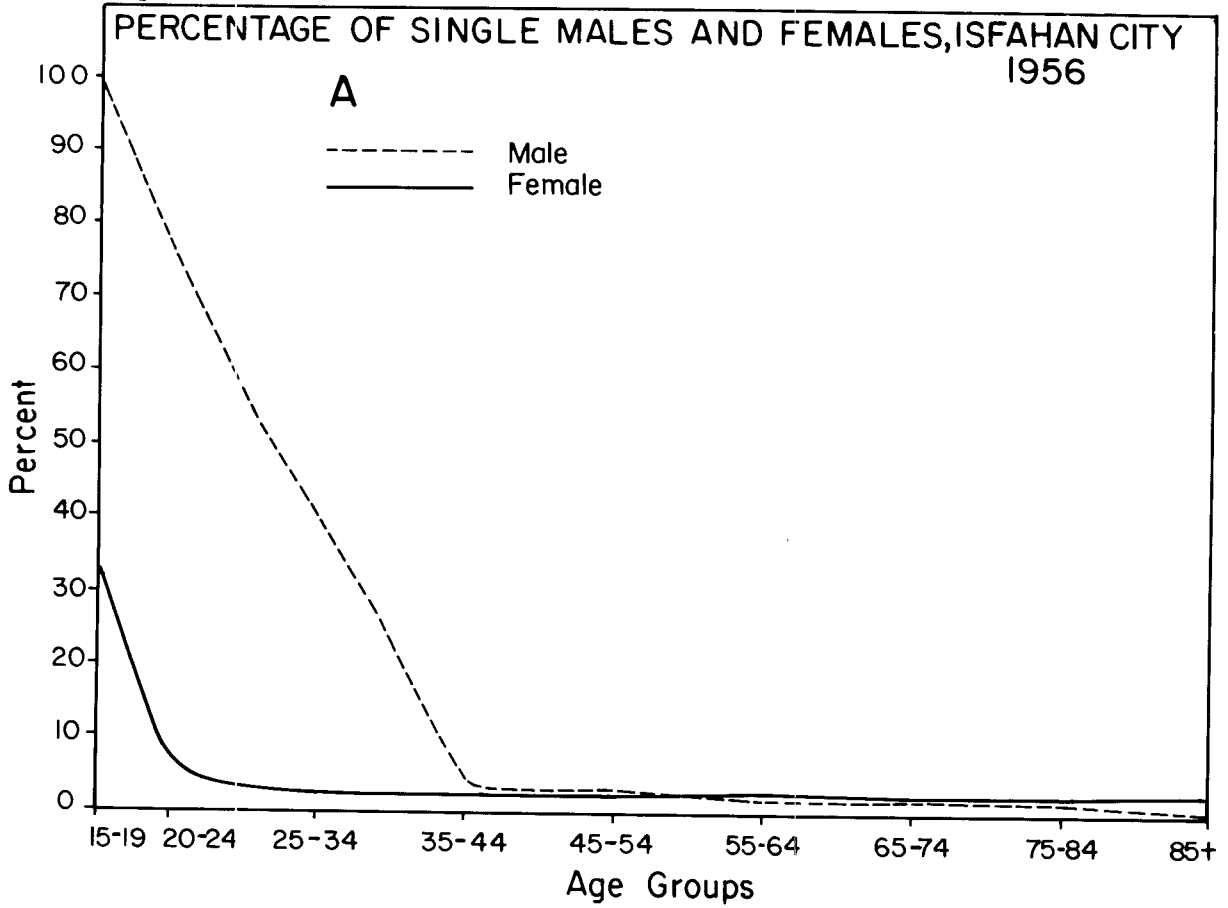
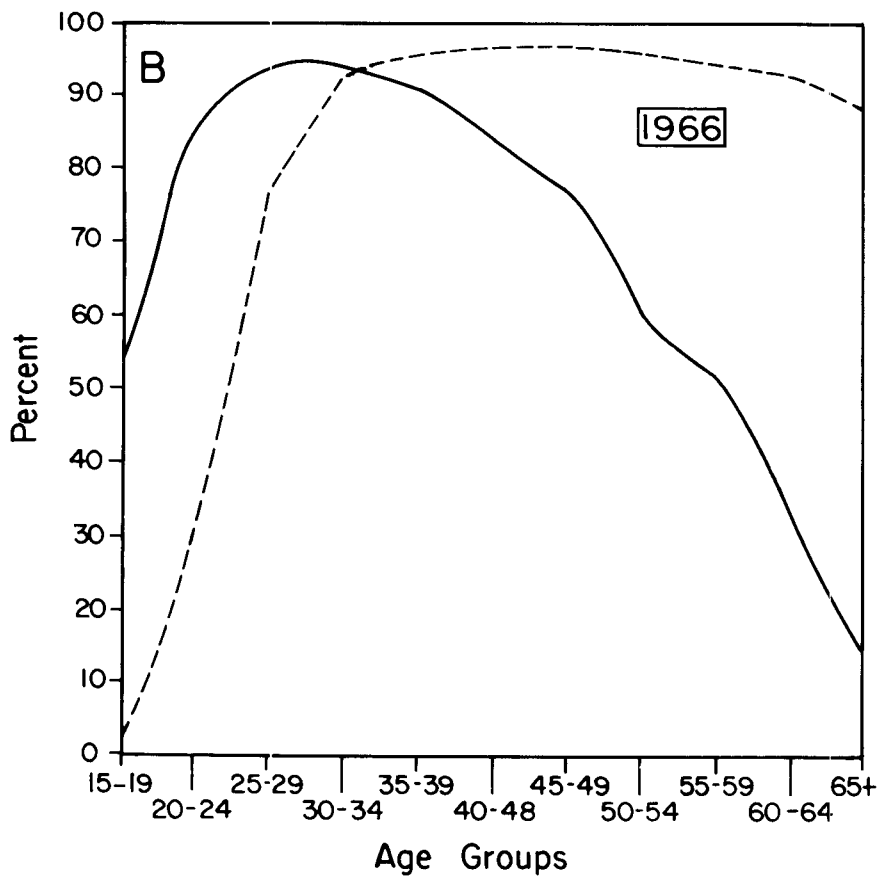
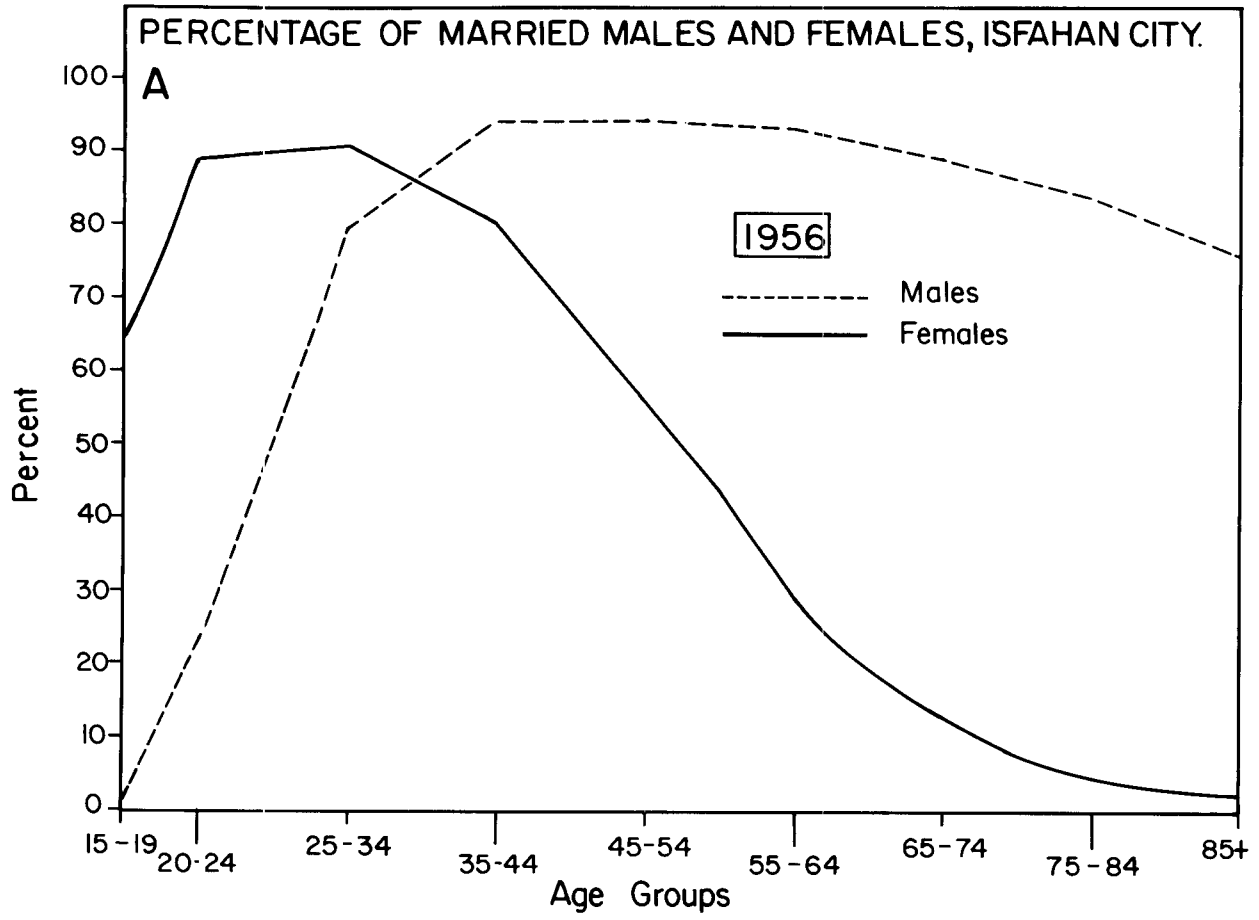


Fig. 10



Using the results of the First National Census, it can be noticed that in Isfahan there were 321 more men with spouses than women with spouses, which could be explained by more male in-migration to the city. The Second National Census showed a contrasting picture of 349 more females with spouses than males with spouses, because of the increasing in-migration of females and the existence of polygamy in the city.

3. Divorced and Widowed

In Isfahan City the highest percentage of widowers in 1956 was found in the age group 85 and over, similarly for widows (21.2% and 94.2%). The age group of 65 and over in 1966 had the same highest percentage. The numbers and therefore the percentage of widows were always more than those of widowers. The statement may be understood in the light of the following facts: (i) at the time of marriage men are usually 8-12 years older than the women, and (ii) the higher mortality rate by age among men (see Figure 11).

The highest percentage of divorced male population in 1956 belonged to the age group 85+. The corresponding figure for females is in the age group 45-54. In 1966 considering the male population, 10 years and over who had married, 0.3% were divorced at the time of enumeration, while the same figure for females was 1.1% (see Tables 16(A) and (B)).

3.4 POPULATION COMPOSITION OF OTHER PERSIAN CITIES

For better clarity we will compare Isfahan with some other Persian cities and also with Iran as a whole. The cities which have been chosen for this purpose are some of those medium-sized Persian cities which have relatively different characteristics from those large ones, like Tehran, Shiraz, Mashhad etc. which have been mentioned in the second chapter as the subjects for comparison.

Table 16(A): Marital status by age and sex of the population
15 and over, of Isfahan, 1956

(a) Males

Age Group	Total	Married		Widowed		Divorced		Never married	
		Number	%	Number	%	Number	%	Number	%
15+	76,928	50,881	66.1	965	1.2	516	0.6	24,556	37.1
15-19	11,034	177	1.6	-	-	-	-	10,857	98.4
20-24	11,597	2,736	23.6	4	0.1	15	0.1	8,842	76.2
25-34	18,303	14,501	79.3	28	0.1	98	0.5	3,676	40.1
35-44	13,386	12,578	94.1	78	0.5	123	0.9	607	4.5
45-54	10,025	9,419	94.1	156	1.5	137	1.3	313	3.1
55-64	7,650	7,157	93.6	241	3.1	81	1.1	171	2.2
65-74	3,510	3,136	89.5	252	7.1	42	1.2	80	2.2
75-84	1,140	961	84.3	146	12.8	14	1.3	19	1.6
85 and over	283	216	76.3	60	21.2	6	2.2	1	0.3

(b) Females

15+	74,377	50,560	68.1	16,532	22.2	1,461	1.9	5,824	7.8
15-19	10,422	6,773	65.1	20	0.1	78	0.6	3,551	34.2
20-24	10,813	9,720	89.9	74	0.8	192	1.7	827	7.6
25-34	17,527	15,920	90.8	636	3.6	406	2.4	565	3.2
35-44	11,472	9,232	80.5	1,643	15.2	332	2.0	265	2.3
45-54	10,983	6,204	56.5	4,244	38.6	263	2.5	272	2.4
55-64	7,107	2,114	29.7	4,661	65.7	139	1.9	193	2.7
65-74	3,925	516	13.1	3,280	83.7	37	0.9	92	2.3
75-84	1,531	71	4.6	1,406	91.8	13	0.8	41	2.8
85 and over	597	10	2.8	568	94.2	1	0.1	18	2.9

Source: First National Census of Iran, 1956, Vol.4, p.24.

Table 16(B): Marital status by age and sex, Isfahan City 1966

(a) MALE

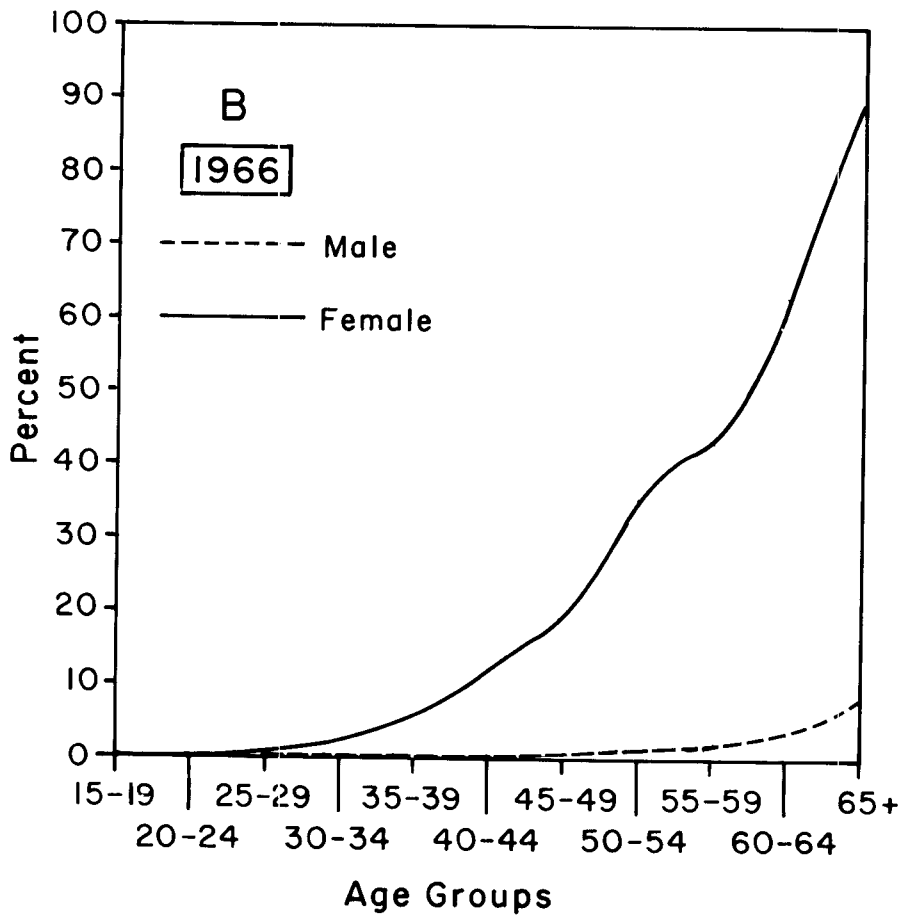
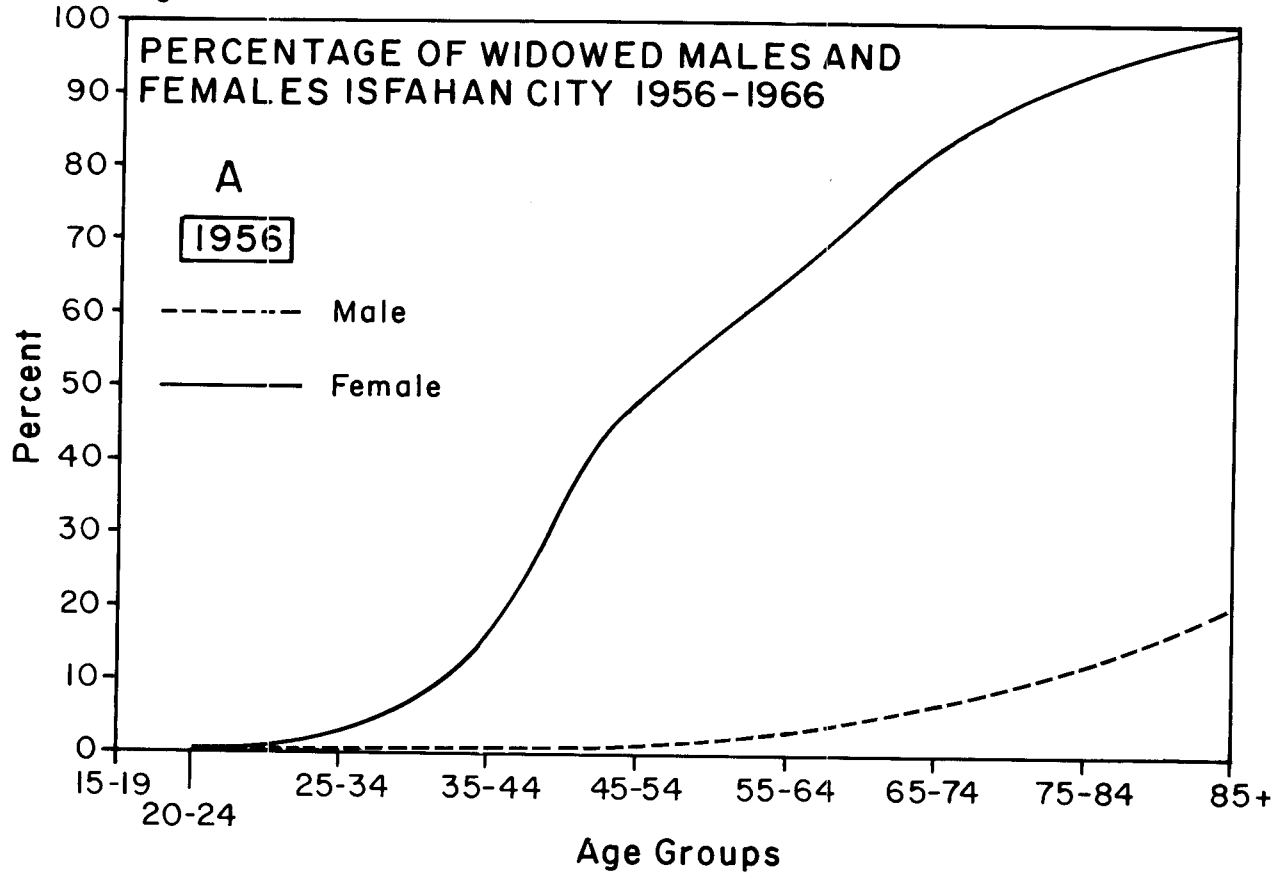
Age Group	Total Population	Married	%	Widowed	%	Divorced	%	Single	%	Not Reported	%
10 & over	150,120	81,315	54.2	1,529	1.1	490	0.3	66,189	44.1	597	0.3
10-14	29,570	9	0.1	-	-	-	-	29,561	99.9	-	-
15-19	21,989	451	2.1	7	-	6	-	21,327	96.9	198	1.0
20-24	15,066	4,370	29.1	16	-	13	-	10,560	70.1	107	0.8
25-29	13,545	10,533	77.8	29	0.2	42	0.3	2,876	21.2	65	0.5
30-34	13,242	12,282	92.8	30	0.2	51	0.3	829	6.2	50	0.5
35-39	11,439	11,023	96.5	36	0.3	61	0.6	274	2.3	45	0.3
40-44	11,748	11,347	96.6	74	0.6	59	0.6	222	1.9	46	0.3
45-49	7,579	7,343	96.9	59	0.7	43	0.5	113	1.4	21	0.5
50-54	6,705	6,388	95.3	122	1.9	61	0.9	112	1.6	22	0.3
55-59	3,521	3,331	94.8	90	2.5	33	0.9	55	1.5	12	0.3
60-64	6,520	6,079	93.2	254	3.8	51	0.7	124	1.9	12	0.4
65 & over	9,196	8,159	88.8	812	8.9	70	0.7	136	1.4	19	0.2

(b) FEMALE

10 & over	140,149	81,664	58.4	19,237	13.7	1,462	1.1	36,949	26.3	837	0.5
10-14	26,151	942	3.6	8	-	8	-	24,830	94.9	363	0.5
15-19	20,022	10,661	53.2	50	0.2	82	0.4	9,092	45.4	137	0.8
20-24	15,904	13,936	87.6	88	0.5	145	0.9	1,695	10.8	40	0.2
25-29	12,821	12,129	94.6	140	1.1	135	1.0	390	3.1	27	0.2
30-34	12,324	11,589	94.0	346	2.8	184	1.6	174	1.4	31	0.2
35-39	10,607	9,662	91.3	625	5.8	168	1.5	125	1.1	27	0.3
40-44	9,403	7,875	83.7	1,195	12.7	178	1.8	126	1.3	29	0.5
45-49	6,205	4,781	77.1	1,192	19.3	111	1.7	90	1.4	31	0.5
50-54	7,367	4,485	60.9	2,587	35.1	146	1.9	114	1.5	35	0.6
55-59	4,012	2,103	52.4	1,726	43.1	93	2.4	68	1.6	22	0.5
60-64	6,297	2,094	33.5	3,977	63.1	108	1.7	88	1.3	30	0.4
65 & over	9,036	1,407	15.6	7,303	80.9	104	1.1	157	1.7	65	0.7

Source: Second National Census of Iran, 1966, Vol.24, p.42.

Fig. II



Three of the selected cities, Nain, Shahreza and Golpayegan, are in Isfahan province and very close to Isfahan City. Three other medium-sized cities which have been chosen, Ghazvin, Kashan and Arak, are located in Central province. The similarities between these three cities in Central province, which have Tehran as the centre of attraction and attribution, and those in Isfahan province, which again have Isfahan City as the capital of all activities and the great migratory pole, are very many. Two other cities, one medium-sized and one small-sized, in two different provinces of Iran have been chosen as well, for the purpose of more comparison. These two are Zanzan in Gilan province, and Rafsanjan in Kerman province. Although Kerman and Rasht City are two of those relatively large Persian cities, and have rather great influence on the other medium or small-sized cities in their own provinces and sometimes on the other region, they are not as attractive as Tehran or Isfahan. An effort has been made to illustrate the effect of all these large cities upon the medium-sized ones.

On the whole, as the medium-sized city does not have the attractive characteristics of large cities, it is not possible to interest many people from other regions. The number of the population in these cities does not fluctuate very much. The noticeable movement of the population results from seasonal migrants from the surrounding villages looking for some temporary jobs. The other migration is of the men of these cities, who usually leave their families behind, and move towards larger centres, obviously the nearest large city is the goal.

3.4.1 Sex Composition in other Persian Cities

In Iran as a whole there were 9,309,760 females and 9,644,944 males in 1956 and 12,097,258 females and 12,981,665 males in 1966. The

sex ratio therefore rose from 103.6 males per 100 females in 1956 to 107.3 in 1966. The latest National Census of Iran (1976) gives the male population of the whole country as 17,277,656 and female 16,314,219 (total 33,591,875), sex ratio being 105.9. The figures show that the number of males was always more than females in Iran as a whole. The preponderance of male births and the recent decline in the mortality rate, which particularly affected male mortality, may be two of the most important reasons for the increase in the sex ratio between 1956 and 1966. The decline in the same ratio in 1976 may be attributed to the more correct female representation (Table 17).

In 1966 the sex ratio for the urban regions in Iran was 108.5 and 106.6 for the rural population, the same ratios in 1976 being 108.7 and 103.5 respectively. The higher sex ratios in the urban areas may be attributed to increased rural-urban migration of young men who look for better economic opportunities. Table 17 also illustrates the sex ratio in some other cities in Isfahan province, as well as some small and medium-sized Persian cities. On the whole, the sex ratio increased in cities during the first decade (1956-1966), because of the movement of males from rural areas into cities. The available data of the 1976 census of Iran for the three medium-sized cities in Isfahan province (Nain, Shahreza, and Golpayegan) indicate for 1966-76 an increase in the sex ratio in Nain and Shahreza, but a decline in Golpayegan, probably because of lower economic activity and out-migration.

The sex ratio in 13 smaller cities near Isfahan, which were called the satellites of Isfahan City (Homayonshahr, Zarenshahr, Khorasaghan, Ghadeerjan, Rehnan, Dorchehpeyaz, Mobarakeh, Dolatabad, Vernamekhast, Jaz, Flowerjan, Habiebabad and Dastegered) showed an increase in 1966 as a whole (Table 18), although there were some cities which showed a decline. In 1976, because of administrative changes in the "Shahrestan"

Table 17: Sex Ratio : Iran and some medium and small-sized Cities 1956-1966-1976

Cities	Total Population	Male per 100 Female		Total Population		Male per 100 Female		Male	Female	Total Population	Male per 100 Female		Male	Female	Male per 100 Female
		Male	Female	Male	Female	Male	Female				Male	Female			
Main	4,681	2,236	2,445	91.4	5,925	3,013	2,912	103.4	10,490	5,584	4,906	113.8			
Shahreza	29,311	15,156	14,155	107.1	34,330	17,393	16,827	103.3	105,388	53,781	51,607	104.2			
Golpayegan	12,400	6,194	6,206	99.8	20,515	10,462	10,033	104.4	85,816	42,757	43,059	99.2			
Zanjan	47,159	23,276	23,883	97.4	58,714	29,906	28,808	103.8	*	*	*	*			
Rafsanjan	9,212	4,414	4,798	92.1	21,425	10,627	10,798	98.4	*	*	*	*			
Ghazvin	66,414	33,524	32,890	101.9	88,106	42,221	40,125	105.2	*	*	*	*			
Kashan	45,955	23,071	22,874	100.9	58,468	29,856	28,612	104.3	*	*	*	*			
Arak	58,998	29,404	29,594	99.3	71,925	36,146	35,779	101.1	*	*	*	*			
Iran	18,954,704	9,644,944	9,309,760	103.6	25,078,923	12,981,665	12,097,258	107.3	33,591,875	17,277,656	16,314,219	105.9			

Sources:

First National Census of Iran, Nain Shahrestan, Vol.90, p.18. Second National Census of Iran, 1966, Nain Shahrestan, Vol.18, p.14.
 First National Census of Iran, Shahreza " Vol.35, p.15. Second National Census of Iran, 1966, Shahreza " Vol.19, p.18.
 First National Census of Iran, Golpayegan " Vol.70, p.17. Second National Census of Iran, 1966, Golpayegan " Vol.16, p.14.
 First National Census of Iran, Zanjan " Vol.21, p.13. Second National Census of Iran, 1966, Zanjan " Vol.65, p.31.
 First National Census of Iran, Rafsanjan " Vol.78, p.14. Second National Census of Iran, 1966, Rafsanjan " Vol.98, p.30.
 First National Census of Iran, Ghazvin " Vol.15, p.18. Second National Census of Iran, 1966, Ghazvin " Vol.14, p.22.
 First National Census of Iran, Kashan " Vol.22, p.20. Second National Census of Iran, 1966, Kashan " Vol.12, p.20.
 First National Census of Iran, Arak " Vol.18, p.19. Second National Census of Iran, 1966, Arak " Vol.2, p.17.
 First National Census of Iran, Vol.2, p.33. Second National Census of Iran, 1966, Vol.168, p.44.

Third National Census of Iran, 1976, The First results for Isfahan Province.

*Not clear yet.

Table 18: Sex Ratio in Isfahan census district, 1956 - 1966

Cities	1956					1966				
	Total Male and Female	Male	Female	Number of Males per 100 Females	Total of Males and Females	Male	Female	Number of Males per 100 Females	Female	Number of Males per 100 Females
Total	365,181	187,014	178,167	105.0	568,341	294,310	274,031	107.3		
Isfahan City	254,708	130,412	124,296	104.9	424,045	219,503	204,542	107.3		
Homayon shahr	33,544	17,299	16,245	106.5	46,836	24,682	22,154	111.4		
Zarensahr	10,251	5,178	5,073	102.1	13,188	6,691	6,497	103.0		
Khorasaghan	7,393	3,780	3,613	104.6	11,894	6,178	5,716	108.1		
Ghadeerjan	7,462	3,734	3,728	100.2	9,884	5,170	4,714	109.7		
Rehnan	9,005	4,691	4,314	108.7	11,797	6,219	5,578	111.5		
Dorchehpeyaz	7,024	3,527	3,497	100.9	9,419	4,889	4,530	107.9		
Mobarakeh	5,208	2,569	2,639	97.3	6,968	3,481	3,487	99.8		
Dolatabad	6,255	3,215	3,040	105.8	6,447	3,321	3,126	106.2		
Vernamekhast	4,037	2,100	1,937	108.4	5,488	2,860	2,628	108.8		
Jaz	7,337	3,844	3,493	110.0	7,287	3,735	3,552	105.2		
Flowerjan	4,211	2,132	2,079	102.5	5,710	2,901	2,809	103.3		
Habiebabad	4,376	2,260	2,116	106.8	4,142	2,123	2,019	105.2		
Dastegered	4,369	2,273	2,096	108.4	5,236	2,557	2,679	95.4		

Sources: First National Census of Iran, 1956, Vol.4, p.5.

Second National Census of Iran, 1966, Vol.24,p.6.

(census districts), some of those satellites of Isfahan City were in Lanjan Shahrestan (including Zarenshahr, Flowerjan, Mobarakeh, Dorchehpeyaz, Ghadeerjan and Vernamekhast), while cities like Shahenshahr, Khorzoogh, Varzaneh, Kohpayeh, Meymeh, Vazvan, Koshek and Dehno were included in Isfahan Shahrestan. Table 19 shows the sex ratio in those cities in 1976, when the sex ratio differed from 127.5 in Shahenshahr to 90.5 in Vazvan. Comparing the sex ratios in 1976 with those in 1966, it becomes clear that nearly all the mentioned cities had an increase (sometimes very high as in the case of Dastegered and Khorasaghan) in their sex ratios in 1976. From these figures it may be said that on the whole the proportion of males had increased in nearly all the cities of Isfahan province. This increase seems to result from the developing socio-economic programme in the region, which offered more jobs for men and made Isfahan province an enticing place for migrants. Decline in sex ratio which occurred in cities like Dastegered, Jaz and Habiebabad in 1966 and Dorchehpeyaz in 1976 may be explained by:

1. The number of males who went towards these cities in order to obtain better jobs, and because of the insufficiency of the places, had to return home, or move towards more prosperous centres such as Isfahan City.
2. The increase in the number of the female migrants into these cities which reduced the sex ratio in 1966 and 1976.
3. The misstatement of the female population in 1956.

The first of these three reasons seems the most feasible. Figures 12 and 13 illustrate the trend of the sex ratio in all these cities. The sex ratio in three mentioned cities in the Central province, Ghazvin, Kashan and Arak, increased in 1966. This increase was because of the rush of the people from villages towards these cities, though not very large,

Table 19: Sex Ratio in Isfahan Census district in 1976

Cities	Total Population	Male	Female	Sex ratio
Homayonshahr	65,158	34,898	30,260	115.1
Khorasaghan	30,718	16,456	14,262	115.3
Rehnan	17,757	9,404	8,353	112.5
Dolatabad	10,400	5,371	5,029	106.8
Jaz	10,569	5,544	5,025	110.3
Habiebabad	5,051	2,616	2,435	107.4
Shahenshahr	7,882	4,418	3,464	127.5
Khorzoogh	5,220	2,724	2,496	109.1
Dastegered	9,926	5,313	4,613	115.1
Varzaneh	5,297	2,741	2,556	107.2
Kohpayeh	2,008	1,064	944	112.7
Meymeh	3,761	1,826	1,935	94.3
Vazvan	3,719	1,767	1,952	90.5
Harand	3,603	1,860	1,743	106.7
Koshek	5,452	2,900	2,552	113.6
Dehno	5,492	2,912	2,580	112.8
Zarensahr	26,548	13,817	12,731	108.5
Ghadeerjan	13,815	7,346	6,469	113.5
Dorcnehpeyaz	14,314	7,223	6,971	105.3
Mobarakeh	26,338	13,513	12,825	105.3
Vernamekhast	7,502	3,913	3,589	109.1
Flowerjan	16,094	8,370	7,724	108.3

Source: Third National Census of Iran, 1976, the first result for Isfahan Province.

in 1960. Arak's sex ratio, unlike those of Ghazvin and Kashan, was below 100 in 1956 and the increase in 1966 was not as high, possibly because of the limited economic activities of Arak before the establishment of some few factories in the 1970's.

Another subject for comparison, Zanzan, a medium-sized city of Gilan province, like most of the others, had an increase in its sex ratio in 1966. As the figures in Table 17 show, this city had a sex ratio of 97.4 in 1956 which increased in 1966 to 103.8.

Comparing Isfahan City with these statistics, it emerges that Isfahan City with a large migrant population, had a relatively high sex ratio in 1956 which increased in 1966 and in 1976, while the three previously mentioned cities (Ghazvin, Kashan and Zanzan) had nearly equal proportions of sexes in 1956 and although their sex ratios increased in 1966, this increase was not as high as it was for Isfahan.

Arak and Rafsanjan, less productive cities, had a smaller proportion of males than females in 1956. Although these cities had more males than females by 1966, the increase in the sex ratio was by only 1.8 for Arak, and for Rafsanjan it was still below 100. Because of the lack of data of the 1976 census for the rest of the mentioned cities, it is not possible to give a recent picture for all of them (see Table 17).

3.4.2 The Age Composition of other Persian Cities

As the mortality rate and particularly infant mortality, declined in 1966, the percentage of the age group 0-14 increased in all the mentioned cities and in Iran as a whole. Ghazvin was the only city where the percentage of children declined in 1966. Although elsewhere, the number of the children (0-14) increased in 1966, the proportion of adults exceeded the children (Table 20).

Table 20: Age composition : Iran and some medium and small-sized cities, 1956 - 1966

Cities	Total Population 1956	0-14	%	15-64	%	65+	%	Total Population 1966	0-14	%	15-64	%	65+	%
Nain	4,681	1,815	38.8	2,569	54.9	297	6.3	5,923	2,473	41.8	3,017	50.9	433	7.3
Shahreza	29,311	12,200	41.6	15,723	53.6	1,388	4.8	34,220	15,976	46.7	16,561	48.4	1,663	4.9
Golpayegan	12,400	5,567	44.9	6,413	51.7	420	3.4	20,515	9,648	47.0	10,028	48.9	839	4.1
Zanjan	6,454	2,630	40.7	3,589	55.6	235	3.7	58,714	25,806	43.9	29,754	50.7	3,154	5.4
Rafsanjan	9,212	2,926	31.8	5,884	63.9	402	4.3	21,425	9,924	46.3	10,759	50.2	742	3.5
Ghazvin	66,387	27,986	42.2	35,865	54.0	2,536	3.8	88,106	35,664	40.4	48,961	55.6	3,481	4.0
Kashan	45,942	18,753	40.8	24,932	54.3	2,257	4.9	58,468	26,258	44.9	29,375	50.2	2,835	4.9
Arak	59,066	25,387	43.0	31,082	52.6	2,597	4.4	71,925	32,733	45.5	35,754	49.7	3,438	4.8
Iran Total country	18,954,704	7,993,156	42.2	10,209,881	53.9	751,667	3.9	25,078,924	11,560,329	46.1	12,550,490	50.0	968,105	3.9

Sources: First National Census of Iran, 1956, Vols. 90, 35, 70, 21, 78, 15, 22, 18 and 2, Pgs. 21, 17, 19, 15, 13, 10, 12, 19 and 25.

Second National Census of Iran, 1966, Vols. 18, 19, 16, 65, 98, 14, 12, 2 and 168, Pgs. 19, 15, 17, 13, 11, 7, 10, 17 and 42.

The increasing percentage of children led to the result that in 1966 the size of the increase in the proportion of children exceeded the size of the proportion by which adults had increased. This was the same for all cities and Iran as a whole (except for Ghazvin) (see Table 20). The proportion of aged population seemed to be stable in all these cities and Iran as a whole. Although there was an increase in their proportion in 1966, it was not very noticeable. The stable (minimally increased) proportion of the aged population once more showed the declining pattern of mortality which was brought to all regions and Persian cities by the many health programmes during the period of many development plans.

3.4.3 Marital composition in Other Persian Cities

As Table 21 shows, during the 10 years between 1956 and 1966, the crude marital rate declined in all the mentioned cities and in Iran as a whole, with the exception of Ghazvin, Kashan and Arak which increased. The same decline applied to the percentage of married people (both males and females) in nearly all these cities, with the exception of the female population of Ghazvin, the male population of Kashan and the female population of Arak, which had a higher married proportion in 1966 (see Table 22).

Some available statistics show a fairly noticeable percentage of marriages of people below the official minimum age. As the reports of the Second National Census of Iran indicate, 0.1% of males and 2.3% of females in the urban areas of Iran were married under age. The same percentages were zero for males and 1.7 females in rural areas.

Ettelaat⁽¹²⁾, one of Tehran's daily papers, gives a number of 34,417 boys and girls married before reaching the official age between 1956-1967. This was nearly 8.5% of the total marriages in Tehran during that period. The same paper⁽¹³⁾ gives a number of 11,175 girls who were

Table 21: Crude marital rates in Iran and some medium and small-sized cities
1956 - 1966

Cities	Total Population 1956	Married	C.M.R.	Total Population 1966	Married	C.M.R.
Nain	4,681	1,909	407.8	5,925	2,367	399.1
Shahreza	29,311	11,458	390.9	34,220	12,801	374.2
Golpayegan	12,400	4,566	368.2	20,515	7,442	363.2
Zanjan	47,159	18,178	385.4	58,718	22,323	380.2
Rafsanjan	9,212	4,082	443.1	21,425	7,796	363.9
Ghazvin	66,420	25,281	380.6	88,106	36,866	418.4
Kashan	45,955	18,098	393.8	58,468	25,284	432.4
Arak	58,998	22,440	380.3	71,925	29,359	408.2
Iran	18,954,704	7,662,682	404.2	25,078,924	9,707,486	387.1

Sources: First National Census of Iran, 1956, Vols. 90, 35, 70, 21, 78, 15, 22, 18 and 2, pgs. 25, 21, 23, 18, 17, 14, 16, 23 and 30.

Second National Census of Iran, 1966, Vols. 18, 19, 16, 65, 98, 14, 12, 2 and 168, pgs. 23, 19, 22, 17, 15, 11, 14 and 49.

Table 22: Marital status in Iran and some medium and small-sized cities.

	Total	Single	%	Married	%	Divorced	%	Widowed	%	Total	Single	%	Married	%	Divorced	%	Widowed	%	Not Reported	%
Nain	1,308 M 1,558 F	351 244	26.8 15.6	919 990	70.3 63.5	4 22	0.3 1.4	34 302	2.6 19.5	2,101 M 2,108 F	885 579	42.2 27.5	1,169 1,198	55.6 56.8	4 25	0.2 1.2	32 292	1.5 13.8	11 14	0.5 0.7
Shahreza	8,853 M 8,258 F	2,847 847	32.1 10.2	5,825 5,633	65.8 68.2	25 67	0.2 0.9	156 1,711	1.9 20.7	11,640 M 11,292 F	5,138 3,156	44.1 27.9	6,301 6,500	54.1 57.6	29 79	0.2 0.7	136 1,433	1.3 12.7	36 124	0.3 1.1
Golpayegan	3,427 M 3,406 F	1,105 536	32.2 15.7	2,278 2,288	66.6 67.2	16 29	0.4 0.9	28 553	0.8 16.2	7,266 M 6,885 F	3,460 2,284	47.6 33.2	3,693 3,749	50.8 54.5	10 37	0.1 0.5	88 799	1.3 11.6	15 16	0.2 0.2
Zanjan	13,743 M 14,520 F	4,352 1,934	31.6 13.3	8,977 9,301	65.3 64.1	128 355	0.9 2.4	286 2,930	2.2 20.1	20,459 M 19,977 F	8,822 5,747	43.1 28.8	11,091 11,232	54.2 56.2	136 291	0.4 1.4	343 2,647	2.2 13.3	67 60	0.1 0.3
Rafsanjan	2,961 M 3,325 F	867 466	29.5 14.0	2,007 2,075	67.8 62.4	34 135	1.0 4.1	53 649	1.7 19.5	7,244 M 7,365 F	3,242 2,380	44.7 32.3	3,867 3,929	53.4 53.3	32 142	0.4 1.9	92 888	1.3 12.1	11 26	0.2 0.4
Ghazvin	19,091 M 19,343 F	6,098 2,436	31.9 12.5	12,523 12,758	65.6 66.0	160 349	0.9 1.8	310 3,800	1.6 19.6	35,328 M 28,199 F	18,200 3,523	51.5 12.0	16,436 20,430	46.5 72.7	163 250	0.5 0.9	321 3,592	0.9 12.7	208 467	0.6 1.7
Kashan	13,499 M 13,703 F	4,232 1,726	31.3 12.6	8,957 9,141	66.4 66.7	66 212	0.4 1.5	244 2,624	1.9 19.1	20,642 M 19,427 F	6,321 5,267	31.0 27.2	13,949 11,335	67.2 58.3	54 158	0.3 0.8	234 2,358	1.1 12.1	84 309	0.4 1.6
Arak	16,492 M 17,219 F	4,989 2,347	30.2 13.6	11,112 11,328	67.4 65.8	116 355	0.8 2.1	275 3,189	1.6 18.5	25,038 M 24,895 F	11,618 5,174	46.4 20.6	12,933 16,426	51.7 66.1	97 255	0.4 1.0	313 2,857	1.2 11.6	77 183	0.3 0.7
Iran	5,567,395 M 5,394,153 F	1,513,515 631,787	27.3 12.0	3,810,901 3,851,781	68.5 71.4	49,804 80,956	0.8 1.5	193,175 809,629	3.4 15.1	8,546,238 M 7,989,609 F	3,492,007 2,133,117	40.9 26.7	4,830,316 4,877,170	56.5 61.0	40,418 862,172	0.5 10.8	148,169 75,642	1.7 0.9	35,328 42,505	0.4 0.6

1956

1966

Sources: First National Census of Iran, 1956, Vols. 90, 35, 70, 21, 78, 15, 22, 18 and 2; pgs. 25, 21, 23, 18, 17, 14, 16, 23 and 30. Second National Census of Iran, 1966, Vols. 18, 19, 16, 65, 98, 14, 12, 2 and 168; pgs. 23, 19, 22, 17, 15, 11, 14, 22 and 49.

married in Tehran in 1969 before reaching the age of 19, of which nearly one-third were below the age of 16. Reviewing the 1969 statistics we find 454 young husbands below the age of 19.

Another of Tehran's dailies, Kayhan, mentioned the number of 4,500 girls aged 13 to 15 years who applied for exemption from the age restriction in Tehran itself in 1970. Of these nearly 2,500 received permission to marry. A very surprising fact was the marriage of nearly all of these young girls with men 30 to 50 years of age. Of course many of these men were among those wealthy people who always seek out young wives.

Momeni, ⁽¹⁴⁾ mention that the following facts are the main factors leading to early marriage in Iran, although they are not the only ones, (i) economic factor, (ii) religion, (iii) 'Mehriah' or dowery, (iv) social and/or political factors.

As long as money is influential in all aspects of life, it may be expected to have a noticeable influence on marriage as well. In Iran, one of the most acceptable ways of reducing the burden of too many children for too little food and space can be by way of marriage. This usually means marrying off the girls as soon as possible. The custom of 'Mehriah', which is a gift usually in the form of some amount of money that the groom agrees to pay to the bride any time after the marriage, on her request, can support the given statement. Due to the increase in the cost of living the amount of 'Mehriah' has been increased recently.

Momeni ⁽¹⁵⁾, also explains that "... on the farms and especially among many of the Iranian tribes the people betroth their children in early age for both social and political reasons, it creates friendship bondages and primary social relationship between the families involved."

Once more, "... due to the lack of accurate registration of vital events, many marriages are not registered and the exact age of the couples at the time of marriage is not know."⁽¹⁶⁾

1. Polygamy in Iran

Jackson (1928)⁽¹⁷⁾ writes, "... it must be remembered that among the ancient Iranians polygamy and concubinage were doubtless the rule, or at least they were not uncommon...". Although according to reliable evidence polygamy existed from ancient times, accurate statistics and information on this topic do not exist. Using the results of the National Census of Iran in 1966, which gives the number of men with spouse and women with spouse, it can be seen that at that time there were 46,854 more women with spouses than men with spouses. In other words in 1966 there were 46,854 men with more than one wife. Although the census does not state how many men had two, three or four wives, it can be assumed that many had more than two.

Momeni uses a polygamy ratio which is the number of women with spouses over the number of men with spouses times 1,000, which gives the number of wives for every 1,000 men.⁽¹⁸⁾ Using figures for 1966 the polygamy ratio for Iran as a whole was 1,010. The same ratio for the year 1956 was 1,011. Table 23 shows the polygamy ratio in Isfahan City and in the other previously mentioned cities in 1956 and 1966. Isfahan and Shahreza in 1956 and Kashan in 1966 were the only three exceptions, among eighteen examples, which had a polygamy ratio lower than 1,000, because of male migrants who left their family behind. Tables 24 and 25 show the variation of polygamy ratio in different provinces and General Governorates in Iran in 1956 and 1966. "It should be pointed out that the polygamy ratio lower than 1,000 in the Central province and Ports and Islands of the Persian Gulf in 1966 are due to the migration to these places."⁽¹⁹⁾

Table 23: Polygamy Ratios for 9 Persian cities in 1956 and 1966

City	Year	Total Population Male & Female	Male Married	Female Married	P.R.
Isfahan	1956	M= 76,995 F= 74,454	50,881	50,560	993.7
	1966	M=150,120 F=140,149	81,315	81,664	1004.2
Nain	1956	M= 1,308 F= 1,558	919	990	1077.2
	1966	M= 2,101 F= 2,108	1,169	1,198	1024.8
Shahreza	1956	M= 8,853 F= 8,258	5,825	5,633	967.0
	1966	M= 11,640 F= 11,293	6,301	6,500	1031.5
Golpayegan	1956	M= 3,427 F= 3,406	2,278	2,288	1004.3
	1966	M= 7,266 F= 6,885	3,693	3,749	1015.1
Zanjan	1956	M= 13,743 F= 14,520	8,977	9,301	1036.0
	1966	M= 20,459 F= 19,977	11,091	11,232	1012.7
Rafsanjan	1956	M= 2,961 F= 3,325	2,007	2,075	1033.8
	1966	M= 7,244 F= 7,365	3,867	3,929	1016.0
Ghazvin	1956	M= 19,091 F= 19,343	12,523	12,758	1018.7
	1966	M= 35,328 F= 28,199	16,436	20,430	1243.0
Kashan	1956	M= 13,499 F= 13,703	8,957	9,141	1020.5
	1966	M= 20,642 F= 19,427	13,949	11,335	812.6
Arak	1956	M= 16,492 F= 17,219	11,112	11,328	1019.4
	1966	M= 25,038 F= 24,895	12,933	16,426	1270.1

Sources: First National Census of Iran, 1956, Vols. 4, 90, 35, 70, 21, 78, 15, 22 and 18, Pgs. 24, 25, 21, 23, 18, 17, 14, 16 and 23.

Second National Census of Iran, 1966, Vols. 24, 18, 19, 16, 65, 98, 14, 12 and 2, Pgs. 42, 23, 19, 22, 17, 15, 11, 14 and 22.

Table 24: Polygamy ratio in various provinces and General Govern-
orates in Iran in 1956. By urban-rural residence.

Ostan/Governorate General	Total	Urban Areas	Rural Areas
Iran	1,011	988	1,021
Central	964	943	1,005
Mazandaran	1,038	1,000	1,028
East-Azarbayijan	1,070	1,006	1,091
West-Azarbayijan	1,018	976	1,030
Kermanshahan	1,022	986	1,035
Kyrdestan	1,015	986	1,018
Khuzestan and Lorestan	1,033	1,009	1,046
Fars and Banader	1,011	1,017	1,009
Kerman	1,035	1,029	1,036
Khorasan	940	1,021	920
Sistan-Baluchestan	1,041	982	1,046
Isfahan	1,044	1,027	1,054
Gilan	1,005	1,003	1,005

Source: First National Census of Iran, 1956, Vol.2.

Table 25: Polygamy ratio in different provinces and General Governorates in Iran in 1966 by urban rural residence.

Province/General Governorate	Total	Urban Areas	Rural Areas
Iran	1,010	989	1,023
Central	983	973	1,026
Mazandaran	1,015	980	1,026
East-Azarbayijan	1,016	992	1,025
West-Azarbayijan	1,001	971	1,012
Kermanshahan	1,001	986	1,008
Khuzestan	1,048	1,004	1,024
Fars	1,003	1,000	1,005
Kerman	1,010	1,011	1,010
Khorasan	1,020	998	1,028
Isfahan	1,028	1,022	1,034
Sistan - Baluchestan	1,029	1,016	1,032
Kurdestan	1,007	966	1,015
Hamedan	1,034	1,004	1,044
Chaharmahal-Bakhtiary	1,018	1,026	1,015
Lorestan	1,023	998	1,030
	1,011	980	1,015
Kohkiluyeh - Boveirahmad	1,036	952	1,049
Ports and Island of Persian Gulf	987	927	1,003
Ports and Islands of Omman Sea	1,005	980	1,009
Semnan	1,015	984	1,033
Gilan	1,020	995	1,026

Source: The Second National Census of Iran, 1966, Vol.168.

Merlek Miller and Charles Windle using a census of the Iranian employees of the Iranian Oil Refining Company, who were interviewed from February to March 1956, studied the incidence of polygamy and some of its correlates. For the relationship between polygamy and grade within the Oil Company, they present Table 26 which reveals the sharpest differentiation between the staff and labour. The following relationships were found through this research, "(a) an increase in polygamy with increase of grade within the three labour classes, (b) a decrease in polygamy with increase of grade from labour to staff within the younger age groups, and (c) an increase in polygamy with increase of grade from labour to staff within the older age groups."⁽²⁰⁾ In addition there is an absence of polygamy among higher education men. "It is likely that continued increase in education in Iran will lead to decreasing incidence of polygamy."⁽²¹⁾ (See Table 26).

Factors like industrialization, urbanization and modernization correlated with increased education and, with the 1967 enactment of a new Family Protection Law, has caused the decline of polygamy. "The enactment of the 1967 Family Protection Law caused no public outcry in Iran indicating that Iranian family structure is not based on polygamy, and the change in the rate of polygamy has come about by a publicly supports ideal."⁽²²⁾

2. The Single Population in other Persian Cities

The proportion of the single males in the population was always higher than most of single females. During the period of 10 years up to 1966, the percentage of the single male population of Iran increased and had a higher proportion than females, while the percentage of single females increased also. In all of the mentioned cities the increase in the proportion of single males and females in the population was

Table 26: Percentage of married male employees of specific ages who are Polygynous*

Age Group	Staff	Ostad-Kar	Skilled Labour	Unskilled Labour
20-24	-	-	0.5	(0.8)
25-29	1.2	(6.1)	3.4	3.5
30-34	2.3	7.8	4.2	3.6
35-39	5.4	12.2	6.5	3.9
40-44	(4.4)	(9.5)	8.1	6.5
45-49	10.4	14.5	9.8	7.3
50-54	15.4	13.8	11.0	8.0
55-59	(18.1)	12.6	11.7	9.5
60-64	-	-	13.8	9.5

Source: Miller, M. and Windle, C. "Polygyny and Social Status in Iran", Journal of Social Psychology, 1960, Vol.51, p.309.

* All percents in table are based on at least 100 cases.

Those based on less than 200 are in parentheses.

uniform in 1966 with the exception of females of Ghazvin City, and males of Kashan, which declined (see Table 22).

3. Widows and Divorced Population in other Persian Cities

The proportion of widows in 1966 declined. Although some of the percentages such as the one for male population of Golpayegan or the male population of Zanjan showed either some increase or they stayed stable in 1966, the decline was uniform for all the mentioned cities and Iran as a whole. The same decline applied for the divorced figures in 1966, with the exception of females of Iran as a whole which increased.

It emerges from the comparison between these cities and Isfahan City that the main difference is between their married portions. The increase in the percentage of the married people in Isfahan City could be attributed to the effect of the change in the socio-economic characteristic of Isfahan City as a developing society, while the medium and small-sized cities of Iran did not have the same change.

3.5 CONCLUSION

There are some points worthy of emphasis, that have emerged in this chapter which may be briefly drawn together. Isfahan is changing its characteristics gradually, is becoming more developed and has started to come up to the level of some European and Western cities. The change in the socio-economic feature of the city has resulted in a changing population structure. The developing economy demanded more workers and resulted in a mass of people moving towards Isfahan in 1966. "As in Iran and most of the Middle East, migration is to some extent sex selective,"⁽²³⁾ the sex ratio of the Isfahan City increased, as in some medium-sized cities of Persia and Iran as a whole. "Although

there is evidence in some areas of Iran of family migration, the most mobile section of the population is young adult males."⁽²⁴⁾

Like many other developing countries, Iran has a declining trend in mortality, especially infant mortality, and expanded duration of life. This can be easily seen from the broad base of the pyramids of all Persian Cities and Iran as a whole, while the peaks of all those pyramids were becoming wider. In the case of Isfahan, beside two uniform features, a mass of people aged 19-44, including many migrants, made a broad middle in the pyramid. Since the decline in the mortality rate, the dependency ratio increased in Iran as a whole and also in Isfahan. This increase could possibly be explained by the increasing number of students in 1966 also. In addition, the CMR has declined. On the whole the meaning of marriage is changing as the women get more social values and "is no longer considered as the mother of children or, as the Iranian way 'madar-e-bacheha' and the satisfier of sexual desires."⁽²⁵⁾ The interesting feature was the decline in the proportion of married women in the population in 1966, which affects the fertility and child-bearing of the city.

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CHAPTER IV

FERTILITY IN ISFAHAN

4. INTRODUCTION

Iranian Moslems like large families. Many Persian expressions, like "he who gives teeth gives bread," "everyone has his share of the world", or "children are given by God,"⁽¹⁾ can be cited to corroborate the Persian custom of having many children. High infant mortality rates caused by the lack of health and hygiene in Iran in the past encouraged families to have many children. "Proverbs like 'first born belongs to the crow', or 'one is sad, two is few and three is sure' illustrate this. Furthermore, in the villages we still come across names such as 'Bemani' meaning 'stay' or 'Mondegar' meaning 'may you remain',⁽²⁾ which all emphasize the great fear of child death.

Many other reasons also encouraged the large number of births, including the economic reason. Children over the ages of 6 and 7 used to work, either on the family's farm or elsewhere to earn money, and since their cost of living was very low, they were able to help their families.

The registration of births and deaths and other vital characteristics are a relatively new phenomenon (1940), and not very reliable. It was quite common for many rural families not to report the birth of a new child, and after a while, usually not less than two or three years after the birth, if they reported the existence of the new member of their family, they would not be able to remember the exact year, month and day of the birth. Another common feature was the unreported death of the new born child. This happened many times when a child of three or four died; the parents, because they were either too sensitive or careless, failed to report his death and kept his registration card, and years later when they had another child, they used the dead child's registration card for

the new one! These facts caused numerous mistakes in records of births and deaths, and made them untrustworthy.

Since in Iran there were, on the one hand, large numbers of births and a popular inclination for having more and more children, and on the other hand, a lack of reliable and sufficient reports of birth and infant deaths, a discussion about birth and fertility is very difficult. An attempt has been made to describe the position of Isfahan City, Iran and Tehran relying only on the poor reports of the registration office and some estimates which have been made on this subject.

4.1 BIRTHS AND FERTILITY IN ISFAHAN

Table 27 shows the number of births and crude birth rates in Isfahan in various years since 1956. These figures rely on reports from the registration office in Isfahan City. The given figures are probably below the real numbers. Although the rates given in the table differ noticeably from each other, on the whole, except in one or two cases, they show a very slow decrease.

The general fertility rate (G.F.R.) is another figure which can only be estimated. The rate was 164.9 per 1000 in 1956, and 224.9 per 1000 in 1966, when it was 258 per 1000 in Isfahan province, 246 in the urban areas and 170 in the rural areas.⁽³⁾ (No decimal places are given). Isfahan City as a large developed city of Iran had a lower G.F.R. than other urban areas in Isfahan province. Because of the lack of information estimates are not possible for any other years.

The regional survey of Isfahan City, which has been done in 1972 by the Department of Urban and Regional Planning of the University of Tehran, indicates the number of births by age of mothers⁽⁴⁾ for the year 1966. This survey gives the total number of births for the year 1966

Table 27: Number of births and crude birth rates in
Isfahan City, 1956-1976

Year	Total Population	Male	Female	Male Births	Female Births	Total Births	C.B.R.
1956	254,708	130,412	124,296	4,317	3,971	8,288	32.5
1966	424,045	219,503	204,542	6,534	5,704	12,238	43.0
1967	423,777	-	- -	5,881	5,738	11,619	27.4
1968	-	-	-	8,970	8,203	17,173	-
1969	-	-	-	8,735	8,290	17,025	-
1970	515,000	-	-	8,149	7,630	15,779	30.6
1971	546,200	284,000	262,200	7,204	6,771	13,975	25.5
1972	575,000	-	-	7,477	6,941	14,418	25.0
1973	605,000	-	-	8,601	7,994	16,595	27.4
1976	671,825	355,418	316,407	8,712	7,851	16,563	24.6

Sources: First National Census of Iran, 1956, Vol.4, p.3 .

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as 12,548, which is a little more than that of the report of the registration office. The highest age-specific fertility rate of women rose steeply to a peak in the age group 20-24 (see Table 28 and Figure 14), and this age group had the greatest number of births also. The rate decreased sharply after this age group, to the age group 25-29, but fertility remained high among women aged 30-39. Because of the lack of information, the same illustration is not possible for the year 1956.

The age-specific fertility rate for Isfahan province in 1966 has been estimated by Amani (see Table 29 and Figures 15 and 16) and for urban and rural areas. As expected, the rural areas showed the higher rates in all age groups, reflecting the greater interest of the rural people in getting married and having large families. The highest rates belonged to the age group 25-29, but the difference between these and the 20-24 age group was small. Once again in the absence of data, the same conclusion cannot be drawn for the year 1956.

4.2 BIRTHS AND FERTILITY IN IRAN

The poor, unreliable data on birth, fertility and other vital statistics for Isfahan and elsewhere in Iran makes detailed analysis impossible. Nevertheless, by using some sample figures of births recorded by the General Department of Civil Registration, it is possible to evaluate the birth rate in Iran, although only approximately.

"The first estimation of the birth rate in Iran is obtained by reverse method. In 1956 the crude birth rate was 49.2 per 1000 according to the said method."⁽⁵⁾ The following figures indicate the various birth rates of Iran in various years in which a survey of census was conducted:

Table 28: Age-specific fertility in
Isfahan City, 1966. *

Age group	No. of Mothers	No. of Births	Rate °/co
15 - 19	20,022	1,902	95
20 - 24	15,904	4,580	288
25 - 29	12,821	2,551	199
30 - 34	12,324	1,738	141
35 - 39	10,607	1,326	125
40 - 44	9,402	451	48

Source: Campbell, B. "Demographic profile of
the Isfahan region," Research Series of
the Department of Urban and Regional Planning,
Paper No.111, Tehran, 1972, p.69.

Fig. 14

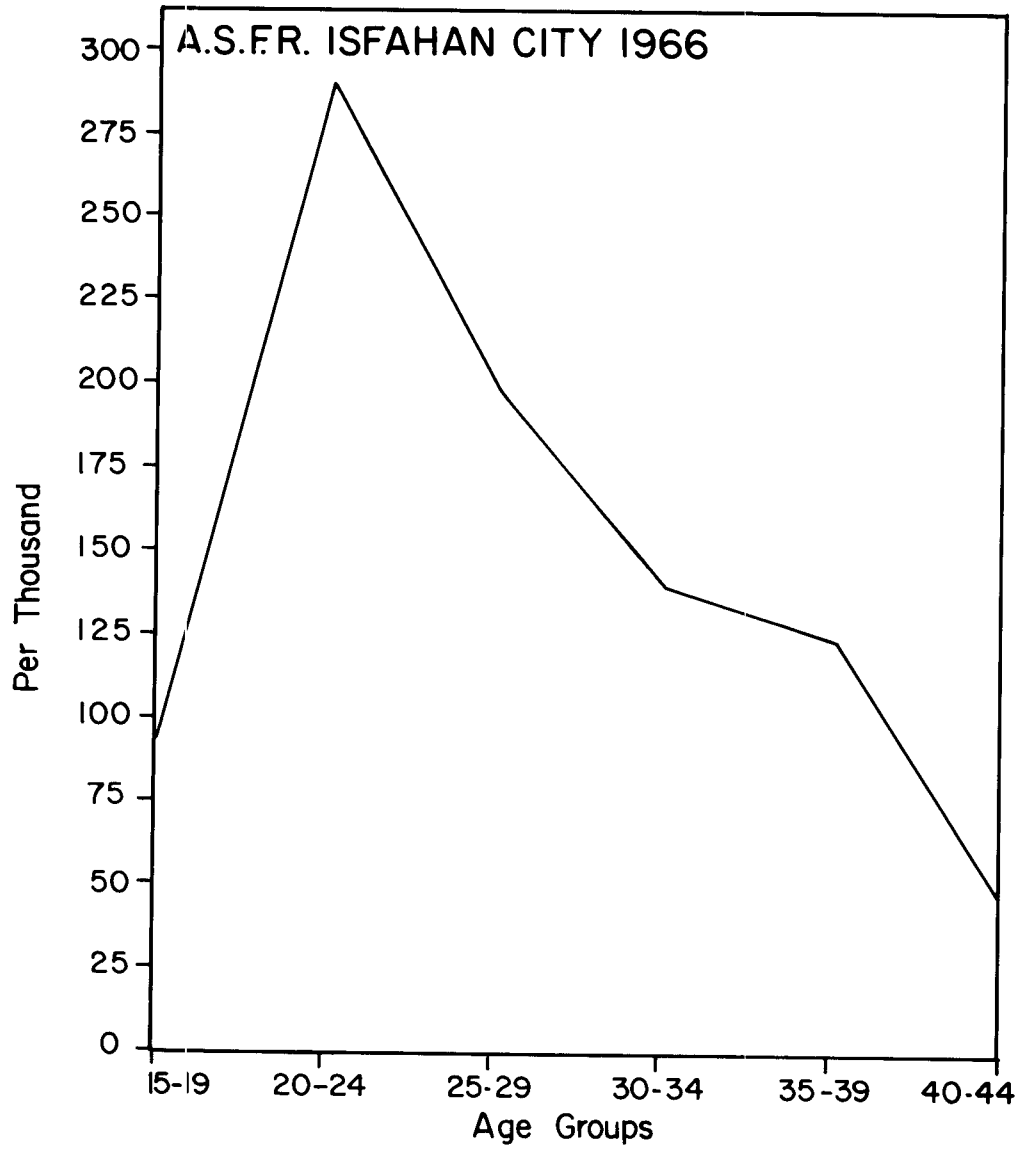


Table 29: Age-specific fertility rates in urban and rural areas of Isfahan Province, 1966 *

Age group	ASFR			ASFR for married women		
	Total	Urban	Rural	Total	Urban	Rural
15-19	43	40	47	85	77	94
20-24	378	351	410	429	396	466
25-29	438	423	455	461	445	477
30-34	367	361	374	386	382	391
35-39	292	283	300	312	307	317
40-44	74	74	74	84	87	82

Source: Amani, M. Birth and Fertility in Iran,
Tehran, 197 , p.30.

* No decimal places are given.

Fig. 15

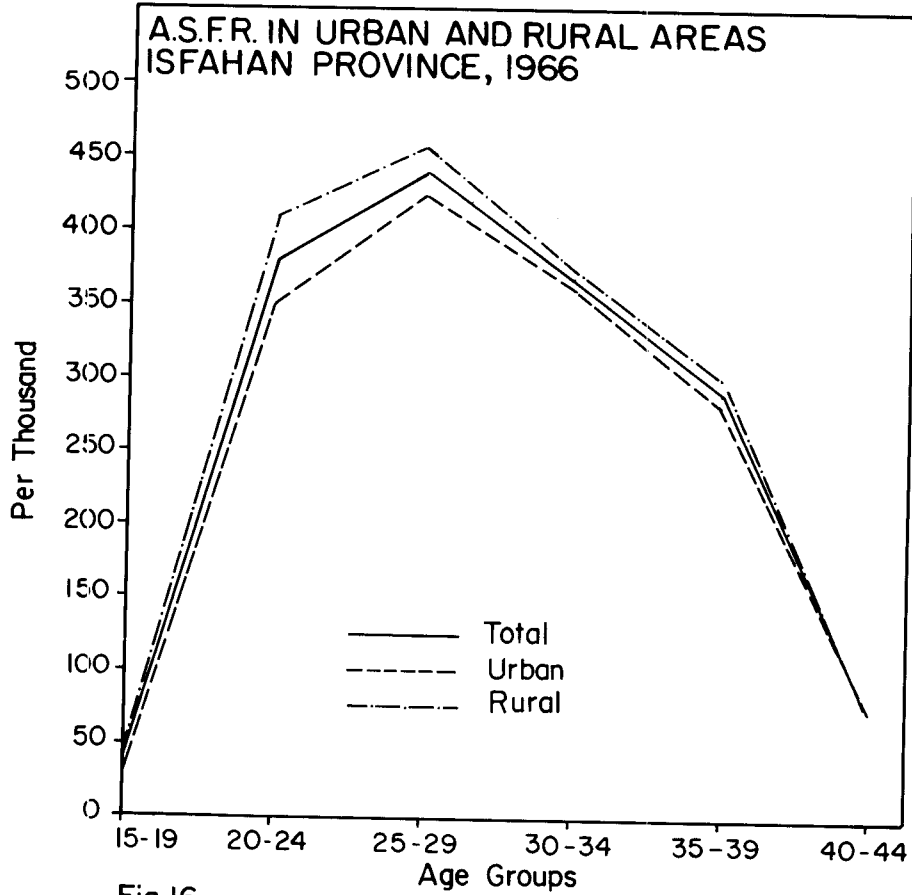
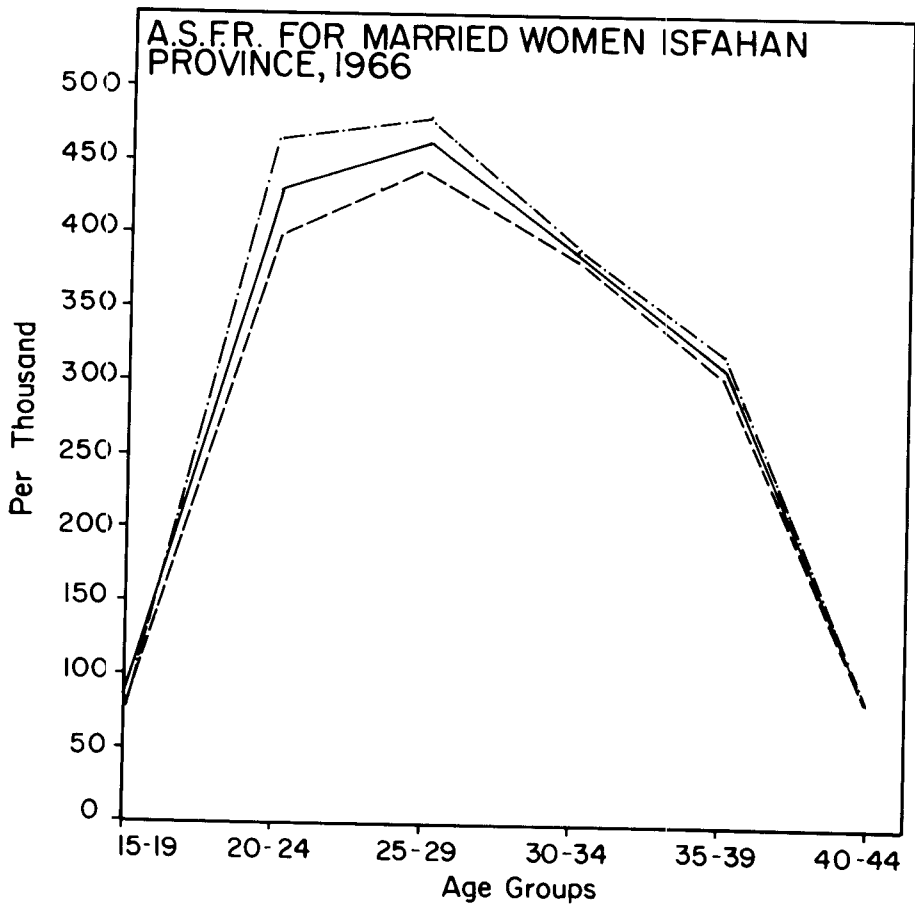


Fig. 16



<u>Year</u>	<u>Birth rate* 0/00</u> (6)
1959	44
1963	41
1964	49
1966	44

* No decimal places are given.

The mentioned figures, no doubt, are below the real rates, but indicate that the birth rate in Iran is high.

According to the calculation made by the Demographic Section of the Institute for Social Studies and Research, the approximate number of births for 1966 in Iran as a whole was 1,239,484, of which 440,263 (35.5%) were born in urban areas and 799,221 (64.5%) in rural areas. Comparing these estimates with the birth reports of the Civil Registration for Iran as a whole, it emerges that, although the estimated figures were greater than the reported ones, the coverage ratios were 88.9⁰/00 for the total country, 82.2⁰/00 for urban areas and 93.2⁰/00 for rural areas.

Table 30 illustrates the estimated birth rates in the provinces and General Governorates by rural and urban areas in 1966. The birth rates in all provinces, both in urban and rural areas were high and some rates were among the highest in the world. Another feature was the small difference between rural and urban areas, although the urban rates were less than the rural. The reason may be the term 'urban' which does not mean only developed urban centres like Tehran, but also very small towns. "In some areas such as Kohkiluyehand Roveirahmad General Governorate, the birth rate is as high as 60 per thousand, which is one of the rarest in the world." (7)

Age-specific fertility rates and age-specific fertility rates for married women became available by the survey of the University of Tehran

Table 30: Estimated birth rates in the Province and Governorates by rural and urban areas in 1966, per 1,000 *

Province and Governorates	Area	Total	Urban	Rural
Central Province		46	43	53
Gilan		49	43	51
Mazandaran		51	46	53
East-Azarbayijan		50	46	51
West-Azarbayijan		52	45	54
Kermanshahan		50	44	53
Khuzestan		51	49	54
Fars		51	47	54
Kerman		50	45	52
Khorasan		49	45	51
Isfahan		48	46	50
Sistan - Baluchestan		52	47	53
Kurdestan		48	42	50
Hamedan		52	46	54
Lorestan		55	49	57
Persian Gulf Ports & Isles		49	46	50
Chaharmahal-Bakhtiary		51	49	52
Oman Sea.Ports & Isles		49	44	50
Semnan		47	44	49
Kohkiluyeh-Boveirahmad		60	49	61
Ilam		53	51	54
Country total		49	45	59

Source: Amani, M. Birth and Fertility in Iran, Tehran, 1971, p.13.

* No decimal places are given.

Table 31: Age-specific fertility rate and ASFR for married women by urban and rural areas and whole Iran, 1966.*

Age group	Rate	A S F R			A S F R for married women		
		Country total	Urban	Rural	Country total	Urban	Rural
15-19		45	37	50	99	95	102
20-24		375	322	413	443	403	468
25-29		394	365	411	418	399	430
30-34		355	335	367	375	361	383
35-39		291	261	312	313	286	329
40-44		82	77	84	93	91	94

Source: Amani, M. "Birth and Fertility in Iran,"
CENTO Seminar on Clinical and Applied Research,
 1971, p.16 .

* No decimal places are given.

(see Table 31). These rates for Iran as a whole, urban and rural areas vary both from zone to zone and from age group to age group. As is clear from Figure 17, the curve for rural areas does not follow the general form of the whole figure and has its peak on the 20-24 age group, because of early marriage age in rural areas.

As for Isfahan, the A.S.F.R. for married women in the urban zones were lower than those for rural areas. By comparing Figure 17 with Figure 18, it can be easily recognized that the shape of these two illustrations are not the same. As Figure 18 shows, the peak rate for the A.S.F.R. for married women was among the age group 20-24 in all zones, while Figure 17 shows the same peak for A.S.F.R. in urban zones and Iran as a whole belonged to the age group 25-29, while for rural zones it was 20-24. The most common age for marriage (the age group 20-24) and the desire of having the first child soon after marriage, caused the shape of Figure 18 and made it different from Figure 17, the latter being total women without considering their marriage status.

In order to obtain a comparison on birth and fertility, Tehran, as one of the few cities in Iran to have seriously surveyed its fertility and child bearing functions, will be mentioned. For this reason, the research on fertility of married women in Tehran in 1966 by the Department of Demographic Studies of the Institute for Social Studies and Research of the University of Tehran has been chosen. This survey (see Table 32) shows the same rates for four rural zones also. Although they do not mention the name, location, or any other specific information about those rural areas, it seems that they have picked four very typical Persian villages for this survey, which interestingly makes the comparison possible.

According to Table 32 the rates for both Tehran and its rural areas were roughly the same up to the age of 24, while they differ progressively from the age group 25-29 onwards. "The global rate of actual fertility

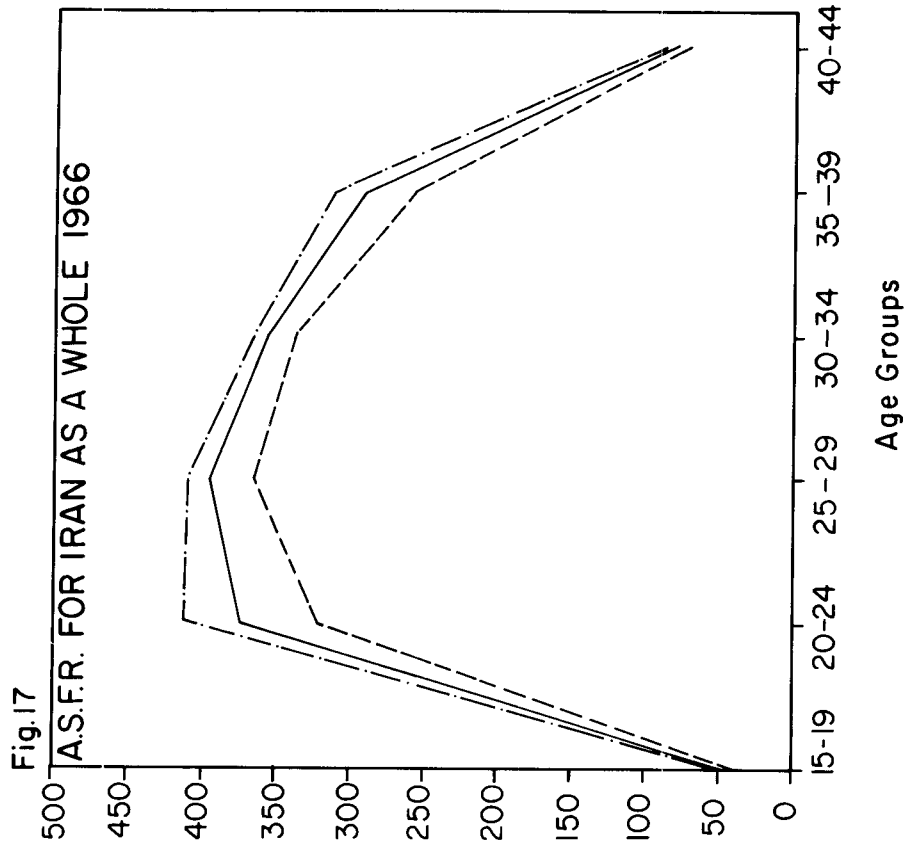
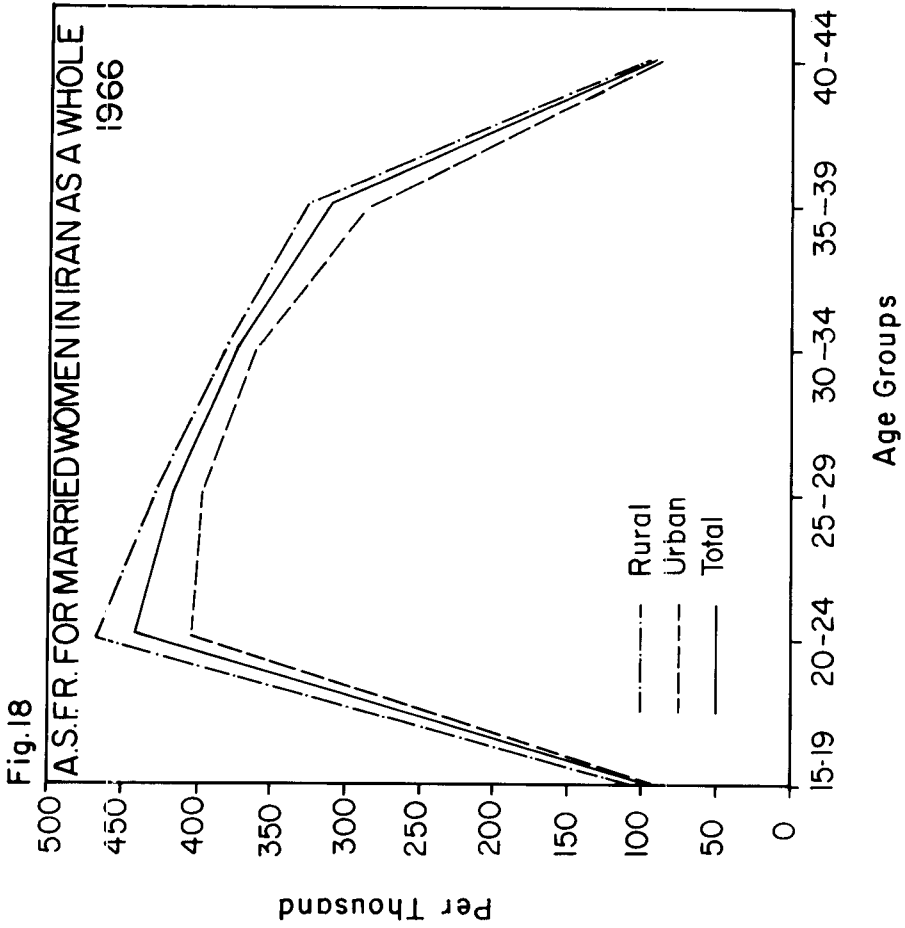


Table 32: A.S.F.R. For Tehran and four selected rural areas, 1966*

Age group	Four selected rural areas	Tehran
15-19	82	45
20-24	360	360
25-29	359	300
30-34	295	210
35-39	227	150
40-44	99	60
15-44	295	210

Source: Amani, M. Review of the Demographic Situation of Iran, Tehran, 1971, p.12.

* No decimal places are given.

of Tehran is approximately 30 per cent less than that of the villages, but is still in spite of that, very high in comparison with that of the developed countries."⁽⁸⁾ (See Figure 19).

4.3 FAMILY PLANNING IN ISFAHAN

As the three National Censuses of Iran show, the population of Iran has increased from 18.9 million in 1956 to 25.1 million in 1966 and 33.1 million in 1976. This rapid growth, nearly 2.7% per annum, may be related to the fast declining mortality rate in Iran, especially infant mortality, and also the high birth rate. Iran's population shows a large young component, nearly 50% of the population being less than 19 years old. The general picture of marriage in Iran shows a tendency to early marriage, which affects the fertility and therefore birth rate. Moore, Asayesh and Montague⁽⁹⁾ give the average number of live births at 7 per woman during their child bearing years.

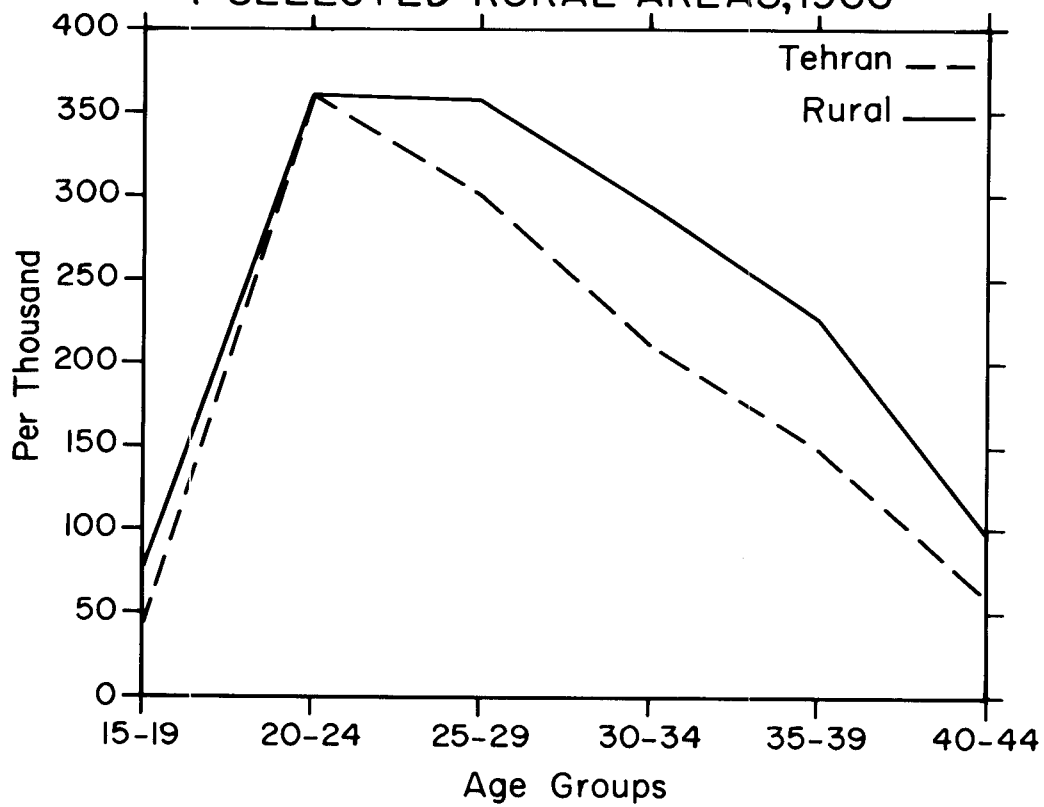
Due to the lack of any national programme on family planning and the recognition of future danger of the well-being of the population of Iran, the Iranian Government requested the advice of Population Council in 1966. A special urgent policy of family control was suggested and accordingly the Government inaugurated a family planning programme by the end of 1966. The Ministry of Health took the necessary action.

On the whole, the main aims of the programme can be summarised:

- (1) Secure social welfare.
- (2) The reduction of deliberate abortion.
- (3) To balance the age structure by decreasing the number of children.
- (4) To correlate population and per capita income.

So far, family planning activities in Iran as a whole seem to have been rather successful. The Ministry of Health, which runs the whole

Fig. 19
ASFR FOR TEHRAN AND
4 SELECTED RURAL AREAS, 1966



project, has reported the achievement of 95% of the major goals of the 4th Development Plan (1968-1973). Nearly half of all the health centres and family planning clinics are established in the rural areas with the aim of encouraging couples in the less developed parts of the country to reduce the size of their families. The Ministry of Health controls the majority of family planning clinics, but there are other private or semi-private bodies and agencies running many other centres. They can be listed as:

1. Imperial organization
2. Education Institutes
3. Universities
4. Social Insurance Organizations
5. Imperial Armed Forces
6. National Iranian Oil Company
7. Women's Organizations
8. Red Lion and Sun Society
9. Charitable Organizations
10. Other organizations.

The finance for the programme, unlike some other countries, is mostly provided by the Iranian government and has received only a little external assistance, from the Population Council. The increasing family planning activity in Iran requires increased aid. "In 1968-9 nearly U.S. \$1 million were allocated to the programme while for the financial years 1970-72 it was increased to U.S. \$4.6 millions,"⁽¹⁰⁾ and "... in 1974 it was close to 15 million dollars."⁽¹¹⁾

Considerable work has been done on both research and K.A.P. studies related to family planning activities and progress in Iran and the

government is going to increase the amount of research within the coming 5 years. Much field work, including questionnaires, has been done in various parts of Iran. The results of the most of it show a considerable increase in the use of contraceptives amongst Persian couples, although there was always a noticeable number of dropouts who, for various reasons, stopped using the contraceptives. Table 33 shows the number of patients who visited family planning clinics in Iran from 1967 up to 1970. The actual number of acceptors by the year 1970 has been reported to be near 346,500, while 215,100 people were estimated to be currently using⁽¹²⁾. The pill acceptors have been reported by the Ministry of Health in 1970 approximately 80% of the total acceptors. The I.U.D. did not seem to be very popular, because of doubt of its efficiency. Acceptance of sterilization in Iran is very rare, as in many other developing countries, except India. This is due to several factors, among which religious disagreement, the supply of labour force in the family, high infant mortality, and old-age security of parents can be mentioned.

In 1969 "... the number of sterilizations performed in Iran was less than 1000⁽¹³⁾, but in Shiraz, the centre of Fars province, according to a sample survey by Pahlavi University in 1975, sterilization seemed to have been increasing since 1965. The records of two hospitals in Shiraz, where sterilizations are performed, can be thought as reliable evidence (see Table 34). The major reasons for wanting the operation have been given as too many children and medical reasons. According to sample results taken in 1974, the most common age for women to accept the operation was 30-34. On the whole, "sterilization in Iran, especially male sterilization, has not received much attention outside health circles. Many believed, without good evidence, that Iranian men will generally refuse to consider vasectomy as a mean of fertility control."⁽¹⁴⁾

Table 33: Patients attending Family Planning Clinics, Iran 1967-70.

Year	Total Patient	New patient
1967	313,348	130,355
1968	568,443	142,781
1969	1,521,859	293,731
1970	1,401,738	262,272

Source: Carr, M. Family Planning Programmes of the Middle East and North Africa, M.A. Dissertation, Durham, 1973, p.33.

Table 34: Annual incidence of 419 Female Sterilizations performed in two hospitals in Shiraz, Iran.

Hopsitals	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Total
Namazee	5	2	3	6	9	2	61	33	4	-	125
Saadi	-	-	-	1	2	4	14	86	106	81	294
Total	5	2	3	7	11	6	75	119	110	81	419

Source: Bolandgray, A. and Zimmer, S. A study of 419 cases of Female Sterilization in Shiraz: Implication for family planning, Pahlavi University, Shiraz, 1975, p.5.

In order to stress and increase knowledge of family planning activities among the population of Iran, the Government added teaching programmes for high school students as well as those in universities since 1967. The White Revolution Corps (created in 1963 and numbering four, Health, Literacy, Development and Women's Corps) plays one of the most important parts in the family planning activities, by informing rural people about family planning and sending them to the family planning centres. "One thousand members of women's corps have received training and are acting as motivators in family planning clinics, mainly in provincial centres, and in 1970, the women's corps for family planning was created." (15)

The nationwide programme of family planning, like in other parts of the country, was introduced in Isfahan City in 1969. In this part an attempt has been made to give a clear picture of this programme in Isfahan City.

Media availability and audience in Isfahan, like many other large Persian cities, is developing. At any time two radio channels, Radio Isfahan and Radio Iran, can be heard. One television transmission station broadcasts programmes originating in Tehran. The two most famous daily papers of the city (and also of the rest of the country) 'Keyhan' and 'Ettelaat' are available every day published in Tehran and in Isfahan. They include one extra page which has local news, and their price is relatively low, 10 Rials each (nearly 8 pence). They both have a considerable circulation, for example, in 1975 of nearly 8,000. Besides these two, there are other daily papers and also assorted magazines, which are either published in Tehran and then transported to Isfahan, or published locally in Isfahan. The most popular weeklies are Zan-e-Roz and Ettelaat Banovan, both women's weeklies. Moreover, of the 14 cinemas in the province of Isfahan, 12 are located in Isfahan City, with a total seating capacity of 13,000.

Lieberman, Gillespie and Loghmani,⁽¹⁶⁾ give the following percentages indicating the popularity of Mass Media in Isfahan City and its effect on people's knowledge about family planning in Isfahan City in 1970.

Radio: 75% listened and 65% owned a set. 36% preferred to listen to the Isfahan station programme and 64% to Tehran. From the various programmes, news and plays were more popular. In total 27% had heard family planning information on the radio, even before the campaign.

T.V.: only 12% owned a set, and 36% watched once in a while.

Movies: only 28% went to movies, 31% weekly, 16% monthly and 53% sometimes. The question has been asked about the advertisements of these, only 23% remembered advertisements with music, 11% all the advertisements, and 6% the colourful ones.

Newspapers: out of all the total population 33% were able to read newspapers and of those 73% actually did. 34% read weekly, 29% monthly and 37% every day. The most popular daily was Keyhan. 44% reported to read the news, 24% all sections and 32% traffic accidents. The rest of daily readers did not mention specific interests. Of illiterates, 22% had the news read to them. On the whole, 14% of the total population of Isfahan had read something about family planning in the newspapers.

In general, "... those living in the City of Isfahan were the most exposed to radio, T.V., newspapers and movies, and also were more likely to have heard about family planning through these sources."⁽¹⁷⁾

4.3.1 Family Planning Activities in Isfahan

In Isfahan City family planning activities since 1966 "provided pills and condoms in 54 health stations, 1 hospital and 3 Social Insurance Organization Clinics."⁽¹⁸⁾ Table 35 shows the number of contraceptive acceptors from 1969 to 1974.

Table 35: Contraceptive Acceptors, Isfahan City, 1969-1974

Year	Total	Pill	%	I.U.D.	%	Condom	%	Sterilization	%
1969	34,874	32,995	94.6	356	1.1	1,523	4.3	-	-
1970	64,536	58,423	90.5	646	1.1	5,467	8.4	-	-
1971	77,627	69,930	90.1	781	1.1	6,916	8.8	-	-
1972	83,918	69,952	83.4	2,424	2.9	11,356	13.5	186	0.2
1973	104,554	83,890	80.2	1,612	1.5	18,638	17.9	414	0.4
1974	161,979	123,637	76.3	3,224	2.0	34,472	21.3	646	0.4

Source: Ministry of Health, Family Planning Unit.

During 6 years (1969-1974) the pill acceptors comprised the highest percentage, as it is clear from the table, although this was reducing. The next most popular contraceptive method after the pill was the condom. This group of acceptors was gradually increasing. I.U.D. users did not have significant percentages, possibly because of the belief that the I.U.D. gives less protection against pregnancy. There were no reports of sterilization among the family planning acceptors until 1972 in Isfahan City. Since then a very small portion of family planning acceptors were sterilized and the number is gradually increasing.

Lieberman, Gillespie and Loghmani found that "Most of the women learned about contraceptives as a result of talking with friends and neighbours, 47%, 40% from 43 Health Corps Girls, 8% from Health Corps Teams and 5% from other sources. About 15% of the women mentioned more than one source of information."⁽¹⁹⁾ They also found that women are more aware of contraceptive methods than men. As a result of interviews with spouses resident in Isfahan City in 1970, they found that half of those interviewed had relations or friends who had practiced at least one sort of contraception. Nearly half of the interviewees had used a method; most mentioned pills, the next method after the pill being the condom and a very few used the I.U.D. The most often mentioned, so most popular method, was withdrawal. This kind of contraception was placed even before the pill. There is no mention of withdrawal in the reports gathered from the Ministry of Health because all the information they gave was based on their patients who use some kind of medical contraceptive.

On the whole, however, the knowledge of those interviewed about contraceptives varied according to their age, occupation and education, as well as their place of resident. This varied from the upper class area of the city to the middle and lower classes and from urban areas to rural.

There were other variables such as ownership of goods, and number of children, which affected the knowledge of the respondents about contraceptives. The evidence shows that the use of any method was relatively rare among people with low education, especially uneducated. From the contraceptive use point of view the Isfahan population can be divided into three groups⁽²⁰⁾: (a) peasants, (b) workers and shopkeepers, and (c) the modern types - teachers, army and government employees and doctors, where the extent of practice varied. Between different parts of the city itself and between the rural area and the urban, knowledge and practice of contraceptives differed. The upper class area of Isfahan City with richer residents showing more contraceptive use on the whole. The reason is probably easier access to communication facilities and higher education. The middle class area is placed after the upper, and the low class area last. The inhabitants of the rural areas surrounding Isfahan City had less knowledge and therefore practised less family planning. The lack of education, the need for more children as a labour force for the future, and also the remoteness of the areas and lack of good roads to the City, caused less communication and can be mentioned as the major reasons. In other words, "desire for a large number of children, in the hope that some will survive and be able to support their parents in their old age, is widely assumed, with good reason to be a pronatalistic factor in such countries as Iran."⁽²¹⁾ The idea that God wills a certain number of children still exists. Fear of infant mortality, especially among the villagers also exists and affects the frequency of pregnancy.

There are more variables which directly affect the use of contraceptives, although they have often been ignored, including the desire for one sex of children, and the influence of the mother-in-law and especially the husband's close family and relatives (who might discourage or

encourage the use of contraceptives).

"The biggest problem in the whole family planning programme is that a significant proportion of women who accept contraceptives and give them up after a while."⁽²²⁾ Sarram in his survey of the major reasons of drop-outs among the acceptors in Isfahan City in 1971, which is based on a small sample of 100 women lists the following reasons to be the most important:

1. The lack of a special pill in the family planning centre.
2. The great distance of the acceptor's residential area to the centre.
3. When the women came, the centre was closed.
4. Rumours that the pills were not free any longer.
5. Rumours that the distribution of pills was stopped by Government (which was obviously not right).
6. Disagreements with the staff in the family planning centre.
7. The loss of membership cards.
8. Because of the male doctor.
9. The women or her husband went on a trip.
10. Because of the advice of another doctor.
11. Because she or her husband wanted another child.
12. The fear of any kind of illness that it is rumoured can be got.
13. The fear of reducing the amount of milk, after having a new child.
14. The fear of getting fat!
15. The negative advice of some religious people.
16. The occurrence of illness subsequent to use of the pill.

The lack of knowledge and also the deep desire of the acceptors for constant use of the methods is not mentioned.

4.3.2 The Model Family Planning Project in Isfahan

In the period 1972-74 the Isfahan Family Planning Model which was based on previous family planning activities in Isfahan and Iran was run in two urban districts close to Isfahan City called Najafabad and Shahreza. The major approaches were: "(1) a clinic-based approach to utilize all medical and paramedical personnel during both their private and public 'government supported' practice, (2) a community-based approach to supply condoms and pills through public depots and commercial sources, (3) the employment of full-time family planning field-workers to make home visits and to hold group meetings, (4) the utilization of functionaries 'or local community agents' to recruit contraceptive acceptors on a part-time basis, and (5) the use of mass communications to educate the public on contraceptive use, child spacing, family size and population concerns"⁽²³⁾

The aim was to determine if a combination of all these approaches could increase the number of acceptors, if any of the approaches were more effective than others, and if such a project would serve for wider area in Iran. The only contraceptive services which were active at that time in the area were two family planning clinics in Najafabad City and a mobile unit which visited nearly twenty villages every month in Shahreza Shahrestan. Nearly all the doctors and nurses in the two Shahrestans were invited to participate in the project. "In each Shahrestan, the mobile unit was staffed with a nurse-midwife who could insert I.U.D's, a trained field-worker, and a driver, and was supervised by a doctor at the Shahrestan Health Department."⁽²⁴⁾ For encouraging couples to participate, full-time family planning field-workers were engaged in educating and improving people's knowledge on family planning and contraceptives. The mass media were also employed. Short films, various discussions in newspapers, magazines and on radio, exhibitions in parks

and public places, were all trying to sell the slogan "The best is, two or three children " in the area.

The project was fairly successful and now is being slowly expanded to various areas very similar from the socio-economic point of view, to Najafabad and Shahreza. The increase in the percentage of married women aged 15-44 who were using one of the contraceptive methods, from 6.2% to 21.2% is good evidence of the desire of couples for family reduction. In other words, activities of the Isfahan Model Family Planning Project changed the old idea of a large-sized family and by increasing the knowledge of the people of family planning increased the number of contraceptive acceptors.

So far, the family planning programme in Isfahan, or in other words, in Iran as a whole, has made some progress, although it needs further development. Family planning activities have a very strong and close link with national health and its activities, and the increase in the number of health centres is correlated with the contraceptive and family planning programme. In this context, Isfahan City is an important part of the development of family planning activities.

Because of the rather new characteristics of the programme in Iran and Isfahan, the number of trained personnel is not sufficient. To have a sufficient number of trained personnel, the programme needs to concentrate on this aspect which may need foreign aid from more developed countries.

Nevertheless, as the aim is to control the population explosion, great attention has been paid to the rural areas, where large families are more common than in Isfahan and other larger cities.

4.4 RELIGION AND FAMILY PLANNING

In general, Islam supports marriage and large numbers of

children. In many passages in the Koran strong promises of happiness and beatitude are given to those who get married and have children such as: "Unite in matrimony to increase your generation." But it should be mentioned that most of the enlightened religious leaders who have been interviewed by the famous newspapers of Iran about family planning, did not have any strong opinions against family planning in principle.

Many of the I.U.D. acceptors do not let a male doctor insert them. They usually ask for a woman. Persian modesty and at the same time religion, can be put forward as the major reasons. A significant number of new acceptors do not start using the methods before asking the 'Mulla' (religious man). This happens mostly in the rural areas. There is not very much other evidence of the relationship between religion and contraceptives, but on the whole the conclusion can be made that religion is not a strong barrier against family planning activities in Iran.

4.5 CONCLUSION

Due to the poor, untrustworthy data, a reliable and specific survey on birth and fertility was not possible. The erroneous nature of vital statistics in Iran can be attributed to the social characteristics of the country, where Isfahan City is no exception. Nevertheless, by using some sample figures, recorded by various surveys and trusting the given estimates of births and fertility from the Department of Civil Registration, an attempt has been made to explain the trends of fertility in Isfahan and Iran as a whole.

As it is clear through all the figures, although not very correct, Iran as a whole showed a very high birth rate. However, in some of the large cities like Isfahan and Tehran, the birth rate was not as high as in many other zones.

Although "sterility is a social disgrace for women, the rural population in particular treats this matter seriously,"⁽²⁵⁾ and much evidence shows that women, even at the cost of their lives, will attempt to become fertile and have children, the Government of Iran, in order to reduce the many growing demographic problems, decided to have a family planning programme in 1969. The ignorance of the population about this programme and also customs and traditions, economic and social barriers, were the first major problem which retarded the development of the programme. But "No great thing is created suddenly, says Epictetus. More knowledge and experience is needed to hasten progress. It is hoped that soon the National Family Planning programme in Iran will be seriously accepted by the people, and the high birth rates will reduce. This is necessary to achieve a high level of education for the people and serious reforms of some of the socio-cultural characteristics of the population.

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CHAPTER V

FAMILIES AND HOUSEHOLDS IN ISFAHAN

5. INTRODUCTION

Although, during the last 10 to 15 years the evolution of the nature of the Persian families has been slow and imperceptible, there has been a definite change in its characteristics. "The modernization process, as expressed and measured by industrialization, urbanization and universal education, has been a dynamic force in changing the structure and functions of family organization."⁽¹⁾ In large cities, the more developed parts of Iran, educated women are more likely to be employed and marriage tends to be postponed. "Traditionally the family form in Iran was what the sociologist might call an extended family. Today several transitional family structures exist side by side."⁽²⁾ Young married couples these days leave their parents' house and start their new small families separately, and at the same time, by adopting many aspects from the west, they lend a new colour to the structure of the modern Persian family. This recent trend is more common in urban than in rural areas where families still continue to follow the traditional extended patterns.

Once again, due to unreliable data, a very exact survey is not possible on this subject. The only data available are the results of the three National Censuses of Iran (1956, 1966, 1976). In an Iranian Census a household "... includes all persons regardless of their relationship to the household head who are living together in one dwelling unit. Thus a household may include the head, his wife, children, parents or other relations and any lodgers or servants who live in the same housing unit with the family."⁽³⁾ Nevertheless, in every family-household analysis

in Iran, "... the meaning of family and household are virtually interchangeable." (4)

5.1 COMPOSITION OF THE FAMILY IN ISFAHAN

The information about the household in the 1956 Census contains only the number of members in the families classified under the headings (see Table 36a). For the first time the National Census of Iran in 1966 indicated, in some detail, the structure and composition of the household in Iran. This census lists five distinctly identifiable categories of the household:

- A. A. A married couple without children.
- B. A father, mother and unmarried children.
- C. A father, mother and married children, but no grandchildren.
- D. A father, mother, married children and grandchildren.
- E. All others.

In Isfahan City the composition of 'extended traditional' and 'new nuclear' families forms the structure of the households. "In Isfahan Shahrestan 3.2% of the total families were extended families." (5) As in 1966, this type of the family formed 3.1% in urban zones of Iran and 5.7% in rural areas, it is evident that the Isfahan Shahrestan fell near the average of the urban group, while Isfahan City had only 2.9% out of the total families under this category. According to Table 36b, Isfahan's families in 1966 mostly fell into the category B, (73.1%), although this feature was not clear for the year 1956.

The median size (6) of the family increased in Isfahan from 3.8 in 1956 to 4.2 in 1966. Although this increase is not as high as it was in the case of Iran as a whole, it shows the trend of the families towards a larger size which could be due to the evolution of the economy, and the

Table 36(a): Household sizes in Isfahan City, 1956

Household size	Total household	%
Total	54,676	100.0
1	3,902	7.1
2	7,951	14.5
3	8,280	15.1
4	8,616	15.8
5	8,266	15.2
6	6,952	12.7
7	4,918	9.0
8	2,841	5.2
9	1,540	2.8
10	1,410	2.6

Source: First National Census of Iran, 1956,

Vol. 4, p.34.

Table 36(b): Total households by size and type of household in Isfahan City, 1966

Size of Household	Total	%	A	B	C	D	E
Total Household	86,973 100%	100	10,433 12.0%	63,588 73.1%	1,190 1.4%	2,523 2.9%	9,239 10.6%
1	5,418	6.2	-	-	-	-	5,418
2	11,195	12.8	8,117	1,104	52	-	1,922
3	11,113	12.7	1,412	8,675	135	25	866
4	12,782	14.7	491	11,507	149	159	476
5	13,152	15.1	189	12,273	171	263	256
6	12,397	14.2	95	11,642	175	343	142
7	9,534	11.0	64	8,835	169	385	81
8	5,869	6.7	37	5,262	138	402	30
9	3,017	3.8	16	2,572	90	319	20
10	2,496	2.8	12	1,718	111	627	28

A = Married couple,
no children

B = A father, mother and unmarried
children

C = A father, mother, married
children, no
grandchildren

D = A father, mother, married
children, grand-
children

E = Others

Source: Second National Census of Population and Housing of Iran,

Isfahan Shahrestan, 1966, Vol. 24, p.42.

industrialization of the Isfahan region.

The very first (and not yet complete) results of the last National Census of Iran in 1976 mention three different types of households in Isfahan City: nuclear, extended, and mobile households. Nearly all of the 140,592 Isfahanian households were nuclear (99.9%); only 25 were extended and 35 mobile. Compared with 10 years ago, in 1966 it is clear that the extended form of household is disappearing. Obviously the modern form of life in large cities, very similar to the western form, does not fit in very well with the traditional form of household in Iran. Nevertheless, except for a handful of large households which still exist in large Persian cities, the mode is for very small ones, consisting of 'a father, mother and their children' and one or (rarely) two servants.

Looking at the form of household in the other cities in Isfahan Shahrestan (census district), it is clear that hardly any extended households exist except in Homayonshahr and Meymeh, where there were only three in 1976 (see Table 37). Even in rural areas in Isfahan Shahrestan, out of a total 35,433 households, only 11 were extended and 6 mobile.

Behnam⁽⁷⁾ has attempted to prepare a list of types of families in various zones of Iran, urban, rural and tribal, and suggests different classifications. The main criteria which he has taken for the new division are various socio-demographic characteristics, which directly or indirectly affect types of family, factors like education and literacy, mate selection practices, dependence on or independence of the wider family circle, women's position, financial dependence or independence of the family and social obligations.

Under the category of 'urban' he includes the following four types:

Table 37: Households in Isfahan Shahrestan, 1976

Cities	Nuclear	Extended	Mobile
Homayonshahr	13,461	1	-
Khorasaghan	6,233	-	-
Rehnan	3,698	-	-
Dolatabad	2,282	-	-
Jaz	2,324	-	-
Hakiebabad	1,234	-	-
Shahenshahr	2,267	-	-
Khorzoogh	1,245	-	-
Dastegered	2,107	-	-
Varzaneh	1,129	-	-
Kohpayeh	420	-	-
Meymeh	854	2	-
Vazvan	810	-	-
Harand	878	-	-
Koshkeh	1,067	-	-
Dehno	1,233	-	-
Rural Area	35,433	11	6

Source: National Census of Iran, 1976.

A. Independent conjugal family without additions.

For this type, he thinks of special kinds of families who have as their head a member of the upper class or the 'free professions'; they are financially independent and in this conjugal unit man and wife live as equal beings.

B. Independent conjugal family with additions.

In this unit old parents live temporarily with married couples. The family finance is supported by the income of both husband and wife. Sometimes there are unmarried sisters or brothers who live with the family and therefore their income assists the family's budget.

C. Extended patri-central families.

As was often usual, formerly married sons, or at least the older married sons, live with their parents and extend the size of the family. In an extended patri-central family, father and mother live with their married children (usually their son) and their grandchildren. Authority belongs to the parents (mainly father) and the son helps the family with his income. In this unit the social obligations are very heavy because it is such a large size.

D. Conjugal independent immigrant families:

As large cities attract people from other zones, and migration occurs, such a family structure becomes understandable. They are very often the workers and employees of the industrial complexes and are financially independent.

By surveying the given types of families in Isfahan, as a large industrialized city with many migrants, it may be assumed that the frequency of categories B (independent conjugal families with additions) and D (conjugal independent immigrant families) is greater. The number of

Table 38: Distribution of households by size according to the Head's employment in Isfahan City, 1966

Household Size	Head of family Total		Employer		Free Profession		Government Employees		Manual Labourers		Not reported	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total	72,036	100.0	4,237	5.9	19,659	27.3	9,680	13.4	38,142	53.0	318	0.4
One Member	2,690	100.0	60	2.2	458	17.0	356	13.3	1,795	66.7	21	0.8
Two-Four Members	27,964	100.0	1,327	4.7	6,776	24.2	3,590	12.8	16,141	57.8	130	0.5
Five-Seven Members	31,367	100.0	1,967	6.3	9,066	28.9	4,365	13.9	15,846	50.5	123	0.4
Eight + Members	10,015	100.0	883	8.8	3,359	33.5	1,369	13.7	4,360	43.6	44	0.4

Source: Greater Isfahan, Survey and Study on the Composition of the Urban and Rural Household, Organic Engineering Consultants, 1967, p.46.

married couples who moved to Isfahan which was greater after the steel mill started production in 1966, may be thought as the increase of the type of family categorized under division D (conjugal independent immigrant families). Once more, due to the lack of the data for 1956, these classifications have not been studied for Isfahan City or other zones in Iran.

Household size differs substantially according to the variations in income, in other words according to employment status of the head. As Table 38 illustrates, in 1966 53.0% of the total numbers of heads of households in Isfahan were manual labourers, who constructed 66.7% of the single person households, but smaller proportions of larger households; the percentage decreased to 43.6% of the households with 8 and over persons. Those households whose heads were government employees comprised 13.4% of the total and this did not change with the size of household. The 'free profession' had 27.3% of the total households and their frequency increased in relation to the increasing size of the household. The same increase applied to the range of the households whose head was a manager or employer. This group had the highest frequency in the households who had 8 and more than 8 members. It has to be mentioned here that the term 'household' means not only the family, but all the people who share the house, the food and the income. Therefore the number of the house workers and servants has been included in this category, and one of the main reasons for the large households under the classification of 'Managers and employers' is the number of house workers and servants.

It is evident that the size of the households has a direct relation to the income of the family. As Table 39 shows, in 1967 the lowest income belonged to households who have only one member (average Rials 1000 or U.S. \$125), and with the increase in the income, the size of the household grows, where households of 10 persons on average earn

Table 39: Distribution of households according to their size and income per month in Isfahan City, 1967.

Family size Income per month	Family size									
	1	2	3	4	5	6	7	8	9	10
Total	4,489	10,406	11,564	15,712	14,079	13,934	10,952	6,189	3,196	2,380
Less than U.S. \$125	2,313	747	544	476	476	136	68	68	-	-
125-250	1,020	3,673	2,925	2,653	1,496	1,224	1,224	340	-	-
250-375	204	2,041	2,517	3,809	2,721	2,653	1,769	476	408	204
375-490	544	2,041	2,245	3,469	3,877	3,469	1,973	1,156	340	136
500-624	136	612	952	1,428	1,224	2,041	2,177	1,224	476	136
625-937	204	864	1,565	1,973	2,313	2,371	2,177	1,565	884	612
938-1249	-	68	544	408	680	816	476	612	476	544
1250 +	68	204	204	1,428	1,156	1,088	1,020	680	612	680
Did not report	-	136	68	68	136	136	68	68	-	68

Source: Greater Isfahan, Analysing the Income and Expenditure of Households, Organic Engineering Consultants, 1967, p.20.

Rials 8,000 or U.S. \$1,000). Although there is a direct relation between the size and income of the household, there is a reverse connection between the size and the income of the household per person. The estimation of the income per person shows that the highest individual incomes are those households with 1, 2, 3 or 4 members and gradually the increase in the size of income per person decreases in relation to the increase in the size of household.

In rural areas of Isfahan province the difference between the size of households among manual and professional groups is similar to that of Isfahan City. The number of households whose head is a government employee is greater in the one-member household group. These figures usually include the members of the Education Corps or Health Corps who were engaged in the rural areas at the time when the census was taken. The relation between income and size of family applies in the rural areas also. The lowest incomes are in the smallest households (one person households on average earn Rials 562 or U.S. \$70 per month), while the highest incomes go to the largest households (approximately Rials 5,166 or U.S. \$646 per month for ten person households). According to the given figures, once more, the income per person decreases in relation to the growth in the size of the household, which may therefore be considered a uniform characteristic of all Persian households (see Table 40).

5.2 HOUSEHOLDS IN IRAN AND ISFAHAN PROVINCE

According to the censuses, the median size of household in Iran increased over a period of ten years, 1956-1966, as in Isfahan City, from 4.4 to 5.1. The size of household for urban areas in Iran was smaller than that of rural areas in 1956 and also 1966, although they both increased by 1966. These figures were 4.3 for urban areas and 4.4 for

Table 40: Distribution of households according to their size and income per month in Rural Areas in Isfahan Province, 1967

Income per month	Family size	1	2	3	4	5	6	7	8	9	10
Total	Total	920	3,222	6,075	5,524	6,812	6,168	5,248	3,037	2,026	920
Less than U.S. \$125		644	368	736	276	184	92	-	92	-	-
125-249		184	1,565	3,406	2,302	2,486	2,210	1,197	460	92	-
250-374		-	1,013	1,289	1,105	1,565	1,105	1,197	552	552	184
375-399		92	-	368	1,381	1,289	1,289	1,197	276	278	92
500-624		-	92	92	184	644	276	552	184	276	184
625-937		-	92	-	184	368	644	1,013	1,105	552	184
938-1249		-	-	-	-	-	-	-	276	184	184
1250 +		-	-	92	-	276	460	92	92	92	92
Did not report		-	92	92	92	-	92	-	-	-	-

Source: Greater Isfahan, Analysing the income and Expenditure of Households,

Organic Engineering Consultants, 1967, p.26.

rural areas in 1956, and 4.7 for urban and 4.9 for rural areas in 1966 (see Tables 41 and 42). Appendices I and II show the percentages of households with certain size in 1956 and 1966 in Iran by Province.

As the classification of the household types in the 1966 census indicates, in Iran as a whole most of the households can be put under the category B, a father, mother and their unmarried children. There were only 4.6% out of the total households in Iran under Category D, a father, mother, married children and grandchildren, which is called 'extended families' in 1966; this type of family composes 3.0% of urban areas and 5.7 in rural areas (see Table 42).

For further examples, six cities of Isfahan Province will be mentioned. They all had the same median size of household as the urban zone in Iran in 1956 (Table 43), except Nain which had the smallest size (3.5). The median-size of the family increased in all of them by 1966 (Table 44). The most common form of household was the combination of a father, mother and their unmarried children, which had the highest percentages in all of these cities. The extended families did not seem to have a high percentage among all the other types, once more demonstrating the decline of the traditional form of Persian household. Unfortunately no comparable data are available for 1956.

The following points emerge:

- (i) the size of household in Iran is growing, but not rapidly,
- (ii) traditional extended families are not as popular as 20 to 30 years ago,
- (iii) the most common form of household consists of a father, mother and unmarried children.

5.3 CONCLUSION

On the whole, geographically isolated areas with inadequate

Table 41: Number and size of Households in Iran as a whole,
Urban and Rural Areas, 1956

Size of Household	I r a n		U r b a n		R u r a l	
	Number	%	Number	%	Number	%
Total Household	3,985,510	100.0	1,261,372	100.0	2,724,138	100.0
1 person	214,780	5.4	101,686	8.1	113,094	4.1
2 persons	487,829	12.2	169,164	13.4	318,665	11.7
3 persons	649,342	16.3	195,432	15.5	453,910	16.7
4 persons	712,043	17.9	202,907	16.1	509,136	18.7
5 persons	656,516	16.5	191,556	15.2	464,960	17.1
6 persons	516,584	13.0	155,436	12.3	361,148	13.3
7 persons	333,908	8.4	107,494	8.5	226,414	8.3
8 persons	194,299	4.9	64,729	5.1	129,570	4.7
9 persons	102,961	2.6	35,113	2.8	67,848	2.5
10 persons	117,248	2.8	37,855	3.0	79,393	2.9
Median size of household	4.4		4.3		4.4	

Source: First National Census of Iran, 1956, Vol.2, p.124.

Table 42: Size of households in Iran, 1966

Zones	Total	A	%	B	%	C	%	D	%	E	%	Medium Size
Total Country	5,029,320	545,480	10.9	3,671,878	73.0	62,155	1.2	234,104	4.6	515,703	10.3	5.1
Urban	1,960,701	210,395	10.7	1,427,474	72.8	26,458	1.3	60,520	3.0	235,854	12.2	4.7
Rural	3,068,619	335,085	10.9	2,244,404	73.1	35,697	1.2	173,584	5.7	279,849	9.1	4.9

Source: National Census of Population and Housing, "Total Country - settled population", 1966, Vol. 168, p.173.

- A = A married couple with no children.
- B = A father, mother and unmarried children.
- C = A father, mother, married children, no grandchildren.
- D = A father, mother, married children and grandchildren.
- E = Other groups.

Table 43: Number and size of households in cities of Isfahan Province, 1956.

Size of Household	ARDESTAN		FARIDAN		NAIN		NAJAFABAD		SHAHEZA		GOLPAYEGAN	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total	1,135	100.0	741	100.0	1,228	100.0	6,817	100.0	5,940	100.0	2,477	100.0
1 person	89	7.8	58	7.8	146	11.9	458	6.7	248	4.2	135	5.5
2 persons	181	16.0	103	13.9	246	20.0	1,038	15.2	798	13.4	286	11.5
3 persons	25	2.2	106	14.3	223	18.2	1,064	15.6	884	14.9	288	11.6
4 persons	243	21.4	122	16.5	198	16.1	1,123	16.5	1,001	16.9	403	16.3
5 persons	211	18.6	123	16.6	161	13.1	1,041	15.3	879	14.8	381	15.4
6 persons	192	16.9	96	13.0	118	9.6	869	12.7	774	13.0	318	12.8
7 persons	115	10.1	71	9.6	75	6.1	590	8.7	624	10.5	302	12.2
8 persons	48	4.3	30	4.0	44	3.6	332	4.9	377	6.4	181	7.3
9 persons	17	1.5	21	2.8	10	0.8	179	2.6	199	3.3	94	3.8
10 persons	14	1.2	11	1.5	7	0.6	123	1.8	126	2.6	89	3.6
Median size	4.6		4.4		3.5		4.3		4.5		4.8	

Sources: First National Census of Iran, 1956, Ardestan Shahrestan, Vol. 95, p.38;
 First National Census of Iran, 1956, Faridan Shahrestan, Vol. 106, p.30.
 First National Census of Iran, 1956, Nain Shahrestan, Vol. 96, p.25.
 First National Census of Iran, 1956, Shahreza Shahrestan, Vol. 35, p.27.
 First National Census of Iran, 1956, Golpayegan Shahrestan, Vol. 70, p.29;
 First National Census of Iran, 1956, Najafabad Shahrestan, Vol. 33, p.19.

Table 44: Number and size of households in Isfahan Province cities, 1966

City	Total	A	%	B	%	C	%	D	%	E	%	Median size
Ardestan	1,502	199	13.3	1,051	70.0	46	3.1	40	2.6	166	11.0	4.8
Daran City (Faridan)	1,065	118	11.0	771	72.4	5	0.5	52	4.9	119	11.2	4.6
Nain	1,346	176	13.1	901	67.0	70	5.2	14	1.0	185	13.7	3.8
Najafabad	8,863	1,055	11.9	6,675	75.3	89	1.0	225	2.5	819	9.3	4.5
Shahreza	6,774	766	11.3	5,103	75.3	77	1.2	266	3.9	562	8.3	4.7
Golpayegan	3,869	344	8.9	2,955	76.4	60	1.5	178	4.6	332	8.6	4.9
Natanz	1,294	164	15.0	700	64.0	20	1.8	18	1.7	192	17.5	4.3
Semirom	2,226	299	13.4	1,616	72.6	11	0.5	58	2.6	242	10.9	4.0

Sources: Second National Census of Iran, 1966, Ardestan Shahrestan, Vol. 21, p.21,

Second National Census of Iran, 1966, Faridan Shahrestan, Vol.106, p.27.

Second National Census of Iran, 1966, Nain Shahrestan, Vol. 18, p.29.

Second National Census of Iran, 1966, Najafabad Shahrestan, Vol. 20, p.25.

Second National Census of Iran, 1966, Shahreza Shahrestan, Vol. 19, p.23.

Second National Census of Iran, 1966, Golpayegan Shahrestan, Vol. 16, p.23.

Second National Census of Iran, 1966, Natanz Shahrestan, Vol. 15, p.17.

Second National Census of Iran, 1966, Semirom Shahrestan, Vol. 13, p.29.

A = A married couple, no children

B = A father, mother and unmarried children

C = A father, mother, married children, no grandchildren

D = A father, mother, married children and grandchildren

E = Other groups

communications and scattered settlements, as it was years ago, were encouraging to large extended families, who used to live very close to each other. The change in life pattern has meant a change in the form of the family in Iran. As many observations show, the most common form of the Persian family now is the combination of a father, mother and their unmarried children who usually live in a residential unit. The traditional form of the household, the extended family, although not completely dead, exists mostly in remote areas.

Household size increases with income, while the relationship between household and individual income is reversed. The crystallization of many factors, based on socio-demographical characteristics, will change the form of families and households in Iran, factors like family planning and its development, urbanisation, and the increase in people's standard of education.

In Isfahan City modern living and the new more westernised society gradually destroyed large households and encouraged smaller ones. The very recent National Census of Iran showed a negligible percentage of extended households existing in Isfahan City. Various factors can be associated with this in Isfahan.

- I. Migration, especially male migration: people who leave their family at home, usually in villages and move towards Isfahan in order to get a job.
- II. Increased education of the population, especially of women who intend to seek employment; the employment of women in any activity which takes place outside the home reduces the frequency of pregnancy and therefore the size of the family.
- III. The increased expense of living, and the deep desire for a better life which demands more education for everybody in the family, better health conditions, and ownership of luxury goods.

Bringing all the mentioned factors into consideration, the modernization process, which is usually but inadequately measured by industrialization and urbanisation, in Isfahan City and in all other large Persian cities is the main reason for the progressive reduction in family and household size.

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$$\frac{50 - F_x}{F_{x+1} - F_x} \times R$$
 where,
F_x = The percentage of the cumulative classes before 50%
F_x + 1 = The percentage of the cumulative classes one after 50%
R = Rate.
- (7) Behnam, J. Op. Cit., p.105-6.

CHAPTER VI

MORTALITY IN ISFAHAN

6. INTRODUCTION

The reduction achieved in mortality during the last 20 years, which changed the previous trend of the population growth in Iran, is a familiar element of population change in the less developed countries. Iran, being one of those countries, experienced this decline in its mortality by means of many health programmes which appeared during all of the development plans.

Once again, as was the main problem in the survey of other vital features, the lack of data and the unreliability and untrustworthiness of all the reported estimates do not permit any accurate research on mortality. Factors like unreported deaths, especially infant mortality, the mis-recording of the exact date of death and many other serious errors greatly limit the value of the available figures.

Facing these problems, a brief survey on Isfahan's mortality trend has been made, which it is hoped, has been able to illustrate the pattern of change of one of the major elements in its growth of population.

6.1 MORTALITY IN ISFAHAN

As has been said already, the unreliability of the figures and available censuses in Iran do not help scientific work. The available figures on Isfahan's mortality rate are contained in the report of the Civil Registration, which mentions the number of deaths in Isfahan City. These figures have been collected over a period of 21 years (1956-1976) (see Table 45). As is clear from the table, the reported figures differed

Table 45: Numbbr of registered deaths in Isfahan City, 1956-1976

Year	Total	Males	%	Females	%
1956	845	480	56.8	365	43.2
1957	902	-	-	-	-
1958	895	-	-	-	-
1959	997	-	-	-	-
1960	815	-	-	-	-
1961	913	-	-	-	-
1962	1,553	881	56.7	672	43.3
1963	1,655	1,008	60.9	647	39.1
1964	1,850	1,022	55.2	828	44.8
1965	1,975	1,140	57.7	835	42.3
1966	1,871	1,107	59.2	764	40.8
1967	1,725	1,033	59.9	692	40.1
1968	1,787	1,107	61.9	680	38.1
1969	1,839	1,082	59.0	757	41.0
1970	2,083	1,113	53.4	970	46.6
1971	1,647	1,016	61.7	631	38.3
1972	2,975	1,661	55.3	1,314	44.7
1973	1,904	1,160	60.9	744	39.1
1974	3,446	1,950	56.6	1,496	43.4
1975	1,631	1,022	62.7	609	37.3
1976	1,603	917	57.2	686	42.8

Source: Central Registration Office, Vital Bureau,
Isfahan City, 1956-76.

greatly from one year to another. One of the most important factors which did not change annually was the higher percentage of male deaths. This can be considered to be a world-wide characteristic. The given percentages differed noticeably from each other, but none of these figures can be relied upon to give evidence for either decline or increase in the mortality characteristics of Isfahan City. It is apparent that the vital registration and therefore mortality registration in Iran as a whole and also in Isfahan, are not accurate. This problem will be referred to later in this chapter.

In addition, any calculation of mortality in Isfahan, using the number of deaths, is impossible because of the lack of any accurate figures on the total population in the City and their age and sex distribution. An estimation of the crude death rate for some years where a report on the total population exists can be given (see Table 46), but once again, the unreliable reports of deaths in Isfahan City prevents an accurate figure being given, and the rates calculated are underestimated.

Only for two years, 1971 and 1974, are the number of deaths divided by age group and sex available for Isfahan City (see Table 47). Due to the lack of any age-sex distribution figures for those years, the calculation of age-specific death rates is impossible. The mortality of children below one year old in both years was noticeably high, although it had decreased by 1974. On the other hand, there was a marked increase in the percentage dying aged 1-4 years. The mortality rate after the age of one showed a declining pattern up to a point in the 30's when it started increasing. Male deaths in all age groups were relatively more numerous than female, a fairly uniform characteristic in the world. Figure 20 illustrates the graphic pattern.

Table 46: Crude death rate, Isfahan City, 1956-1976

Year	Total Population	Death Number (Registered)	C.D.R.
1956	254,708	845	3.3
1966	424,045	1,871	4.4
1967	423,777	1,725	4.1
1970	515,000	2,083	4.0
1971	546,200	1,647	3.0
1972	575,000	2,975	5.1
1973	605,000	1,904	3.1
1976	671,825	1,603	2.4

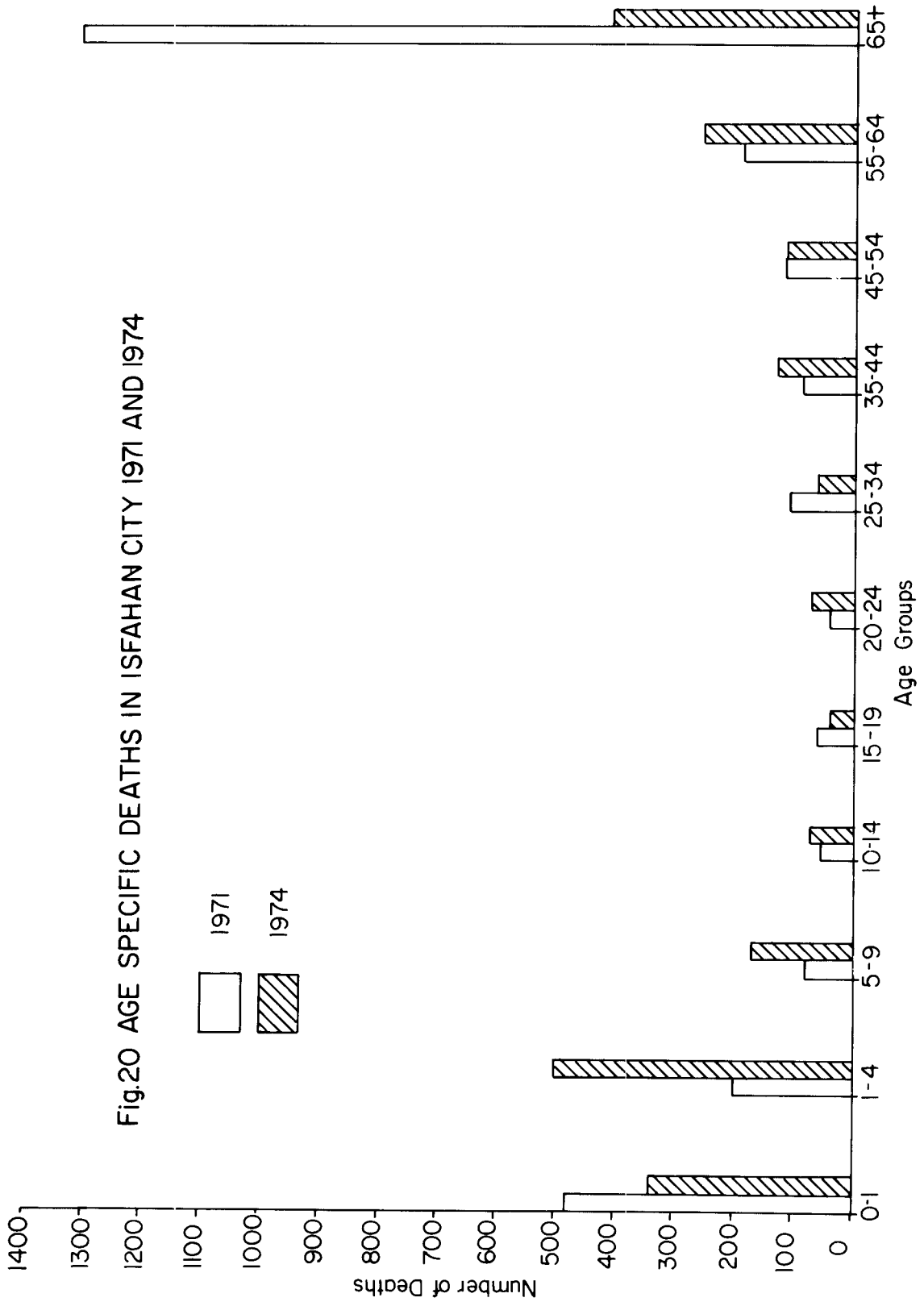
Source: First National Census of Iran, 1956, Vol.2, p.2.
Second National Census of Iran, 1966, Vol.168, p.3.
First Results of the Third National Census of Iran, 1976.
Central Registration Office, Vital Bureau, Isfahan City,
1956-1976.
Demographic Year Book of United Nations,
1970, issue 22; 1971, issue 23;
1972, issue 24; 1973, issue 25.

Table 47: Number of deaths in Isfahan City in
1971 and 1974

Age	1971				1974			
	Male	Female	Total	%	Male	Female	Total	%
Less than one year	244	242	486	16.2	195	151	346	15.4
1- 4	100	100	200	6.7	307	246	553	24.6
5- 9	49	25	74	2.5	99	79	178	7.9
10-14	34	17	51	1.7	49	21	70	3.1
15-19	36	21	57	1.9	27	14	41	1.8
20-24	32	14	46	1.6	52	21	73	3.2
25-34	74	40	114	3.8	48	11	59	2.6
35-44	90	51	141	4.7	99	40	139	6.2
45-54	129	91	220	7.3	69	58	127	5.6
55-64	187	113	300	10.0	150	104	254	11.3
65+	696	615	1,311	43.6	247	165	412	18.3
Total	1,671	1,329	3,000	100.0	1,342	910	2,252	100.0

Source: Ministry of Health .

Fig.20 AGE SPECIFIC DEATHS IN ISFAHAN CITY 1971 AND 1974



The incidence of mortality by groups of diseases in Isfahan City or in Iran as a whole is not very clear, particularly in the rural sectors of the country. The data on this special factor of mortality are unsatisfactory, although the Ministry of Health gives some figures. For Isfahan City only two reports of the Ministry of Health were available, one for 1972 and the other for 1974 (see Table 48). In Isfahan City the three leading groups were group 400-468 (diseases of the circulatory system), group 800-999 (accident, poisoning and violence) and group 470-527 (diseases of respiratory system). Among these, group 800-999 is one of the attributes of a large developed city. It may be noted also that owing to the better health and sanitation in Isfahan City, the diseases associated with infant mortality (760-776) do not show a high percentage and decrease from 1972 to 1974.

Although precise data are not available, it is now obvious that mortality is sharply declining in Isfahan City. Features like the greater survival rate amongst infants and increased life expectation are the most obvious factors. We may now look at the situation in Iran as a whole and in Tehran, for purposes of comparison.

6.2 MORTALITY IN IRAN

Although there are not many reliable figures indicating the mortality rate in Iran as a whole, the United Nations Demographic Year Books give the number of deaths and the crude death rate which may be cited as a valid, if not wholly reliable, reference (see Table 49). As can be illustrated from the given figures, the crude death rate in Iran did not show any noticeable change from 1953 up to 1959 (the year 1955 having a C.D.R. of 11.1 is considered an exception) and fluctuated between 7 and 9. From the year 1960 onwards, the crude death rate declined substantially

Table 48: Death by sex according to the international classification of causes of death in Isfahan, 1972-1974

Class description	Code No.	1972			1974				
		Male	Female	Total	%	Male	Female	Total	%
Infectious parasitic diseases	1-138	136	143	279	9.8	74	60	134	4.0
Cancer and other tumors	140-239	142	104	246	8.7	165	129	294	8.8
Allergic, endocrine system, metabolic and nutritional diseases	240-289	27	20	47	1.7	34	33	67	2.0
Diseases of blood and blood forming organs	290-299	1	1	2	0.1	-	-	-	-
Mental, psychoneurotic personality diseases	300-326	9	8	17	0.6	-	1	1	-
Diseases of the nervous system	330-398	4	7	11	0.4	2	3	5	0.1
Diseases of the circulatory system	400-468	597	529	1,126	39.7	711	665	1,376	41.1
Diseases of respiratory system	470-527	158	135	293	10.3	258	183	441	13.2
Diseases of the digestive system	530-587	62	26	88	3.0	132	97	229	6.8
Diseases of the genitourinary system	590-637	110	96	206	7.3	130	99	229	6.8
Diseases of the pregnancy, childbirth and puerperium	640-689	-	7	7	0.3	6	1	7	0.2
Diseases of the skin and cellulartissue	690-710	-	-	-	-	-	-	-	-
Diseases of the bones and organs of movement	720-749	-	-	-	-	-	-	-	-
Congenital malformations system	750-759	4	1	5	0.2	3	4	7	0.2
Certain diseases of early infancy	760-776	30	46	76	2.6	19	23	42	1.3
Symptoms senility and ill-defined conditions	780-795	45	45	90	3.2	83	62	145	4.3
Accident, poisoning and violence	800-999	264	82	346	12.1	294	80	374	11.2
Total		1,589	1,250	2,839	100.0	1,911	1,440	3,351	100.0

Source: Ministry of Health, Health Statistics and Survey Office.

Table 49: Number of deaths and crude death rates in Iran, 1953-1975, using United Nations data

Year	Number of Deaths	C.D.R.
1953	122,085	7.0
1954	151,218	8.4
1955	202,990	11.1
1956	145,067	7.7
1957	166,069	8.6
1958	176,030	8.9
1959	170,866	8.7
1960	N.A.	N.A.
1961	167,325	8.1
1962	158,096	7.0
1963	132,556	5.7
1964	145,780	6.1
1965	149,790	6.1
1966	177,688	6.1
1967	179,220	6.8
1968	176,972	6.5
1969	169,089	6.1
1970	164,019	5.7
1971	151,799	5.1
1972	153,239	5.0
1973	158,422	5.1
1974	155,754	4.8
1975	195,236	N.A.

Source: Demographic Year Book, United Nations,
 1961, issue 13; 1962, issue 14; 1963, issue 15;
 1964, issue 16; 1965, issue 17; 1966, issue 18;
 1967, issue 19; 1968, issue 20; 1969, issue 21;
 1970, issue 22; 1971, issue 23; 1972, issue 24;
 1973, issue 25; 1974, issue 26; 1975, issue 27.

if not continuously, and in 1972 it was as low as 5.0, its lowest recorded rate since 1953. The reason why the change in the death rate in Iran within a period of 20 years (1953-1972) did not vary more than two per thousand, may be due to estimates which were not based on exact enumeration or on trustworthy local data.

Various surveys on mortality in Iran, especially by Persian demographers, give different estimated death rates. For the two National Census years (1956 and 1966), Amani ⁽¹⁾ estimated a death rate of 15 for 1956, while the Population Council ⁽²⁾ estimated it at 16 for both 1956 and 1966. Behnam ⁽³⁾ thought that it was 20 for the year 1966, while Khazaneh ⁽⁴⁾ saw it as about 13. Although these figures differed very much from one another, it would appear that for much of this period it was around 15-16 per 1,000.

The Central Registration Office in Tehran reports the registered number of deaths in Iran from 1956 up to 1975 (see Table 50), and the figures differ from those reported by the United Nations. Male deaths are more numerous than those of females in all years except 1961. Using this data, it is clear (Table 51) that the crude death rate showed no clear trend between 1956 and 1966, but since then it has declined fairly continuously.

The mortality rate for different diseases differed from one zone to another, as different health and disease conditions prevailed. Bearing in mind that in this special survey not many reliable records are available, Table 52 will be considered which shows the distribution of diseases which caused death in Iran as a whole in 1956 and 1964. The highest percentage belonged to the unspecified cases ranging from 'symptoms, senility and ill-defined conditions' with the code number 780-795 in 1956, which itself indicates the unspecific and unreliable nature of the data in this field.

Table 50: Number of deaths for Iran, 1956-1975,
using Central Registration Office data

Year	Total	Males	%	Females	%
1956	145,753	92,241	63.3	53,512	36.7
1957	177,739	119,574	67.3	58,165	32.7
1958	176,577	113,078	64.0	63,499	36.0
1959	175,024	112,359	64.2	62,665	35.8
1960	168,621	109,064	64.7	59,557	35.3
1961	210,113	101,580	48.3	108,533	51.7
1962	149,919	94,642	63.1	55,277	36.9
1963	136,306	88,450	64.9	47,856	35.1
1964	142,811	92,192	64.5	50,619	35.5
1965	173,290	120,100	69.3	53,190	30.7
1966	180,500	123,669	68.5	56,831	31.5
1967	179,192	120,576	67.3	58,616	32.7
1968	173,193	113,416	65.5	59,777	34.5
1969	167,517	111,139	66.3	56,378	33.7
1970	162,819	107,482	66.0	55,337	34.0
1971	149,032	104,054	69.8	44,978	30.2
1972	154,230	107,337	69.6	46,893	30.4
1973	155,285	108,494	69.9	46,791	30.1
1974	149,785	103,658	69.2	46,127	30.8
1975	148,543	103,961	70.0	44,582	30.0

Source: Central Registration Office, Tehran,
1956-1975.

Table 51: Crude death rates for Iran, 1956-1975, using Central Registration Office data.

Year	Total Population of Iran	Number of Deaths	C.D.R.
1956	18,945,704	145,753	7.7
1957	19,216,000	177,739	9.3
1958	19,677,000	176,577	9.0
1959	19,745,600	175,024	8.9
1960	20,182,000	168,621	8.4
1961	20,678,000	210,113	10.2
1962	21,227,000	149,919	7.1
1963	22,182,000	136,306	6.1
1964	22,860,000	142,811	6.2
1965	24,549,000	173,290	7.1
1966	25,143,700	180,500	7.2
1967	26,284,000	179,192	6.8
1968	27,060,000	173,193	6.4
1969	27,890,000	167,517	6.0
1970	28,662,000	162,819	5.7
1971	29,780,000	149,032	5.0
1972	30,550,000	154,230	5.0
1973	31,600,000	155,285	4.9
1974	32,490,000	149,785	4.6
1975	33,375,000	148,543	4.4

Sources: 1. Central Registration Office, Tehran, 1956-1975.
 2. Demographic Year Book of United Nations, 1961, issue 13;
 1962, issue 14; 1963, issue 15; 1964, issue 16;
 1965, issue 17; 1966, issue 18; 1967, issue 19;
 1968, issue 20; 1969, issue 21; 1970, issue 22;
 1971, issue 23; 1972, issue 24; 1973, issue 25;
 1974, issue 26; 1975, issue 27.

Table 52: Total deaths by sex according to international classification of causes of death in Iran, 1956 and 1964

Class description	Code No.	1956			1964				
		Male	Female	Total	%	Male	Female	Total	%
Infectious and parasitic diseases	1-138	678	471	1,149	7.8	1,511	1,236	2,747	11.3
Cancer and other tumors	140-239	329	228	557	6.8	845	553	1,398	5.7
Allergic, endocrine system metabolic & nutritional diseases	240-289	288	262	550	3.7	445	293	738	3.0
Diseases of blood & blood forming organs	290-299	63	38	101	0.6	107	736	843	3.5
Mental, psychoneurotic & personality diseases	300-326	11	14	25	0.1	12	8	20	0.1
Diseases of the nervous system sense organs	330-398	199	169	368	1.1	246	179	425	1.7
Diseases of the circulatory system	400-468	905	739	1,644	11.2	1,794	1,417	3,211	13.1
Diseases of respiratory system	470-527	1,011	780	1,791	12.2	1,921	1,462	3,383	13.9
Diseases of the digestive system	530-587	1,108	963	2,071	14.1	2,411	2,162	4,573	18.7
Diseases of genitourinary system	590-637	375	258	633	4.3	555	470	1,025	4.1
Diseases of the pregnancy child birth and puerperium	640-689	-	35	35	0.2	4	15	19	0.1
Diseases of the skin and cellulartissue	690-710	-	-	-	-	-	-	-	-
Diseases of the bones and organs of movement	720-749	-	-	-	-	-	3	3	-
Congenital malformations system	750-759	7	5	12	-	5	3	8	-
Certain diseases of early infancy	760-776	245	189	434	2.9	1,709	1,130	2,839	11.6
Symptoms, senility and ill-defined conditions	780-795	2,407	1,885	4,292	29.4	1,101	900	2,001	8.2
Accident, poisoning and violence	800-999	552	273	825	5.6	812	397	1,209	5.0
TOTAL		8,278	6,309	14,587	100.0	13,478	10,964	24,442	100.0

Source: Ministry of Health, Health Statistics and Survey Office.

Among all diseases mentioned, there are three basic groups which cover the larger part of mortality in Iran: group 530-587 diseases of digestive system, group 470-527 diseases of respiratory system, group 400-468 diseases of the circulatory system.

So far health conditions in Iran are still far from satisfactory in comparison with the developed world, despite recent changes towards higher standards. This is a uniform characteristic amongst all developing countries and the Middle East in general. The unevenly spread health services, which were previously even more uneven, the hopeless position of many remote areas, and the numerous unsolved health problems in many regions, especially in rural zones, give a poor picture of sanitation and welfare in Iran. Many development plans have been made and Iran made appreciable efforts to change conditions by sending more health services to the villages and more remote zones of the country. Although there still remain many other unsolved health problems, on the whole the health characteristics of the large cities, with better health centres, hospitals, various clinics and great numbers of physicians and nurses are far better than those in the rural zones.

6.2.1 Infant Mortality in Iran

An Iranian saying goes, "In Spring the parent swears by the life of his child, and in Winter by its tomb."⁽⁵⁾ Although this Persian expression is not very true these days, it may bring to light some of the not very statistically clear socio-demographic characteristics of Iran. One of the best ways of measuring the level of health and hygiene in a region can be the ratio of the infant mortality among the population. Various rates and figures are available from different researches.

Vreeland⁽⁶⁾ in 1957 compares the percentage infant mortality in Iran at 25 to 50 to the United States where it was less than 3. Although this rate seems to be excessive, it indicates the high infant mortality rate in Iran. Another available estimate has been tabulated below which shows the variations in the infant mortality rate in Iran in different years.

Table 53: Infant Mortality rates in Iran, 1956-76

Sex	1956-61	1961-66	1966-71	1971-76
Male	196	169	144	131
Female	176	149	124	112

Maroufi, N. "Population Projection for Iran," Some Demographic Aspects of the population of Iran, Tehran, 1968, p.19

According to these estimates, infant mortality has decreased since 1956 and there is an obvious difference between the sexes, males showing higher rates because of the higher number of male births and the greater proportion of deaths among them (which is a uniform characteristic of all age groups). Of course, the more developed regions with better standards of health and sanitation have lower infant mortality rates than the poorer zones. As already mentioned, Amani⁽⁷⁾ and Behnam⁽⁸⁾ have estimated the infant mortality rate for Tehran (an area with better health standards) as being 58 per 1,000 in 1965 and 69 in 1966, and also for the rural zones of Iran as being 176 per 1,000 both in 1965 and 1966. Since then these rates have undoubtedly fallen.

6.2.2 Mortality by age and sex in Iran

In developing countries lack of data on mortality by age and

sex is more chronic than for total mortality. In the case of Iran, even if there are records of age-specific death numbers they are not useful for calculating age-specific death rates because of the lack of age and sex population distribution figures except for three census years.

The Ministry of Health has recorded the number of deaths in Iran by age and sex for the year 1967 (see Table 54). On the whole, infant mortality showed the highest percentage, and there was a decline in numbers of deaths between the age-groups 1-4 years and 10-14 years, after which the numbers increased continuously, but not to the level of infant deaths. The first main difference between the percentage of deaths in Iran and Isfahan is the lower infant mortality and higher aged mortality in Isfahan City. This is firstly due to better health conditions in Isfahan City, and secondly to the higher number of aged people, who mostly moved to Isfahan when they were younger and did not leave the city when they retired. Figure 21 shows the pattern of mortality graphically for Iran in 1967.

6.3 MORTALITY IN TEHRAN

Apart from other figures, crude death rates can be calculated from the reports of Tehran grave yards, which give the number of deaths and they can give a rough idea as to the mortality rate in Tehran for a few years (see Table 55).

Table 55: Death rates in Tehran

1956	1959	1961	1963
9.9	11.2	13.4	13.6

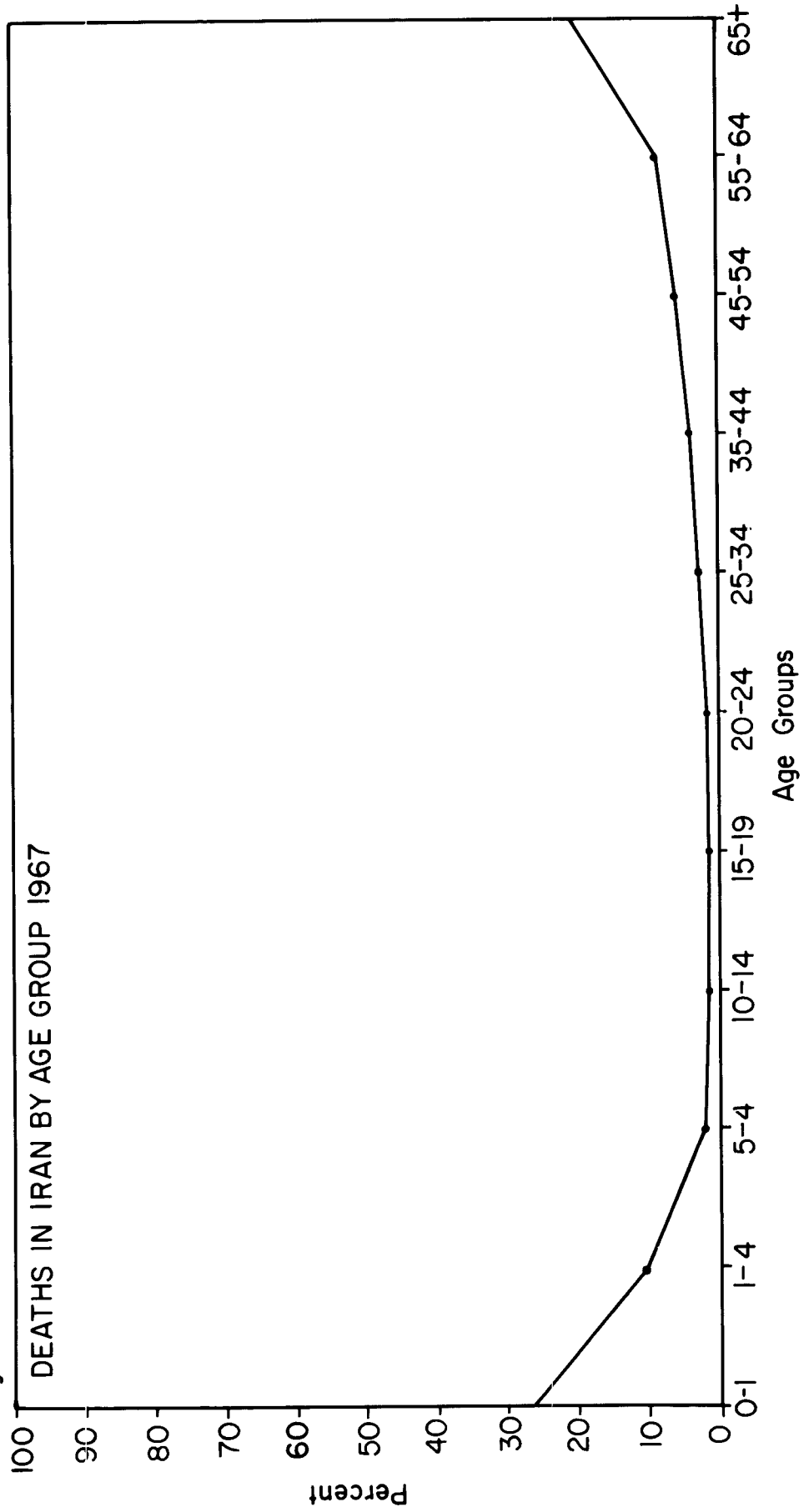
Source: Tehran grave yards reports.

Table 54 Deaths in Iran by Age and Sex in 1967

Age	Both Sexes	%	Male	%	Female	%
Total	567,724	100.0	331,692	58.4	236,032	41.6
Less than 1 month	74,748	13.1	47,444	63.5	27,304	36.5
Less than 1 year	149,734	26.4	86,966	58.1	62,768	41.9
1 - 4	57,128	10.1	30,381	53.2	26,747	46.8
5 - 9	11,022	1.9	6,344	57.6	4,678	42.4
10 - 14	6,348	1.2	3,669	57.7	2,679	42.3
15 - 19	7,950	1.4	3,975	56.5	3,975	43.5
20 - 24	9,251	1.6	5,648	61.1	3,603	38.9
25 - 34	17,862	3.1	10,655	59.7	7,207	40.3
35 - 44	21,848	3.9	13,410	61.4	8,438	38.6
45 - 54	37,889	6.7	25,064	66.2	12,825	33.8
55 - 64	48,960	8.6	28,441	58.1	20,519	41.9
65 +	114,208	20.1	63,478	55.6	50,730	44.4
Not reported	10,776	1.9	6,217	57.7	4,559	42.3

Source: Ministry of Health

Fig.21



As the given table illustrates, the mortality rate in Tehran shows an increasing trend, which is surprising. Bearing in mind the more careful estimate of the number of deaths which improves year by year, the increasing trend in the mortality rate in Tehran can be understood.

The same grave yard report gives the number of deaths by age groups in Tehran; and the age specific death rates for 1956 are tabulated in Table 56. The highest rates are among infants. This ratio decreases in the age group 1-4 up to the age group 10-14. A slight increase can be seen in the age group 15-19 which continues onwards. On the whole, although the given report does not seem to be very reliable, it gives a rough idea as to the mortality rate in age groups in a large city of Iran which has better standards of health and hygiene, and this applies to Isfahan City also.

For comparison of different areas, from the point of view of health conditions, Table 57 gives three different age-specific death rates for three different zones, Iran as a whole (in 1966), Tehran City (in 1971) supposedly a good health environment, and a sample of rural and small cities (in 1971). Presenting an example of urban and rural characteristics it should be borne in mind that this was deliberately chosen as a similar type to Isfahan, which itself is a special region. As can be seen from Table 57 and Figure 22, the age-specific death rate in Iran in 1966 was very similar to that of the chosen rural area in 1971, whilst the rates of the urban zone were lower than both, which can be explained by the better health conditions in urban areas.

The pattern of mortality in Tehran for different groups of diseases (Appendix III) does not vary very much from that of Iran as a whole. Although the leading groups disease groups 780-795 (symptoms, senility and ill-defined), 400-468 (diseases of the circulatory system),

Table 56 Age specific death rates in Tehran by
Age group per 1,000, 1956 .

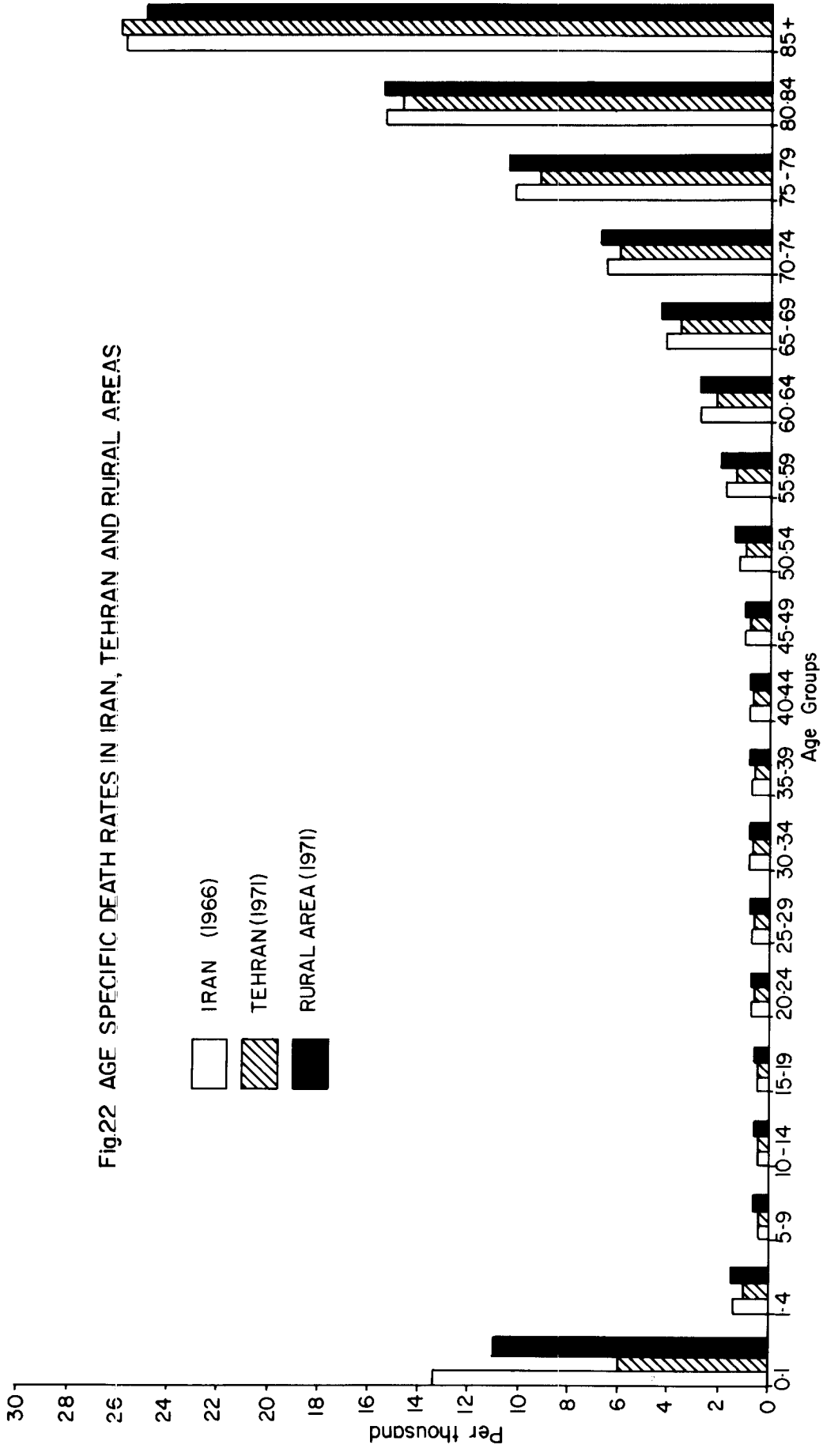
Age Group	Both sexes	Male	Female
1 - 11 months	7.4	7.6	7.2
1 - 4 years	1.1	1.1	1.2
5 - 9	0.1	0.1	0.2
10 - 14	0.1	0.1	0.1
15 - 19	0.3	0.1	0.1
20 - 24	0.3	0.2	0.2
25 - 34	0.2	0.2	0.2
35 - 44	0.7	0.5	0.5
45 - 54	1.1	0.7	0.8
55 - 64	2.2	2.6	1.8
65 +	4.2	4.5	4.1

Source: Report of Tehran Graveyard

Table 57: Age specific death rates in Iran, urban
and rural areas (Per 1000)

Age Group	Total Iran 1966	Urban (Good Health) Tehran 1971	Rural Areas and Small Cities 1971
0 - 1	13.3	6.0	11.0
1 - 4	1.4	1.0	1.5
5 - 9	0.3	0.3	0.4
10 - 14	0.2	0.2	0.3
15 - 19	0.3	0.3	0.4
20 - 24	0.5	0.4	0.6
25 - 29	0.6	0.4	0.6
30 - 34	0.6	0.5	0.6
35 - 39	0.6	0.5	0.7
40 - 44	0.8	0.6	0.8
45 - 49	1.0	0.8	1.0
50 - 54	1.3	1.1	1.4
55 - 59	1.9	1.5	2.0
60 - 64	2.8	2.3	2.9
65 - 69	4.2	3.7	4.4
70 - 74	6.6	6.0	6.8
75 - 79	10.3	9.2	10.5
80 - 84	15.5	14.8	15.7
85 +	25.9	26.0	25.0

Source: Campbell, Roy B. "Demographic Profile of the Isfahan Region", Research Series of the Department of Urban and Regional Planning, Paper No.111, Tehran University, Tehran, Iran, 1972, p.13.



530-587 (diseases of the digestive system) and 470-527 (diseases of the respiratory system), have the same effect on mortality in Tehran, some other groups may be noticed which also have a relatively high percentage and therefore a great effect on Tehran's mortality. The most important of these is the group 'accidents, poisoning and violence' which is also important in Isfahan. On the other hand, compared with Iran as a whole, and because of better health and sanitation, group 760-776 (certain diseases of early infancy) has a lower percentage in Tehran.

6.4 CONCLUSION

Mortality has declined recently in Isfahan and Iran as a whole. As in the case of many other developing regions, this fact has enlarged the base of the age-sex pyramid of the city and also the country. Although the imperfect and unreliable vital reports do not show the exact picture of many demographic characteristics of the city, some of the samples and various estimates show the rough features. Since better hospitals, newer forms of medical supplies, more education and practiced physicians and nurses, and better equipped clinics are mostly found in larger cities, like Tehran and Isfahan, the standards of health and hygiene are higher in those places than in the less developed villages and small towns. This feature directly affects mortality and gives a lower death rate to larger cities, whereas rural areas and smaller towns still have a rather high death rate, although it is declining. An example can be seen in the considerable difference between Tehran City (a place with better conditions) and rural areas which have been examined. The case of Tehran was deliberately chosen as a comparable example of mortality conditions to that of Isfahan.

The incidence of mortality by groups of diseases in Isfahan, although not very clear and reliable, emphasises a very common cause of death in a large city, namely accidents, poisoning and violence. In addition, diseases of the circulatory system and respiratory system are very important in the city, where requires more attention and care being paid in any health and hygiene plans.

In general, in Isfahan and also Iran as a whole, mortality may be considered an important element of population growth, and balance may only be achieved by reducing the birth rate or by in-migration.

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CHAPTER VII

MIGRATION IN ISFAHAN

7. INTRODUCTION

This chapter intends to illustrate the trends of migration in Isfahan City. Since Isfahan is changing to become a very important centre of industry in Iran, it is an obvious destination for people who are looking for better jobs and higher standards of living. In the 1950's, before the establishment of the steel mill and some other factories, Isfahan tended to have an out-migration trend. The population moved towards other more flourishing zones of the country, and cities like Tehran and Abadan were the most popular destinations. The change in the socio-economic characteristics of the city changed the pattern of migration, and Isfahan began to absorb population from cities, towns and villages all over Iran.

The main problem for a scientific survey of migration in Isfahan, as in any other parts of the country, is the lack of accurate data. Detailed migration data for Iran as a whole are unknown, and this makes any study very difficult. The two National Censuses of Iran for which data are fully available (1956 and 1966) only indicated the number of people living in a locality who were not born there, the censuses do not indicate their place of birth. Information given of place of birth is simply 'other Shahrestans (census districts)', 'other provinces', 'foreign countries', and 'other cities of the Shahrestan'. For the first time one extra question was put in the National Census questionnaires in 1976: 'Where did you live five years ago?' Although the final results are not available yet, it seems that the question was not very helpful, because; (i) the answer does not indicate the exact part of the country by administration division, (village, city, province etc.),

(ii) people may prefer others to believe that they are city people rather than rural, and hence lie about their previous place of habitation.

Bearing all these problems in mind, and relying on reports of the Statistical Centre of Iran and also some scattered surveys on migration in Isfahan and Iran as a whole, an attempt has been made to give a rough picture of the migration pattern in Isfahan.

The reports of two National Census of Iran (1956 and 1966) indicate the number of people who moved towards Isfahan City from other regions. Although there is no specific report on their sex in the 1956 Census, their sex is mentioned in 1966 (see Tables 58 and 59). In 1956 the total number of migrants who were born in the 'regions not close to Isfahan' was 2.4 times bigger than those who were born in the 'regions close to Isfahan'. The 35-44 age group had the highest percentage of migrants and the highest percentage of those from 'regions not close to Isfahan'. In 1966, 'people born in other provinces' (regions not close to Isfahan) still composed the highest percentage of migrants in Isfahan. This characteristic was the same for both the male and female population of the city. However, owing to insufficient data of the birth place of migrants, this feature cannot be easily explained, probably because these more remote regions offer less economic opportunities. Little more reliable information can be derived about in-migration to Isfahan from the two national censuses, so most of this chapter depends upon the results of two sample surveys of population status in Isfahan City held in 1964 and 1967, which were conducted by the Ministry of Labour and Social Affairs (1964) and the Statistical Centre of Iran and Organic Engineering Consultants (1967).

The total percentage of migrants in Isfahan City increased from 4.5% in 1956 to 9.5% in 1966, and by 1967 declined to 8.6% (unfortunately a comparable figure is not available for 1964). The increase in the

Table 58: Population of Isfahan City by Place of birth according to their age group

Age Group	Total	People Born in Isfahan City		People Born in regions close to Isfahan		People Born in regions close to Isfahan		People Born in other Countries.		Not reported		Total Migrants
		Number	%	Number	%	Number	%	Number	%	Number	%	
All ages	254,708	243,273	95.5	3,171	1.2	7,580	3.0	300	0.3	384	-	4.5
0-4	38,160	37,588	98.5	99	0.3	460	1.2	6	-	7	0.2	1.5
5-14	65,099	63,155	97.0	423	0.7	1,441	2.2	29	-	51	0.1	3.0
15-24	43,866	41,596	94.8	664	1.5	1,499	3.4	28	0.1	79	0.2	4.2
25-34	35,824	33,426	93.3	671	1.9	1,600	4.5	49	0.1	78	0.2	6.7
35-44	24,858	23,115	93.0	529	2.1	1,087	4.4	50	0.2	77	0.3	7.0
45-54	21,008	19,850	94.5	351	1.7	727	3.5	36	0.2	44	0.1	5.5
55-64	14,757	13,997	94.8	249	1.7	449	3.0	42	0.4	20	0.1	4.2
65 and over	10,992	10,467	95.2	183	1.7	308	2.8	15	0.1	19	0.2	4.8
Not Reported	144	79	54.9	2	1.3	9	6.3	45	31.2	9	26.3	45.1

Source: First National Census of Iran, 1956, Vol.4, p.41.

Table 59: Population of Isfahan by Place of birth and age group
and sex, 1966

Age Group	Total	People born in Isfahan		People born in other Cities of Isfahan Province		People born in other Provinces		People born in other Countries		Total Migrants
		Number	%	Number	%	Number	%	Number	%	%
BOTH SEXES										
All Ages	424,045	383,679	90.5	18,349	4.3	21,487	5.1	530	0.1	9.5
0-4	67,919	65,024	95.7	1,081	1.6	1,739	2.6	75	0.1	4.3
5-9	65,857	61,697	93.7	1,598	2.4	2,510	3.8	52	0.1	6.3
10-14	55,721	51,201	91.9	1,920	3.4	2,561	4.6	39	0.1	8.1
15-19	42,011	37,422	89.1	2,044	4.8	2,520	6.0	25	0.1	10.9
20-24	30,970	26,307	84.9	1,921	6.2	2,687	8.7	55	0.2	15.1
25-29	26,366	22,645	85.9	1,690	6.4	1,977	7.5	54	0.2	14.1
30-34	25,566	22,190	86.8	1,589	6.3	1,738	6.8	49	0.1	13.2
35-39	22,046	19,179	87.0	1,378	6.2	1,452	6.6	37	0.2	13.0
40-44	21,151	18,520	87.6	1,419	6.7	1,180	5.6	32	0.1	12.4
45-49	13,784	12,019	87.2	934	6.8	809	5.9	22	0.1	12.8
50-54	14,072	12,596	89.5	784	5.6	674	4.8	18	0.3	10.5
55-59	7,533	6,683	88.7	419	5.6	408	5.4	23	0.2	11.3
60-64	12,817	11,577	90.3	696	5.4	524	4.1	20	0.2	9.7
65 +	18,232	16,619	91.2	876	4.8	708	3.9	29	0.1	8.8
MALES										
All Ages	219,503	197,504	90.0	10,039	4.6	11,708	5.3	252	0.1	10.0
0-4	35,215	33,693	95.7	560	1.6	919	2.6	43	0.1	4.3
5-9	34,168	32,034	93.8	852	2.8	1,255	3.3	27	0.1	6.2
10-14	29,570	27,233	92.1	1,063	3.5	1,259	4.3	15	0.1	7.9
15-19	21,989	19,543	88.9	1,120	5.0	1,314	6.0	12	0.1	11.1
20-24	15,066	12,286	81.5	1,099	7.3	1,659	11.0	22	0.2	18.5
25-29	13,545	11,528	85.1	920	6.7	1,079	8.1	18	0.1	14.9
30-34	13,242	11,321	85.5	876	6.6	1,025	7.7	20	0.2	14.5
35-39	11,439	9,881	86.4	754	6.7	784	6.6	20	0.3	13.6
40-44	11,748	10,237	87.1	827	7.0	663	5.6	21	0.3	12.9
45-49	7,579	6,571	86.7	529	7.0	471	6.2	8	0.1	13.3
50-54	6,705	5,924	88.4	421	6.3	352	5.2	8	0.1	11.6
55-59	3,521	3,097	88.0	204	5.8	210	6.0	10	0.2	12.0
60-64	6,520	5,819	89.2	368	5.6	321	4.9	12	0.3	10.8
65 +	9,196	8,337	90.7	446	4.9	397	4.2	16	0.2	9.3
FEMALES										
All Ages	204,542	186,175	91.0	8,310	4.1	9,779	4.8	278	0.1	9.0
0-4	32,704	31,331	95.8	521	11.6	820	2.5	32	0.1	4.2
5-9	31,689	29,663	93.6	746	2.3	1,255	4.0	25	0.1	6.4
10-14	26,151	23,968	91.7	857	3.2	1,302	5.0	24	0.1	8.3
15-19	20,022	17,879	89.3	924	4.6	1,206	6.0	13	0.1	10.7
20-24	15,904	14,021	88.2	822	5.1	1,028	6.5	33	0.2	11.8
25-29	12,821	11,117	86.7	770	6.0	898	7.0	36	0.3	13.3
30-34	12,324	10,869	88.2	713	5.8	913	5.8	29	0.2	11.8
35-39	10,607	9,298	87.7	624	5.9	668	6.3	17	0.1	12.3
40-44	9,403	8,283	88.1	592	6.3	517	5.5	11	0.1	11.9
45-49	6,205	5,448	87.8	405	6.5	338	5.5	14	0.2	12.2
50-54	7,367	6,672	90.6	363	4.9	322	4.4	10	0.1	9.4
55-59	4,012	3,586	89.4	215	5.4	198	4.9	13	0.3	10.6
60-64	6,297	5,758	91.4	328	5.2	203	3.2	8	0.2	8.6
65 +	9,036	8,282	91.7	430	4.8	311	3.4	13	0.1	8.3

Source: Second National Census of Population and Housing,
Isfahan Shahrestan, 1966, Vol.24, p.46.

proportion of migrants in the 10 year period may be assumed to be because of the changing economic characteristics of the city, which started growing during the 1960's. The decline in 1967 may result from the smaller coverage of the sample survey.

Owing to different age group classifications in 1956 and 1966, strict comparison between them is not possible, so an attempt has been made to compare the two sample censuses in 1964 and 1967 which have similar age group classifications (Table 60). In 1964 the highest percentage of migrants belonged to the age group 35-44 followed by the age group 25-34 in second position and 45-54 in the third. In 1967 age group 25-34 had the highest percentage of migrants and was followed by the age group 35-44, but the 15-19 age group, only a 5 year group, also accounted for a high percentage of the migrants. On the whole, the large age group 15-54, sent the highest portion of migrants towards Isfahan in both 1964 and 1967, a group which normally has a high migratory rate. Figure 23 shows the sex-age pyramid of migrants in Isfahan in 1966. The narrow base, wide middle and sharp peak of the pyramids indicate that a major number of migrants in Isfahan were in age groups 15-19, 20-24 and 25-29. The number of child migrants from other provinces were higher than the same from 'other Shahrestans in Isfahan province'.

The sex distribution of the migrants shows that the number of males exceeds females (1.2 times greater). The highest percentage of male migrants was in the 20-24 age group, while the same feature for females was in the 25-29 age group.

The sample census in 1967, gives the number of migrants according to the period of time that they stayed in Isfahan (see Table 61). People who moved later to Isfahan, stayed longer. Once again, the very recently increasing pull factors in Isfahan City, caused by more urbanization, industrialization and a flourishing economy, may be assumed to be the major causes.

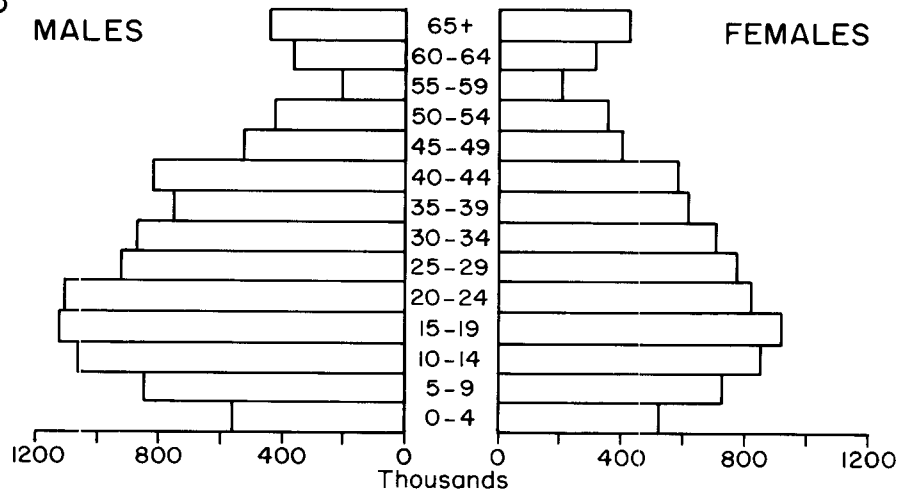
Table 60: Migrants by sex and age group in Isfahan City, 1964-1967

Age group	1 9 6 4						1 9 6 7					
	Total Migrants		Male		Female		Total Migrants		Male		Female	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
All Ages	15,348	100.0	8,247	100.0	7,101	100.0	38,430	100.0	19,860	100.0	18,570	100.0
0-4	550	3.6	367	4.5	183	2.6	2,040	5.3	884	4.5	1,156	6.2
5-9	962	6.3	504	6.1	458	6.9	2,992	7.8	1,632	8.2	1,360	7.3
10-14	1,328	8.6	504	6.1	824	11.4	3,333	8.7	1,973	9.9	1,360	7.3
15-19	1,329	8.6	733	8.9	596	8.4	4,284	11.1	2,040	10.3	2,244	12.1
20-24	1,237	8.1	641	7.8	596	8.4	3,878	10.1	1,838	9.3	2,040	11.0
25-34	2,840	18.5	1,420	17.2	1,420	20.0	7,691	20.1	4,353	21.9	3,338	18.0
35-44	3,527	23.0	1,924	23.3	1,603	22.6	5,372	14.0	2,788	14.0	2,584	13.9
45-54	1,833	11.9	1,100	13.3	733	10.0	3,740	9.7	1,836	9.2	1,904	10.3
55-64	1,054	6.9	733	8.9	321	4.5	3,128	8.1	1,700	8.6	1,428	7.7
65+	688	4.5	321	3.9	367	5.2	1,972	5.1	816	4.1	1,156	6.2

Sources: Sample Survey of Manpower, The Ministry of Labour and Social Affairs, 1964.

Sample Survey, Statistical Centre of Iran and Organic Engineering Consultants, 1967.

PEOPLE BORN IN OTHER CITIES OF ISFAHAN SHAHRESTAN
Fig.23



PEOPLE BORN IN OTHER CITIES OF ISFAHAN PROVINCE

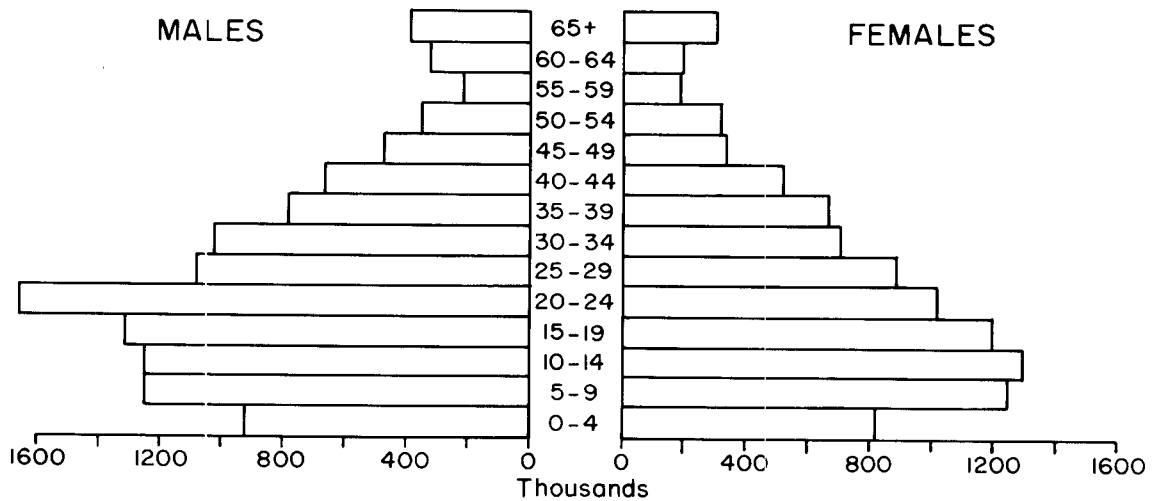


Table 61: Migrants in Isfahan City by their age group and period of time they stayed, 1967

Age Group	Total		Less than one Year		5-9 years		10-19 years		20-29 years		30+ years		Did not report	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total	39,430	100.0	10,065	25.5	10,794	27.4	7,963	20.2	5,372	13.6	3,740	9.6	1,496	3.8
0-4	2,040	5.2	1,428	14.2	204	2.0	-	-	-	-	-	-	408	27.4
5-9	2,992	7.6	1,292	12.8	1,360	12.6	68	0.9	68	1.2	-	-	204	13.6
10-14	3,333	8.5	1,225	18.2	1,699	15.7	137	1.7	-	-	-	-	272	18.2
15-19	4,284	10.9	1,564	15.5	1,496	13.6	1,088	13.7	-	-	-	-	136	9.1
20-24	4,878	12.4	1,496	14.9	1,954	17.8	816	10.2	476	8.9	68	1.8	68	4.5
25-34	7,691	19.5	1,496	14.9	1,633	14.9	2,658	33.4	1,496	27.8	272	7.3	136	9.1
35-44	5,372	13.6	612	6.1	1,088	9.9	1,904	23.9	1,088	20.2	612	16.4	68	4.5
45-54	3,740	9.5	408	4.0	816	7.4	612	7.7	884	16.5	1,020	27.3	-	-
55-64	3,128	7.8	272	2.7	544	10.1	476	6.0	884	16.5	884	23.6	68	4.5
65+	1,972	5.0	272	2.7	-	-	204	2.5	476	8.9	884	23.6	136	9.1

Source: Sample Census Statistical Centre of Iran and Organic Engineering Consultants, 1967.

The sample census in 1967, indicates the birth place of the migrants. As is clear from Table 62, the highest percentage of migrants into Isfahan reported their home as being one of the nearby cities in Isfahan province. Central province, in this respect, is second after Isfahan province. Although it is not mentioned in the sample census, it is probable that the zones in central province nearest to Isfahan have the most effect; cities like Mahalat, Tafresh, Kashan, Saveh, and Qom. Further towards the southern zones, Fars province has the highest proportion of migrants moving towards Isfahan City. Once again, the areas closest, like Abadeh, probably provide most migrants for Isfahan. Khuzestan province, may be considered as the fourth most important zone. Gilan and also Kermanshahan province have the lowest migratory rate to Isfahan.

7.1 REASONS FOR MIGRATION TO ISFAHAN

Another important shortcoming of the 1956 and 1966 migration data is the shortage of information on 'reasons for migration'. The 1964 survey of manpower, on the other hand showed that the major reason for migration was 'employment' in the sense of seeking a better job or seeking work. More than half of the migrants moved because of this reason. The next most important reason reported was 'transfer', in many cases related to the employment status of the migrants. 'Education' and 'other reasons' were less significant. More men migrated because of employment than women, whereas the percentage of women who mentioned their reason for migration being 'education' was noticeably higher than among men (see Table 63). Among the secondary migrants, as the mentioned sample census indicates, 'seeking better job' and 'transfer' were still the most common reasons for migration. This was the same for both males and females.

The 1967 sample survey indicates that the 'following family' was the most important incentive for urban and rural migrants, whereas

Table 62: Migrants in Isfahan City by place of birth and sex, 1967.

Provinces	Total		Male		Female	
	Number	%	Number	%	Number	%
Total	38,566	100	19,928	51.7	18,638	48.3
Central	3,062	7.9	1,565	7.9	1,497	8.0
Mazandaran	136	0.4	68	0.3	68	0.4
Gilan	68	0.2	68	0.3	-	-
East-Azarbayjan	612	1.6	272	1.4	340	1.8
Kermanshahan	68	0.2	-	-	68	0.4
Khuzestan	1,904	4.9	1,020	5.1	884	4.7
Kerman	748	1.9	340	1.7	408	2.2
Fars	2,584	6.8	1,360	6.8	1,224	6.5
Khorasan	748	1.9	340	1.7	408	2.2
Isfahan	27,140	70.4	14,147	71.0	12,993	69.7
Hamedan	204	0.5	136	0.7	68	0.4
Other Countries	272	0.7	204	1.0	68	0.4
Not reported	1,020	2.6	408	2.1	612	3.3

Source: Sample Census, Statistical Centre of Iran and Organic Engineering Consultants, 1967.

Table 63: Migrants by sex and reason for migration in Isfahan City, 1964

Migrants	Migration Reason	Total %	Seeking Work	Seeking better Job	Transfer	Education	Other Reasons	Not Reported
Principal Migrants, both Sex		100	24.9	31.3	21.2	5.5	6.3	10.8
Principal Migrants, Male		100	28.5	34.8	24.1	3.6	6.3	2.7
Principal Migrants, Female		100	-	6.3	-	18.8	6.3	68.6
Secondary Migrants, both Sex		100	13.1	47.1	29.1	3.4	3.4	3.9
Secondary Migrants, Male		100	16.2	38.2	32.3	5.9	1.5	5.9
Secondary Migrants, Female		100	11.6	51.4	27.5	2.2	4.4	2.9

Source: Sample Survey of manpower, 1964.

'seeking job' and 'employment' were placed next (see Table 64). A higher percentage of rural migrants were seeking a job or education, than urban migrants. Male migrants from both urban and rural areas were more interested than female migrants in 'employment', 'a better job' and 'education'. Female migrants were mostly following their families.

The absence of data precludes illustration of out-migration from Isfahan towards other regions. Although there are no accurate figures showing net-migration of Isfahan City, the growth of the population, particularly since 1956, may be considered as evidence for the high in-migration of Isfahan. The new industrial complex, the steel mill, and also some other factories attracted migrants towards Isfahan. The result was a mass of people coming, all with roughly similar occupations and level of skill, most of them uneducated. They mostly remained unemployed and made up a large group of 'seeking job' population. This feature was more obvious for the manual labourers who moved from the rural areas towards Isfahan. Table 65 shows the percentage of migrants in 1964, by their activity status before migration and their recent employment structure after migration. Most of the unemployed migrants remained without occupation after migration. Only a few were absorbed by mining, industry and services. The 'seeking job' population were mostly engaged in industry, transportation and trade, but a noticeable percentage of them were still seeking jobs. The agriculture, forestry and hunting sector lost a great number of its workers, who either remained unemployed or involved mostly with the services or industry. On the whole, the industry and service sectors absorbed the highest percentage of migrants. Table 66 gives the previous employment status of the recently employed migrants by percentage. Nearly half of the migrants who were engaged in the industrial sector, were either previously unemployed or seeking a job and a high percentage were employed in agricultural activities before migration. The services sector (including commerce, banking

Table 64: Migrants by sex, urban status and reason for migration in Isfahan City, 1967.

	Cause	Total		Male		Female	
		Number	%	Number	%	Number	%
U R B A N	Total	38,566	100	19,928	51.7	18,638	48.3
	Seeking job	1,428	3.7	1,428	7.0	-	-
	Following family	7,211	18.7	2,449	12.3	4,762	25.5
	Education	272	0.7	272	1.4	-	-
	Employment	1,700	4.4	1,088	5.5	612	3.3
	Not reported	884	2.3	544	2.7	340	1.8
	R U R A L	Seeking job	8,093	21.0	6,733	33.8	1,360
Following family		14,966	38.8	5,442	27.3	9,524	51.1
Education		1,088	2.8	1,020	5.1	68	0.4
Employment		476	1.2	476	2.4	-	-
Not reported		2,448	6.4	476	2.5	1,972	10.6

Source: Sample Census, Statistical Centre of

Iran and Organic Engineering Consultants, 1967.

Table 65: Present activities of migrants in Isfahan City by their previous activities, in percentages in 1964

Recent Activity Status	Previous Activity Status	Total	Unemployed	Seeking Job	Agriculture Forestry and Hunting	Mining	Industry	Structure	Elec., Gas, Water and Sanitary Services	Commerce	Transport Storage and Commun.	Services
	Total	100	64.2	0.9	0.9	0.6	9.0	2.3	0.3	4.5	4.2	13.1
	Unemployed	100	90.4	0.5	-	0.9	3.2	-	-	0.9	0.5	3.6
	Seeking job	100	29.4	5.9	-	-	41.2	-	-	11.7	11.8	-
	Agriculture-Forestry and Hunting	100	12.1	3.0	9.1	-	18.2	12.1	-	6.1	12.1	27.3
	Mining	100	-	-	-	-	-	-	-	-	-	-
	Industry	100	-	-	-	-	85.7	-	-	-	-	14.3
	Structure	100	-	-	-	-	-	100	-	-	-	-
	Elec., Gas, Water and Sanitary Services	100	-	-	-	-	-	-	-	-	-	-
	Commerce	100	-	-	-	-	14.3	-	-	85.7	-	-
	Transport-Storage and Communications	100	12.3	-	-	-	-	12.6	12.6	-	62.5	-
	Services	100	14.7	-	-	-	3.0	-	-	3.0	5.8	73.5
	Not Reported	100	14.2	-	-	-	28.7	14.2	-	28.7	-	14.2

Source: Manpower Sample Census, 1964.

Table 66: Previous activities of migrants in Isfahan by their present activities
percentage, 1964

Recent Activity Status	Previous Activity Status	Total	Unemployed	Seeking Job	Agricul- ture Forestry and Hunting	Mining	Industry	Construc- tion	Elec. Gas, Water and Sanitary Services	Commerce	Transport Storage and Commun.	Services
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Unemployed		65.7	92.6	33.3	-	100.0	23.3	-	-	13.4	7.2	18.2
Seeking Job		5.1	2.3	33.3	-	-	23.4	-	-	13.2	14.3	-
Agriculture-Forestry and Hunting		9.8	1.9	33.4	100.0	-	20.0	50.0	-	13.5	28.5	20.4
Mining		-	-	-	-	-	-	-	-	-	-	-
Industry		2.1	-	-	-	-	20.0	-	-	-	-	2.3
Construction		0.6	-	-	-	-	-	25.0	-	-	-	-
Elec., Gas, Water and Sanitary Services		-	-	-	-	-	-	-	-	-	-	-
Commerce		2.1	-	-	-	-	3.3	-	-	40.0	-	-
Transport, Storage and Communications		2.4	0.4	-	-	-	-	12.5	100.0	-	35.8	-
Services		10.1	2.3	-	-	-	3.3	-	-	6.7	14.2	56.8
Not reported		2.1	0.5	-	-	-	6.7	12.5	-	13.2	-	2.3

Source: Manpower Sample Census, 1964.

and transportation) engaged a high percentage of previously unemployed migrants and also absorbed a large percentage of migrants who were working in the agricultural sector. 92.6% of the unemployed migrants remained unemployed after migration.

7.2 MIGRATION IN ISFAHAN SHAHRESTAN

The only document available for the study of migration in Isfahan Shahrestan is the report of the First National Census (1956), which only gives the approximate number of people who have not been born in an area but live there, and the results of a general survey on 'Internal Movement of the Population of Iran', conducted by the University of Tehran in 1966, which gives rough figures of in-migration, out-migration and net-migration. This survey was largely based on the First National Census questionnaires (see Tables 67 and 68). Migrants 'born in other Ostans' had the highest number and percentage in Isfahan Shahrestan (2.3 times bigger than those migrants 'born in other Shahrestans of the same Ostan') in 1956. The highest percentages of in-migrants belonged to age groups 25-34 and 35-44, and the lowest to age group 0-4. In 1956, however, Isfahan Shahrestan showed a net out-migration. Isfahan province had the same pattern of out-migration, but Isfahan Shahrestan had the highest rate of all the Shahrestans in the province (see Table 68). In 1966, the total percentage of male in-migrants was 1.2 times higher than that of females. The age groups 20-24, 25-29 and 30-34 for males and 25-29, 45-49, and both 35-39, 20-24 age groups for females had the greatest proportion of migrants (all in working age groups) (see Table 69).

The five groups of provinces and General Governorates which send the highest number of migrants towards Isfahan Shahrestan, after Isfahan province (which sent the most), were Central province, Chaharmahal-Bakhtiary,

Table 67: Place of birth of the population of Isfahan Shahrestan by age group, 1956

Age group	Total	Born in Shahrestan of enumeration		Born in other Shahrestans of same ostan		Born in other ostan		Born in foreign countries		Not reported	
		Number	%	Number	%	Number	%	Number	%	Number	%
Total	621,205	608,941	98.0	3,478	0.5	8,069	1.3	304	0.1	413	0.1
Less than 1	21,405	21,341	99.7	15	0.1	42	0.2	1	-	6	-
1-4	80,711	80,143	99.3	108	0.1	449	0.6	5	-	6	-
5-14	157,693	155,650	98.7	460	0.3	1,491	1.0	29	-	63	-
15-24	99,085	96,630	97.5	728	0.8	1,618	1.6	29	-	80	0.1
25-34	86,286	83,674	97.0	731	0.9	1,748	2.0	49	-	84	0.1
35-44	60,577	58,732	97.0	567	1.0	1,147	1.9	51	-	80	0.1
45-54	50,390	49,165	97.6	384	0.8	760	1.5	36	-	45	0.1
55-64	35,691	34,879	97.7	278	0.8	471	1.3	43	0.1	20	0.1
65+	29,118	28,543	98.0	205	0.7	334	1.1	16	0.1	20	0.1
Not reported	249	184	73.9	2	0.8	9	3.6	45	18.1	9	3.6

Source: The National Census of Iran 1956, Vol. 4, p.41.

Table 68: Migration in Isfahan Province by Shahrestan(Census districts) in 1956

Shahrestan	Population	In-migrants	%	Out-migrants	%	Net-Migration
Ardestan	41,390	502	1.2	3,393	8.2	- 2,891
Isfahan	621,205	11,547	1.9	145,708	23.5	- 134,161
Shahreza	98,745	3,246	3.3	8,810	8.9	- 5,564
Faridan	114,728	2,153	1.9	3,403	3.0	- 1,250
Nain	33,787	1,067	3.2	3,879	11.5	- 2,812
Najafabad	80,881	1,584	2.0	1,274	1.6	+ 310

Source: University of Tehran Internal Movement in Iran , 1966, p.9.

Table 69: Place of birth of the population of Isfahan Shahrestan by Sex and age group, 1966

Age Group	Total	Born in Isfahan Shahrestan		Born in the other Shahrestans of Isfahan province		Born in other Provinces		Born in foreign Countries	
		Number	%	Number	%	Number	%	Number	%
Total	445,255	421,071	94.6	11,185	2.5	12,719	2.8	280	0.1
Less than 5	80,950	79,152	97.8	747	0.9	997	1.2	54	0.1
5-9	72,084	69,708	96.7	979	1.4	1,361	1.9	36	-
10-14	57,756	55,248	95.7	1,139	1.9	1,354	2.4	15	-
15-19	39,395	36,809	93.4	1,184	3.1	1,390	3.5	12	-
20-24	26,667	23,560	88.3	1,177	4.4	1,908	7.2	22	0.1
25-29	25,993	23,785	91.5	1,022	3.9	1,167	4.5	19	0.1
30-34	26,748	24,639	92.1	984	3.6	1,103	4.2	22	0.1
35-39	21,774	20,112	92.4	811	3.7	830	3.8	21	0.1
40-44	23,547	21,895	93.0	911	3.8	719	3.1	22	0.1
45-49	15,231	14,150	92.9	574	3.8	499	3.2	8	0.1
50-54	13,821	12,963	93.8	474	3.4	376	2.7	8	0.1
55-59	7,273	6,807	93.6	233	3.2	222	3.0	11	0.2
60-64	13,459	12,699	94.4	408	3.0	340	2.5	12	0.1
65 +	20,557	19,544	95.1	542	2.6	453	2.2	18	0.1
Total	417,068	397,033	95.2	9,373	2.2	10,360	2.5	302	0.1
Less than 5	72,965	71,358	97.8	691	0.9	879	1.2	37	0.1
5-9	66,130	63,889	96.6	855	1.2	1,356	2.1	30	0.1
10-14	49,754	47,444	95.4	905	1.8	1,378	2.7	27	0.1
15-19	38,309	36,032	94.1	1,004	2.6	1,259	3.3	14	-
20-24	31,387	29,331	93.4	928	3.0	1,093	3.5	35	0.1
25-29	25,321	23,505	92.8	848	3.3	932	3.8	36	0.1
30-34	25,076	23,486	93.7	805	3.2	755	3.0	30	0.1
35-39	21,028	19,639	93.4	682	3.3	689	3.3	18	-
40-44	19,762	18,544	93.8	658	3.3	548	2.7	12	0.1
45-49	12,374	11,543	93.3	455	3.7	361	2.9	15	0.1
50-54	14,733	13,966	94.8	417	2.9	339	2.3	11	-
55-59	7,920	7,464	94.2	238	3.1	205	2.5	13	0.2
60-64	13,257	12,654	95.5	379	2.8	215	1.6	9	0.1
65 +	19,052	18,178	95.4	508	2.7	351	1.8	15	0.1

Source: The Second National Census of Iran, Vol.24, p.82.

Khuzestan, Fars and Kerman (Table 70). The position of Chaharmahal Bakhtiary General Governorate immediately after the Central province may be because of its proximity to Isfahan Shahrestan, and unemployment, especially in the agriculture sector of this General Governorate. Among all, Ilam General Governorate, to the far west of Isfahan province, sent fewest migrants towards Isfahan Shahrestan in 1966, following by Kohkiluyeh-Boveirahmad to the south west, and Oman sea ports and Isles to the south east of the province.

As for out-migrants from Isfahan Shahrestan (Table 71), Central province received the greatest number of migrants followed by Khuzestan province. The pull factors of the modern metropolis of Tehran and the oil areas of Khuzestan can easily explain the movement of the population. As Hill says, "evidence indicates that Khuzestan and the Central province are the most probable destinations."⁽¹⁾ Isfahan province comes third after those two mentioned areas with Fars and Lorestan following.

On the whole, both Isfahan Shahrestan and province had an overall pattern of net out-migration in both 1956 and 1966. This characteristic showed that during that time Isfahan region (apart from Isfahan City) was not attractive either for employment, education, administrative or other activities. "In this light, the recent policy of the Iranian Government to build its Aryamehr steel mill in Isfahan province was advantageous planning."⁽²⁾

7.3 MIGRATION IN IRAN

Internal migration is substantial in Iran. The declining nature of the rural population and the rapidly increasing number of urban residents and the growth of cities and towns, is a reliable indication of the changes in the urban-rural distribution of the population which are greatly influenced by internal migration. "The gradual socio-economic development

Table 70: . Migration into Isfahan Shahrestan from other Provinces, 1966

Provinces	Total		Male		Female	
	Number	%	Number	%	Number	%
Total	43,731	100	23,841	54.6	19,890	45.4
Central Province	5,727	13.1	2,953	12.4	2,774	14.0
Gilan	712	1.6	398	1.7	314	1.6
Mazandaran	358	0.8	196	0.8	162	0.8
East-Azarbayijan	998	2.3	609	2.6	389	2.0
West-Azarbayijan	375	0.8	226	0.9	149	0.8
Kermanshahan	558	1.3	318	1.3	240	1.1
Khuzestan	3,817	8.6	2,012	8.4	1,805	9.1
Fars	3,052	7.0	1,649	7.0	1,403	7.0
Kerman	1,029	2.4	607	2.5	422	2.1
Khorasan	705	1.7	393	1.6	312	1.6
Isfahan	20,646	47.1	11,187	46.9	9,459	47.7
Sistan-Baluchestan	306	0.7	126	0.5	180	0.9
Kurdestan	119	0.3	51	0.2	68	0.3
Hamedan	321	0.7	188	0.8	133	0.7
Lorestan	334	0.8	197	0.8	137	0.6
Persian Gulf Ports and Isles	108	0.2	65	0.4	43	0.2
Chaharmahal-Bakhtiary	4,314	9.9	2,501	10.5	1,813	9.1
Oman sea ports and isles	77	0.3	61	0.3	16	0.1
Semnan	166	0.4	99	0.4	67	0.3
Kohkiluyeh and Boveirahmad	6	-	3	-	3	-
Ilam	3	-	2	-	1	-

Source: Statistical Centre of Iran, Survey in the Internal Migration of the country, according to the place of birth at the time of the 1966 Census, 1971.

Table 71: Migration from Isfahan Shahrestan to other provinces, 1966

Provinces	Total	%	Male	%	Female	%
Total	155,643	100.0	85,723	55.1	69,920	44.9
Central	88,169	56.6	48,724	56.8	39,645	56.7
Gilan	587	0.4	445	0.5	142	0.2
Mazandaran	1,710	1.1	1,282	1.5	428	0.6
East-Azarbayijan	674	0.4	387	0.5	287	0.4
West-Azarbayijan	346	0.2	222	0.3	124	0.2
Kermanshahan	1,145	0.7	638	0.7	507	0.7
Khuzestan	41,309	26.5	21,126	24.6	20,183	28.9
Fars	4,166	2.7	2,810	3.3	1,350	1.9
Kerman	1,072	0.7	802	0.9	270	0.4
Khorasan	2,514	1.6	1,601	1.9	913	1.3
Sistan-Baluchestan	329	0.3	224	0.3	105	0.2
Kordestan	70	-	56	0.1	14	-
Hamedan	428	0.3	316	0.4	110	0.2
Lorestan	2,791	1.8	1,679	2.0	1,112	1.6
Ilam	28	-	23	-	5	-
Kohkiluyeh- Boveirahmad	567	0.5	310	0.4	257	0.4
Oman sea ports and isles	277	0.2	203	0.2	74	0.1
Semnan	522	0.3	419	0.5	103	0.2
Isfahan	8,939	5.7	4,456	5.1	4,183	6.0

Source: Statistical Centre of Iran, Internal Migration in Iran, 1972, Vol.1.

experienced by human societies in general has freed many rural dwellers so that they could migrate to the cities, and this shift in population distribution has accelerated in recent decades." (3) In other words, ".... a city today is composed of a set of administrative, trading, industrial, and socio-cultural sub-systems in an overall national urban system." (4) The existence of all these features in the cities and the lack of them in rural areas brings village dwellers to the towns.

In 1956 11.1% of the population were reported as migrants (Table 72). The age group 15-24 had the highest percentage of migrants followed by the age group 25-34, while the age group 65+ showed the lowest percentage. Nearly 57.2 percent of all migrants were in the age group 15-44.

As the census reports indicate, the percentage of migrants who moved to distant areas (non-contiguous Shahrestans) was nearly twice that of migrants who moved relatively short distances (contiguous Shahrestans); the size of the first group was 1,339,987 (or 64.4%) and the second 741,095 (or 35.6%) out of a total of 2,081,082 migrants. Table 72 also shows the different age structure of those two groups of migrants. The percentage of children 0-14 who moved between contiguous Shahrestans was higher than the percentage who moved between non-contiguous Shahrestans (29.3% and 19.3%). The percentage of people in age group 15-44 who moved between non-contiguous Shahrestans was higher than that of people who moved between contiguous Shahrestans (61.1% and 51.6%). The conclusion can be reached that migrants between short distance areas usually move with their family groups, whereas long distance migrants are usually single people for whom distance is not a problem and who are looking for better jobs and standards of living.

The movement of the population between contiguous Shahrestans and non-contiguous Shahrestans differed from one province to another (Table 73). In some provinces the percentage of migrants who moved between contiguous Shahrestans was higher than that which moved between non-contiguous Shahrestans, and vice versa. When in a province, the percentage of people

Table 72: Migration status by age for Iran in 1956

Age group	Total Population	%	Non-Migrants	%	Migrants							%	Birthplace Not Reported	%
					Total	%	Between Contiguous Shahrestans	%	Between Non-Contiguous Shahrestans	%	Born in Foreign Countries			
Total	18,954,704	100	16,814,739	88.7	2,081,082	11.1	741,095	3.9	1,339,987	7.2	44,796	0.2	14,087	-
0-4	3,347,698	17.7	3,203,320	19.0	141,153	6.8	76,863	10.4	64,290	4.8	1,349	3.0	1,876	13.3
5-14	4,645,458	24.5	4,306,340	25.6	333,726	16.0	140,024	18.9	193,702	14.5	3,116	7.0	2,276	16.2
15-24	2,917,702	15.4	2,454,183	14.6	455,248	21.9	145,354	19.6	309,894	23.1	5,727	12.8	2,544	18.1
25-34	2,904,175	15.3	2,447,416	14.6	442,113	21.2	142,627	19.2	299,486	22.3	12,181	27.2	2,465	17.5
35-44	1,947,441	10.3	1,645,652	9.8	291,830	14.0	94,793	12.8	197,037	14.7	8,168	18.2	1,791	12.7
45-54	1,446,433	7.6	1,231,005	7.3	207,295	10.0	67,004	9.0	140,291	10.5	6,719	14.9	1,414	10.0
55-64	987,127	5.2	852,983	5.1	128,730	6.2	44,485	6.0	84,245	6.3	4,534	10.1	880	6.2
65 +	751,607	4.0	668,316	4.0	79,796	3.8	29,529	4.0	50,267	3.7	2,890	6.5	605	4.3
Not Reported	7,063	-	5,524	--	1,191	0.1	416	0.1	775	0.1	112	0.3	236	1.7

Source: First National Census of Iran, 1956, Vol.2, p.73.

Table 73: Number and percentage of migrants in different provinces of Iran by place of birth and residents, 1956

Provinces of Birth	Province of Residence											Sistan-Baluchestan		
	Total	Central	Gilan	Mazandaran	East-Azarbayjan	West-Azarbayjan	Kermanshahan	Kordestan	Khuzestan	Fars	Kerman		Khorasan	Isfahan
Total	2,081,082	921,870	54,214	128,910	41,846	88,628	81,594	23,900	366,654	144,817	38,411	128,887	41,047	2,034
Central	262,528	195,693	6,482	21,387	2,820	1,491	5,458	653	14,510	2,777	1,043	6,755	2,688	76
Gilan	221,547	161,756	20,040	15,575	3,006	532	3,333	1,512	12,032	502	353	2,159	599	14
Mazandaran	149,143	85,379	1,696	51,402	432	159	1,508	106	1,851	1,249	136	4,308	841	7
East-Azarbayjan	329,317	182,529	18,648	12,660	28,532	66,348	3,930	2,309	5,814	1,256	268	5,858	908	20
West-Azarbayjan	38,600	13,049	585	349	3,874	16,068	1,333	985	1,765	110	48	295	127	1
Kermanshahan	175,774	88,237	2,245	1,301	1,149	4,322	48,610	9,708	21,152	669	206	1,406	545	11
Kordestan	20,566	3,633	455	234	943	1,739	4,298	839	99	45	125	122	122	1
Khuzestan	189,906	32,769	1,624	996	291	179	6,573	136	140,109	3,624	148	1,105	2,258	9
Fars	200,504	15,444	220	473	133	113	901	42	44,640	117,516	1,550	664	18,431	18
Kerman	63,431	9,777	144	334	121	59	594	43	9,162	3,865	30,308	3,984	1,800	325
Khorasan	172,908	49,338	1,358	16,151	226	1,346	2,604	53	3,550	5,462	1,317	85,047	911	554
Isfahan	231,742	83,253	657	1,836	241	132	2,362	150	110,423	7,291	2,053	10,366	11,756	122
Sistan-Baluchestan	25,116	973	60	6,212	25	30	100	187	807	397	936	6,622	58	870
Total	100.0	44.3	2.6	6.1	2.0	4.3	3.9	1.1	17.6	7.0	1.8	6.2	2.0	1
Central	100.0	74.5	2.5	8.1	1.1	0.6	2.1	0.2	5.5	1.1	0.4	2.6	1.0	0
Gilan	100.0	73.0	9.0	7.0	1.4	0.2	1.5	0.7	5.4	0.2	0.2	1.0	0.3	0
Mazandaran	100.0	57.2	1.1	34.5	0.3	0.1	1.0	0.1	1.2	0.8	0.1	2.9	0.6	(7)
East-Azarbayjan	100.0	55.4	5.7	3.8	8.7	20.1	1.2	0.7	1.8	0.4	0.1	1.8	0.3	0
West-Azarbayjan	100.0	33.8	1.5	0.9	10.0	41.6	3.5	2.6	4.6	0.3	0.1	0.8	0.3	0
Kermanshahan	100.0	50.3	1.2	0.7	0.6	0.2	27.7	5.5	12.0	0.4	0.1	0.8	0.3	0
Kordestan	100.0	17.7	2.2	1.1	4.6	8.5	20.9	39.0	4.1	0.5	0.2	0.6	0.6	0
Khuzestan	100.0	17.2	0.9	0.5	0.2	0.1	3.5	0.1	73.8	1.9	0.1	0.6	1.2	0
Fars	100.0	7.7	0.1	0.2	0.1	0.1	0.4	0.1	22.3	58.6	0.8	0.4	9.2	9
Kerman	100.0	15.4	0.2	0.5	0.2	0.1	0.9	(42)	14.4	6.1	47.8	6.2	2.8	0
Khorasan	100.0	28.5	0.8	9.3	0.1	0.8	1.5	(53)	2.1	3.2	0.8	49.2	0.5	5
Isfahan	100.0	35.9	0.3	0.8	0.1	0.1	1.0	0.1	47.6	3.1	0.9	4.5	5.1	3
Sistan-Baluchestan	100.0	3.9	0.2	24.7	0.1	0.1	0.4	0.7	3.2	1.6	3.7	26.4	0.2	3

Source: First National Census of Iran, 1956, Vol.2.

who are born and live there is higher than those who are born and leave, the 'pull' factors in that province are greater than the push factors. Momeni in 1975 said, "...let us define the proportion of those migrants born in a certain province, but who did not move across the province's boundaries into other provinces, as an index of 'pull' complex (complex in the sense of many factors being involved), and the proportion of migrants who crossed the boundaries of the province of their birth into another province as an index of 'push' complex." (5) From these 'pull' and 'push' factors a relative ratio, the 'pull-push ratio', may be calculated for all Iranian provinces in 1956 (Table 74). Among these, Central province ranked first while Isfahan-Yazd province ranked last. "These indexes, as calculated here, embrace a wide range of variables; they include social and economic variables and also variables such as education, skill, proximity to industrial centres and family ties." (6) Considering all these, the great difference between Central province and Isfahan province can be understood, and also other differences between provinces. For example, Sistan-Baluchestan province ranked before Gilan, East-Azərbayjan and Kermanshahan because of the tribal characteristics of Baluchestan-Sistan population as well as their lack of education and skills which force them to remain in their province rather than move to other provinces.

The Second National Census of Iran in 1966 showed the movement of population by age group and sex. Due to the lack of similar data and the change in the administration in 1966, comparisons between the two official censuses are not always possible. Tables 75, 76 and 77 show the number and percentage of migrants in Iran in 1966 by age group and sex. From these tables the following points may be made:

- (i) the number of the people who moved between provinces, i.e. crossed the boundary of their province of birth, was higher than those who moved

Table 74: Pull and Push indexes and ratios for Provinces in Iran in November 1956

Provinces	Pull-Index	Push-Index	Pull-Push Ratio	Rank
Central	74.5	25.5	292	1
Gilan	9.0	90.0	10	11
Mazandaran	34.5	65.5	58	8
East-Azarbayijan	8.7	91.3	9	12
West-Azarbayijan	41.6	58.4	71	6
Kermanshahan	27.7	72.3	38	10
Kordestan	39.0	61.0	64	7
Khuzestan-Loreshan	73.8	26.2	282	2
Fars-Banader	58.6	41.4	142	3
Kerman	47.8	52.2	92	5
Khorasan	49.2	50.8	97	4
Isfahan-Yazd	5.1	94.9	5	13
Sistan-Baluchestan	34.7	65.3	33	9

Source: Momeni, J. The Population of Iran, Iran 1975, p.203.

$$\text{Pull-Push Ratio} = \frac{\text{Index of Pull Complex}}{\text{Index of Push Complex}} \times 100.$$

Table 75: Place of birth of the population by age-group, 1966

Age group	Total Population	Born in Shahrestan of enumeration		Born in Other Shahrestans of the same Ostan		Born in Other Ostans		Born in Foreign Countries	
		Number	%	Number	%	Number	%	Number	%
Total	25,078,923	21,797,608	86.9	1,233,356	4.9	1,990,844	7.9	57,115	0.3
0-4	4,436,921	4,258,124	96.0	83,804	1.9	908,999	2.0	4,094	0.1
5-9	4,106,158	3,847,423	93.7	111,939	2.7	143,537	3.5	4,269	0.1
10-14	3,017,250	2,739,896	90.8	116,461	3.9	157,976	5.2	2,887	0.1
15-19	3,129,036	1,819,089	85.4	118,793	5.6	189,052	8.9	2,102	0.1
20-24	1,682,161	1,272,417	75.6	132,325	7.9	274,642	16.3	2,877	0.2
25-29	1,649,672	1,299,788	78.8	122,203	7.4	323,550	13.5	4,131	0.3
30-34	1,668,046	1,332,976	79.9	119,401	7.1	209,610	12.6	6,059	0.4
35-39	1,418,239	1,135,710	80.1	100,858	7.1	174,398	12.3	7,273	0.5
40-44	1,321,050	1,076,997	81.5	88,756	6.7	148,800	11.3	6,497	0.5
45-49	843,608	678,382	80.4	60,896	7.2	100,223	11.9	4,107	0.5
50-54	740,839	603,596	81.5	51,285	6.9	82,595	11.1	3,363	0.5
55-59	437,901	349,929	81.8	28,620	6.7	47,046	11.1	2,306	0.4
60-64	669,937	559,316	83.5	41,953	6.3	65,778	9.8	2,890	0.4
65 +	968,105	823,965	85.1	56,142	5.8	83,738	8.6	4,260	0.5

Source: Second National Census of Iran, 1966, Vol. 168, p. 67.

Table 76: Place of birth of the male population by age in Iran, 1966

Age Group	Total Population	Born in Shahrestan of enumeration		Born in other Shahrestans of the same Ostan		Born in other Ostan		Born in foreign Countries	
		Number	%	Number	%	Number	%	Number	%
Total	12,581,665	11,181,974	86.1	660,239	5.1	1,111,245	8.6	28,207	0.2
0-4	2,307,723	2,214,801	96.0	43,295	1.9	47,587	2.0	2,040	0.1
5-9	2,127,704	1,992,566	93.6	58,201	2.8	74,655	3.5	2,182	0.1
10-14	1,593,835	1,445,544	90.7	62,494	3.9	84,377	5.3	1,420	0.1
15-19	1,060,039	903,561	85.2	59,245	5.6	96,247	9.1	976	0.1
20-24	792,896	552,812	69.7	71,139	9.0	167,706	21.1	1,239	0.2
25-29	801,665	611,247	76.2	64,330	8.1	124,443	15.5	1,845	0.2
30-34	863,316	675,315	78.2	65,285	7.6	119,801	13.9	2,915	0.3
35-39	763,863	604,770	79.2	55,794	7.3	99,598	13.0	3,701	0.5
40-44	737,845	593,053	80.4	51,404	6.9	89,766	12.2	3,622	0.5
45-49	479,395	380,083	79.3	35,972	7.5	61,138	13.8	2,202	0.4
50-54	370,469	300,446	81.1	26,064	7.1	42,356	11.4	1,603	0.4
55-59	223,539	182,687	81.7	15,225	6.8	24,594	11.0	1,032	0.5
60-64	344,198	286,787	83.3	21,871	6.4	34,146	9.9	1,294	0.4
65+	515,188	438,302	85.1	29,820	5.8	44,831	8.7	2,235	0.3

Source: Second National Census of Iran, 1966, Vol.168, p. 67

Table 77: Place of birth of the female population by age in Iran, 1966

Age group	Total Population	Born in Shahrestan of enumeration		Born in Other Shahrestans of the same Ostan		Born in Other Ostans		Born in Foreign Countries	
		Number	%	Number	%	Number	%	Number	%
Total	12,097,258	10,615,634	87.8	573,117	4.7	879,599	7.3	28,908	0.2
0-4	2,129,198	2,043,323	96.0	40,509	1.9	43,312	2.0	2,054	0.1
5-9	1,978,454	1,854,857	93.8	53,628	2.7	67,882	3.4	2,087	0.1
10-14	1,423,415	1,294,352	90.9	53,997	3.8	73,599	3.2	1,467	0.1
15-19	1,069,007	915,528	85.6	59,548	5.6	92,805	8.7	1,126	0.1
20-24	889,265	719,605	80.9	61,086	6.9	106,936	12.0	1,638	0.2
25-29	848,007	688,541	81.2	57,873	6.8	99,107	11.6	2,486	0.4
30-34	804,730	657,661	81.7	54,116	6.7	89,809	11.2	3,144	0.4
35-39	654,376	530,940	81.1	45,064	6.9	74,800	11.5	3,573	0.5
40-44	583,205	483,944	83.1	38,352	6.2	59,034	10.2	2,825	0.5
45-49	364,213	298,299	81.9	24,924	6.8	39,085	10.7	1,905	0.6
50-54	270,370	203,150	81.9	25,221	6.8	40,229	10.9	1,760	0.4
55-59	204,362	167,242	81.8	13,395	6.6	22,452	11.0	1,273	0.6
60-64	325,739	272,529	83.7	20,082	6.2	31,622	9.7	1,496	0.4
65 +	452,917	385,662	85.2	26,322	5.8	38,907	8.6	2,025	0.4

Source: Second National Census of Iran, 1966, Vol.168, p.67.

within their province of birth (1.1 times bigger). In other words, long-distance movement was more popular than short-distance movement, as in the case of Isfahan City.

(ii) young adults aged 20-34 constitute the major group of migrants, a common phenomenon where people migrate for work, while child migrants, under 10 years old, were relatively few.

(iii) on the whole, the percentage of male migrants was 1.7% higher than females and their numbers 1.2 times bigger. Males migrate more for work than their female counterparts.

Comparing the results of the Second National Census of Iran on migration and the First National Census, it is evident that the proportion of migration increased by about 2 percent over a period of 10 years (see Table 78). The total number of migrants in the working age group 15-64 in 1966 was 1.6 times higher than the same age group in 1956. Figure 24 shows a graphic presentation of the age structure of lifetime migration in Iran in 1956 and 1966, revealing slight differences in the percentage of migrants by age groups.

7.4 REASONS FOR MIGRATION

A high unemployment rate in an area encourages out-migration, whereas more jobs and better economic situation in a region encourages in-migration "whenever an area is facing a high unemployment rate, it would be logical to assume that, not only less jobs are available, but finding a job is more costly in a sense that it requires more search to find a job and the opportunity cost of this time spent for search is higher."⁽⁷⁾ Therefore, it can be assumed that the employment rate strongly affects migration.

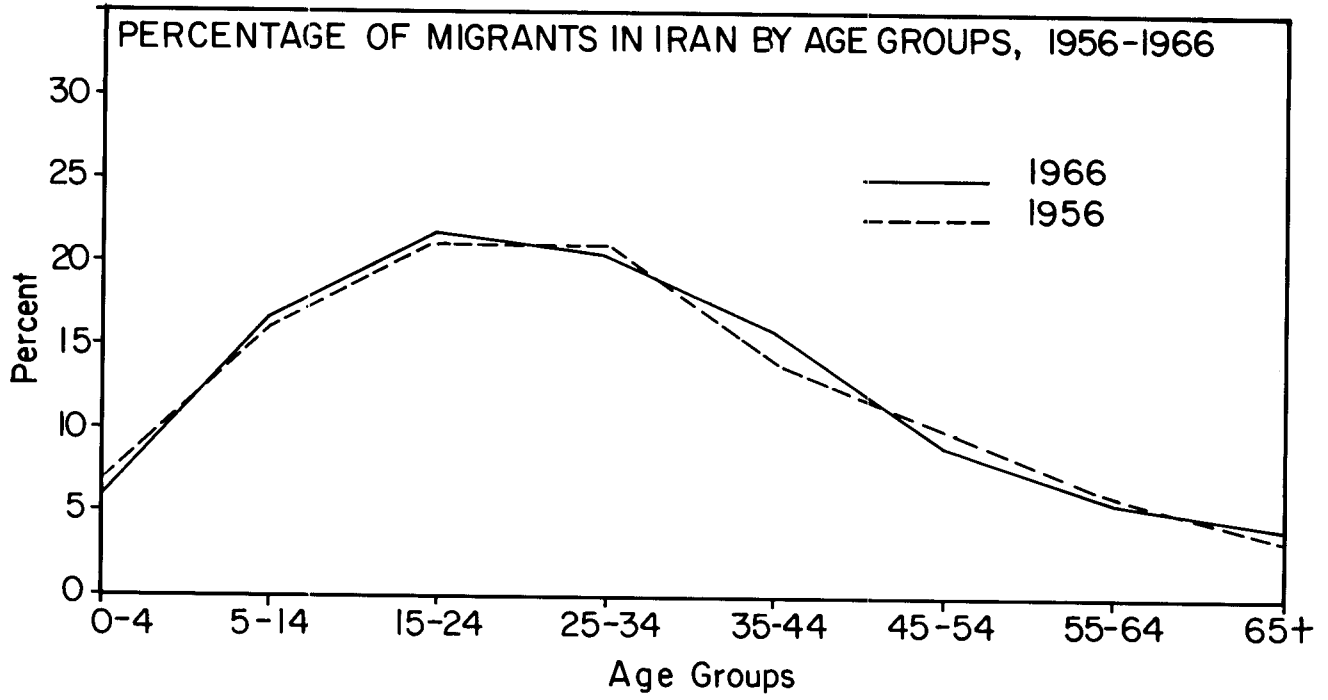
Table 78: Population of Iran in 1956-1966 by their age group, number and percentage of migrants and number of migrants per 100 person

Age Group	Population		Number of Migrants		Percent Migrants		Number of Migrants per 100 Persons	
	1956	1966	1956	1966	1956	1966	1956	1966
Iran total	18,954,704	25,078,923	2,081,082	3,224,534	100.0	100.0	11.0	12.8
0-4	3,347,698	4,436,921	141,153	174,703	6.8	5.4	4.2	3.9
5-14	4,645,458	7,123,408	333,726	528,933	16.0	16.5	7.2	7.4
15-24	2,917,702	3,811,197	455,248	714,712	21.9	22.1	15.6	18.8
25-34	2,904,175	3,317,718	442,113	674,764	21.2	20.9	15.2	20.3
35-44	1,947,441	2,739,289	291,830	512,812	14.0	15.9	15.0	18.7
45-54	1,446,433	1,584,447	207,295	294,999	10.0	9.2	14.3	18.6
55-64	987,127	1,097,838	128,730	183,731	6.2	5.7	13.0	16.7
65 +	751,607	968,105	79,796	139,880	3.8	4.3	10.6	14.4
Not Reported	7,063	-	1,191	-	0.1	-	16.9	-

Source: First National Census of Iran, 1955, Vol.2.

Second National Census of Iran, 1966, Vol.168.

Fig.24



The Manpower Sample Survey in 1964, conducted by the General Department of Manpower Studies and Statistics, Iranian Ministry of Labour and Social Affairs, indicated that nearly half of the total migrants mentioned their main reason as being 'seeking a better job' (Table 79). The large migration towards the cities may be due to the "... low pay and consequently smaller prestige of agricultural workers." (8) Shadman in 1974 writes, "agriculture has been the most depressed sector. This is due, in part, to a government policy of industrial activities." (9)

As Tables 79 and 80 show, in 1964 a quarter of the principal migrants moved for the sake of marriage. This was the main reason for 73.6% of the female principal migrants. The reason of 'joining family members' was also more common for female migrants (12.3%).

Education and the concentration of educational institutions were other important 'pulls' for the cities. Nearly all migrants who moved for educational reasons went to the cities. Shadman in 1974 writes 'we discovered that migrants are more likely to move to better cities where a large percentage of the population is educated, and again, this is due to the fact that larger cities in Iran have better educational facilities.' (10)

7.5 CONCLUSION

The forgoing analysis of migration does not present a complete picture of migration in Isfahan and Iran, due to the lack of reliable data. Using available sampling results different researches and the reports of two National Censuses of Iran, an attempt has been made to present a rough idea of migration in both Isfahan region and Iran as a whole. The data available indicate that the number of migrants increased by about 5% in Isfahan City and by about 2.0% in Iran as a whole over a period of 10 years (1956-1966). Although the net-migration in Isfahan City was not calculable,

Table 79: Reasons for migration, 1964

Reasons for Migration of Principal Migrants	Total Migrants	Principal Migrants		Secondary Migrants		Not stated
		Number	%	Number	%	
Total	4,287,711	1,823,057	100	2,464,608	100	46
Seeking a better job	2,110,580	794,652	43.6	1,315,928	53.4	-
Seeking work	478,579	194,675	10.7	283,904	11.5	-
Transfer	549,137	138,056	7.6	411,081	16.7	-
Marriage	465,597	448,741	24.6	16,856	0.7	-
Joining their family member	157,922	106,466	5.8	51,456	2.1	-
Education	56,246	29,514	1.6	26,732	1.1	-
Other reasons	283,214	97,133	5.3	186,081	7.5	-
Not stated	186,436	13,820	0.8	172,570	7.0	46

Source: Ministry of Labour and Social Affairs,
1968, p.47.

Table 80: Migrants by sex and reason for migration, 1964

Reasons for Migration of Principal Migrants	Both Sex		Males		Females	
	Principal Migrants	Secondary Migrants	Principal Migrants	Secondary Migrants	Principal Migrants	Secondary Migrants
Total	100.0	100.0	100.0	100.0	100.0	100.0
Seeking better job	43.6	53.4	63.7	52.5	2.9	53.9
Seeking work	10.7	11.5	13.5	9.9	5.0	12.4
Transfer	7.6	16.7	11.1	17.3	0.5	16.3
Marriage	24.6	0.7	0.4	0.7	23.6	0.6
Joining their family members	5.8	2.1	2.6	3.0	12.3	1.6
Education	1.6	1.1	2.1	1.3	0.7	1.0
Other reasons	5.3	7.5	5.9	8.4	4.2	7.1
Not stated	0.8	7.0	0.7	6.9	0.8	7.1

Source: Manpower Sample Survey, 1964.

due to the inadequacy of the data, the growth of the city indicated an overall net in-migration towards the city, whereas Isfahan province as well as Isfahan Shahrestan, during the same period, showed an overall net out-migration. Bearing in mind "the larger the city, the higher the likelihood of attracting in-migration as opposed to generating out-migration,"⁽¹¹⁾ these factors can be understood. In other words, the decline of the rural areas was associated with the low income and prestige attached to occupations there as opposed to the attractions of the more developed regions, including the cities, including Isfahan City, one of the largest and most developed cities of Iran.

This study shows that migrants are mainly in the working age group, although this does vary. Moreover, male migrants out-numbered the females, although this is not always marked. The results of sampling and research in Isfahan City and other parts of Iran on the reasons for migration indicate that nearly half of the migrants left their homes to seek either a better job or employment. In other words, unemployment or insufficiency of jobs in many regions caused migration. The metropolis of Tehran and recently Isfahan City, which is predicted to be the 'Industrial Centre of Iran' in less than five years, attract large number of migrants from all districts of Iran, especially areas of high unemployment. Unfortunately, high unemployment rates resulted in the cities, because new industrialization in the cities is not yet ready to absorb the labour force.

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CHAPTER VIII

AREAL EXPANSION IN ISFAHAN

8. INTRODUCTION

Few documents exist to show the exact size of the city at various dates and therefore its expansion. So, although the city has expanded horizontally and vertically, it is difficult to ascertain the pattern and direction of growth for each period. Nevertheless, an attempt has been made to determine the expansion of the city of Isfahan.

8.1 ISFAHAN'S EXPANSION SINCE THE 17th CENTURY

Brown in 1965 mentioned an ancient map of Isfahan City, drawn in the late 17th Century, which shows, "... the nuclear area centred on the Masjid-i-Jami, as well as an irregular street pattern, scattered monuments and public buildings mostly from pre-safavid times."⁽¹⁾ (See Fig. 25). The river was outside the gates and walls of the city, separating the northern part of Isfahan from the southern suburb, Julfa. Using Chardin's estimate of the population of Isfahan City in the mid 17th Century (600,000), and considering the area of the city as being close to 12 sq. Km., the density of the population is roughly 50,000 persons per sq. Km., which seems to be extreme, either because of the over-estimated population or the under-measurement of the city.

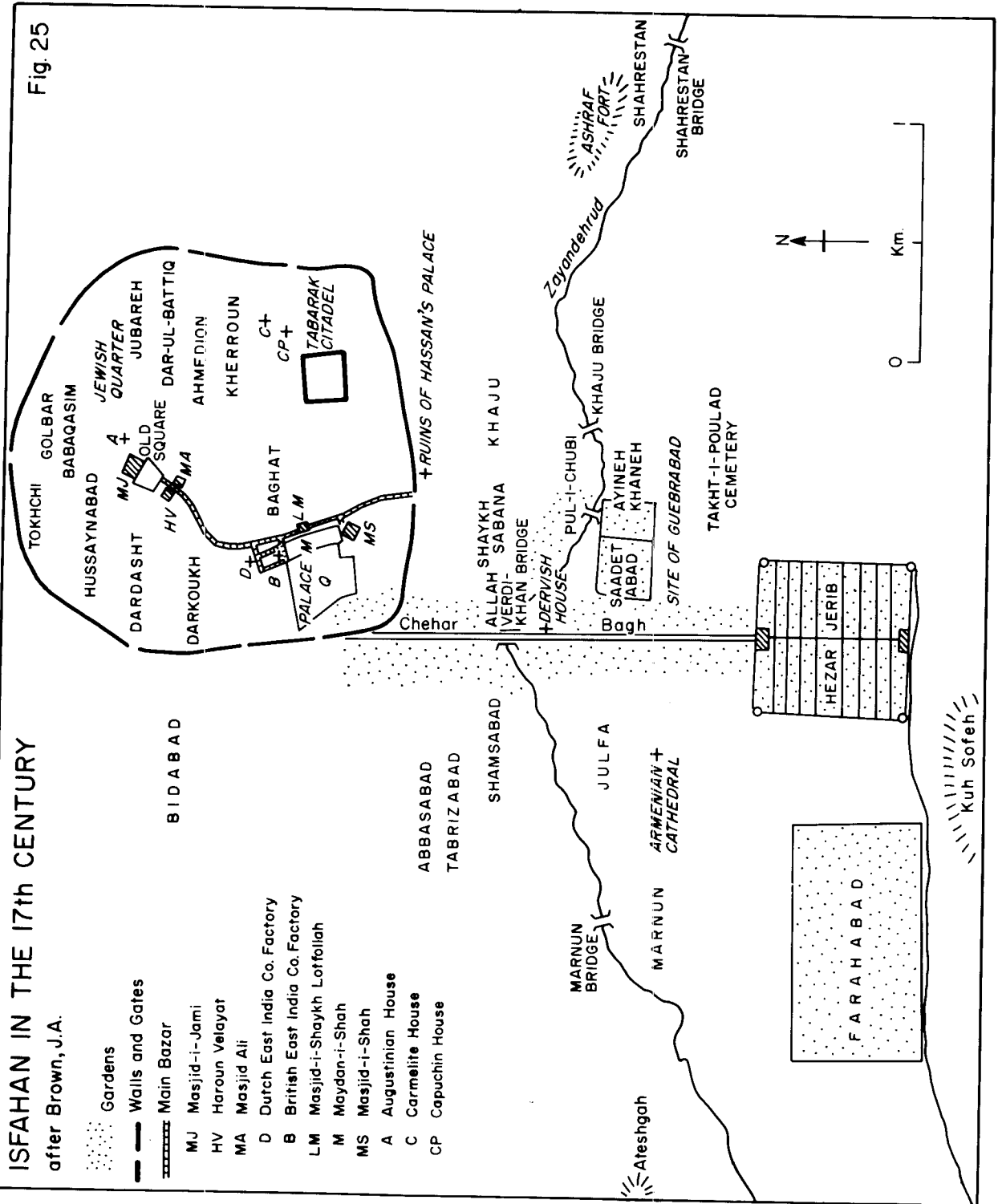
By 1923, when the next cartographic evidence is available in the form of a rough map, Isfahan was nearly 2.2 times larger in size than in the 17th Century, while, as Neville⁽²⁾ estimated, the total population of the city was 40,000, or 15 times smaller than that of the 17th Century. Relying on both an uncertain population estimate and size of the city, the density of the population may be calculated as 1,639 persons per

ISFAHAN IN THE 17th CENTURY

after Brown, J.A.

Fig. 25

- Gardens
- Walls and Gates
- Main Bazar
- MJ Masjid-i-Jami
- HV Haroun Velayat
- MA Masjid Ali
- D Dutch East India Co. Factory
- B British East India Co. Factory
- LM Masjid-i-Shaykh Lotfollah
- M Maydan-i-Shah
- MS Masjid-i-Shah
- A Augustinian House
- C Carmelite House
- CP Capuchin House



BIDABAD

TOKHCHI GOLBAR
BABAGASIM
HUSSAYNABAD
DARDASHT
DARKOUKH
OLD SQUARE
AHMEDION
KHERROUN
BAGHAT
PALACE M
G
MA
HV
MJ
JEWISH QUARTER
JUBAREH
DAR-UL-BATTIQ
C+
CP+TABARAK CITADEL

ABBASABAD
TABRIZABAD

ALLAH SHAYKH
VERDI-SABANA
KHAJU BRIDGE
KHAJU
KHAJU BRIDGE
PUL-I-CHUBI
HADEVI SH HOUSE
AYINEH KHANEH
SAADET ABAD
SITE OF GUEBRABAD
TAKHT-I-POULAD CEMETERY

SHAMSABAD
JULFA
MARNUN
ARMENIAN + CATHEDRAL

ASHRAF FORT
SHAHRESTAN BRIDGE

HEZAR JERIB
FARHABAD
Kuh Sofeh

Ateshgah

0 Km.

sq. Km. at that time. As it is clear from the figures, the expansion of the city did not correlate with the population growth, although this feature could be possibly due to inaccurate reports of the travellers' estimates which are the only documents available at that time.

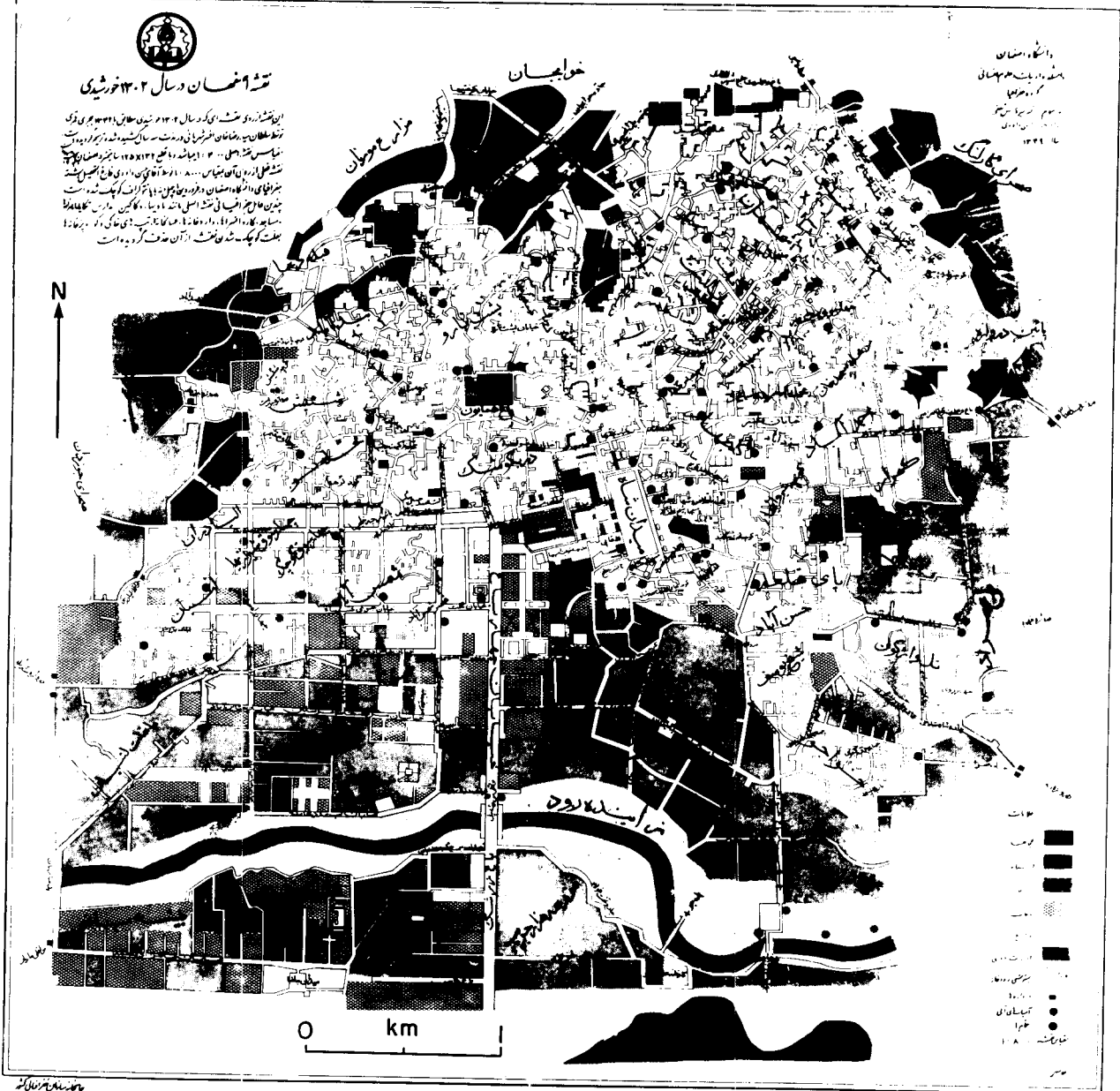
On the whole, comparison between the two rough maps of the 17th Century and of 1923 shows that some streets were formed by 1923 and the river on the southern edge of the city divided the southern cultivated lands from the northern residential zones. Immediately over the river towards the north, gardens and farms still exist for a while, and the residential areas were next to these. The style of the houses was of the courtyard type, and very often yards took up the larger part. Chahar Bagh Avenue, the main avenue in the city, was placed nearly in the middle of the city. Towards the far east, west and north the city was surrounded by gardens and cultivated lands (see Fig. 26).

The first series of air-photographs of Isfahan were taken in 1956 during the First National Census. Although these air-photographs do not cover the whole city (some southern parts are missing), they give an approximate indication of the way the city has expanded in all directions. Chahar Bagh Avenue extended further towards the north, crossing many other streets by junctions and roundabouts. The river was almost inside of the city in the south, connecting the southern residential areas to the northern ones. Julfa had become a part of the city instead of being a suburb. The main growth of the residential areas and the city on the whole was more to the north east and east, whereas the north west and southern zones had grown less (see Fig. 27).

The built-up area in 1956 extended nearly 5.5 Km. from west to east and 6 Km. from north to south. The total area of the city was roughly 35 square Km. Considering the report of the First National Census of Iran, which gave a total population of 254,708 for Isfahan City,

Fig 26

ISFAHAN CITY 1923

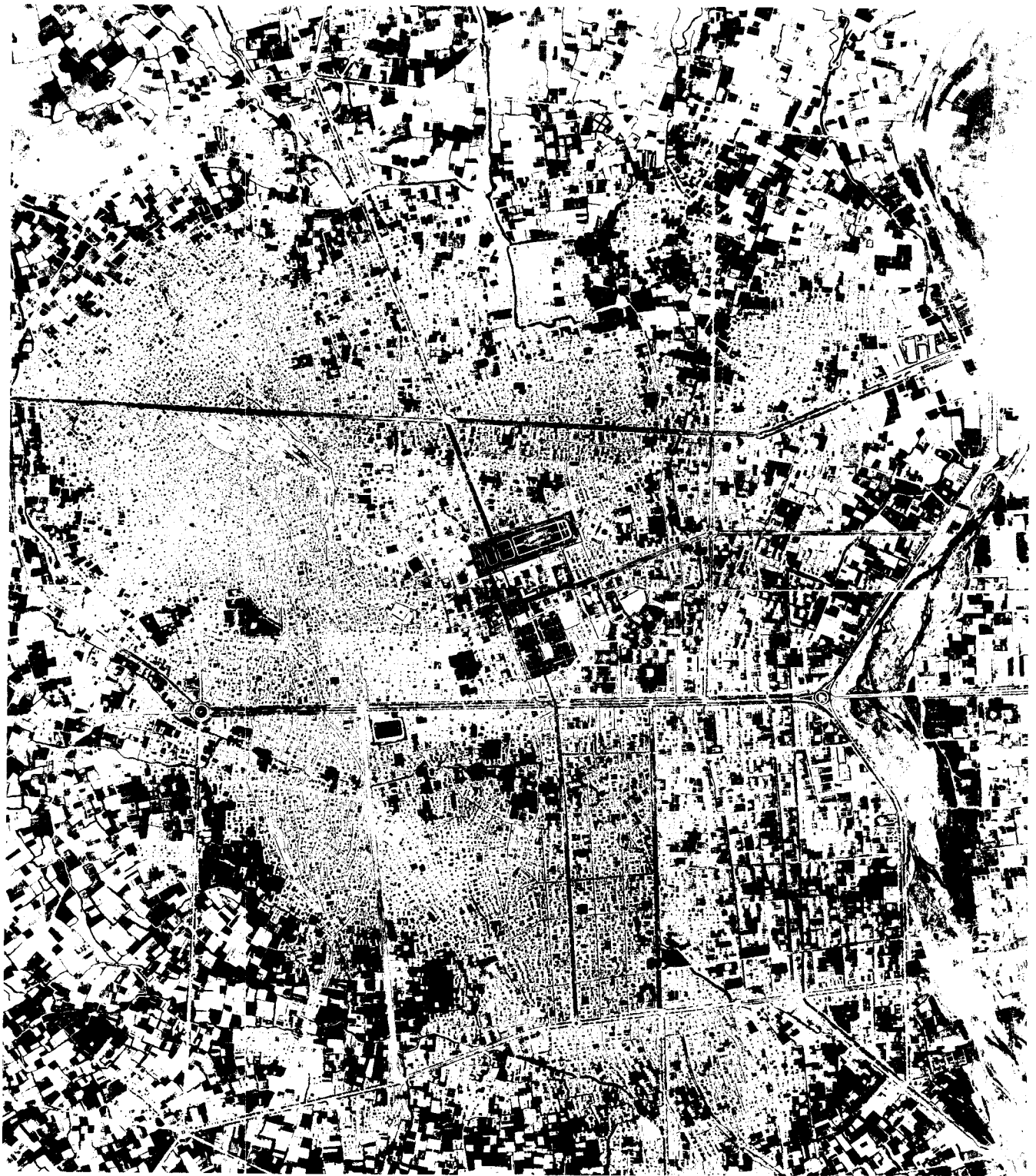


پلان اصفهان در سال ۱۳۰۲ خورشیدی

۱۳۰۲ خورشیدی

Fig. 27

ISFAHAN CITY 1956



z ←

0 Km |

the density of the population per square Km. was 7,277, nearly 4.4 times more crowded than in 1923. As the given figures indicate, in 1956 the expansion of the city correlated with the population growth, which may be due to:

- (1) More accurate reports of the population and size of the city.
- (2) More economic progress in the city, which increased the population, thus enlarging the size of the city.

In the decade 1956-1966, the population of the city rose rapidly from 254,708 to 424,045 (1.7 times larger), with an annual increase of 5.2 percent. This quick growth was associated with great changes in many of the city's functions, administration, commercial, industrial and communicational. The morphological change of the city may be traced by examination of a set of air-photographs and maps taken and drawn in 1966, and the map of 1965 (Fig. 28). The scale of the air-photographs is 10,000 (smaller than that of the 1956 photographs), and they cover nearly all parts of the city. Comparison of the air photographs of 1956 with those of 1966 reveals in particular:-

- (i) the development of street towards the northern and southern ends of the city.
- (ii) the expansion of residential areas towards the south west, west and north east of the city.
- (iii) the establishment of some new factories (mostly textile) and also Isfahan airport in the south west and south east of the city.
- (iv) the bed of the Zayandeh-Rud was almost in the middle of the city.
- (v) the retreat of the surrounding gardens and cultivated areas towards the north east, east and north west (see Fig. 29).

The density of the population was 5,507 per square Km., which was 0.8 times less than the previous density in 1956, while the size of the

Fig 29

ISFAHAN CITY 1966



Fig 30

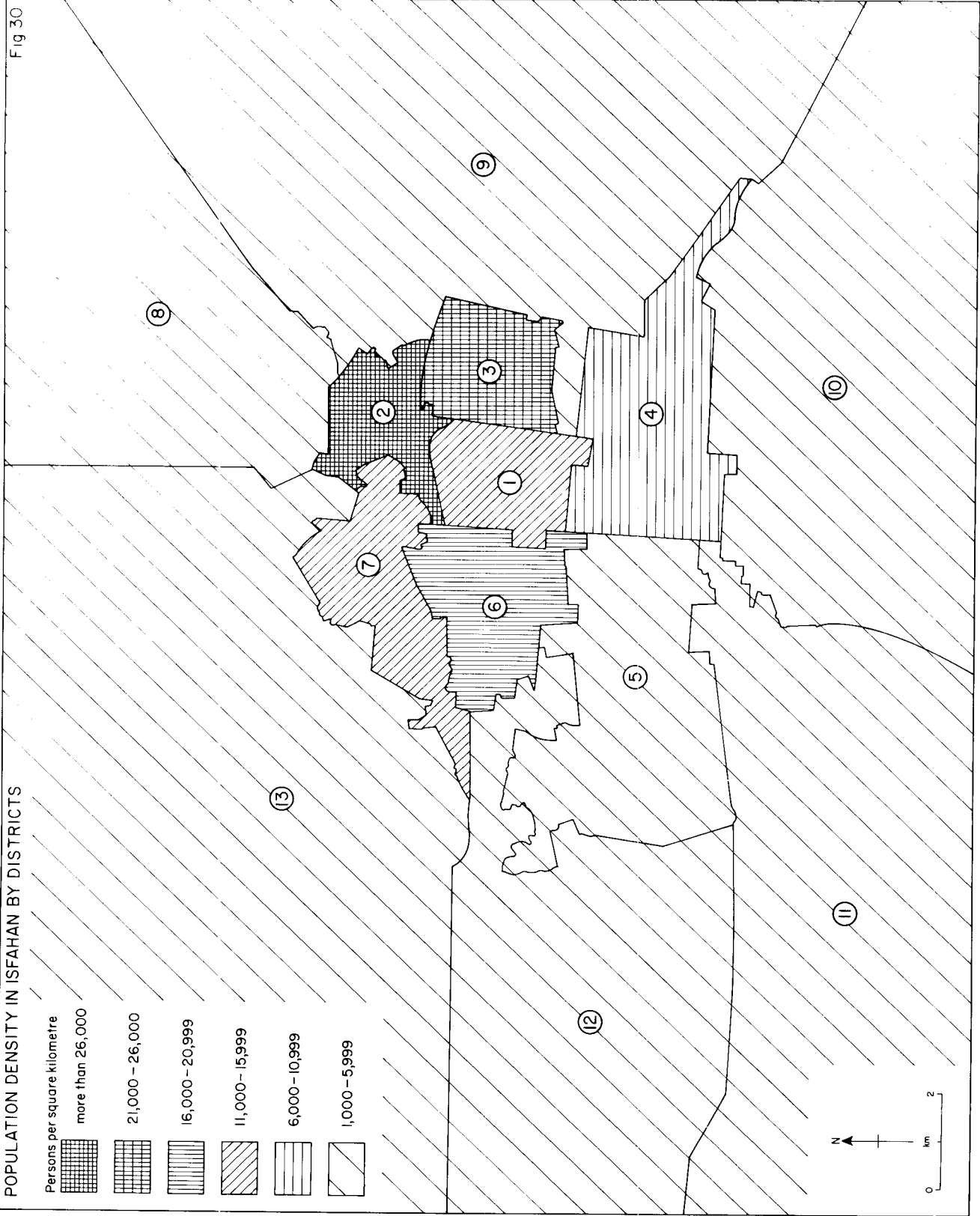
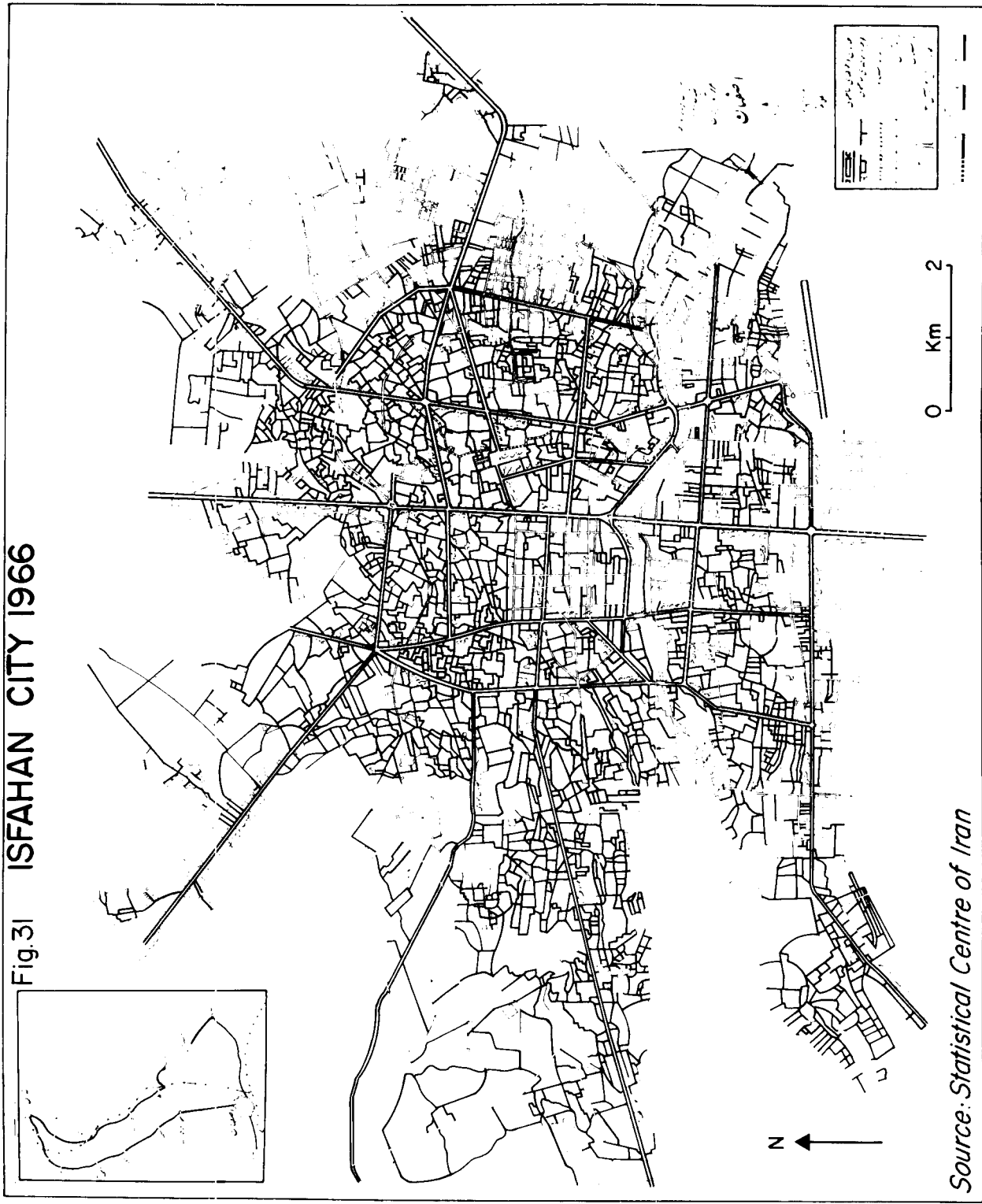


Table 81: Number of villages added to Isfahan City
in 1976 by their population in 1966.

	Rural areas	Number of households	Total Population	Males	Female
East	Scalan	5	19	7	12
	Kohsar	8	33	18	15
North-East	Azadan	26	138	74	64
	Savareh Bagh	5	25	14	11
	HadiKoli	2	2	2	-
	Kosareh	42	199	108	91
North-West	Bahram-Abad	154	713	373	340
	Ashegh-Abad	686	3,036	1,603	1,433
	Babokan	211	866	465	401
	Total	1,139	5,031	2,664	2,367

Source: National Census of Iran, 1966.

Fig.31 ISFAHAN CITY 1966



Source: Statistical Centre of Iran

Fig.32 EXPANSION OF ISFAHAN

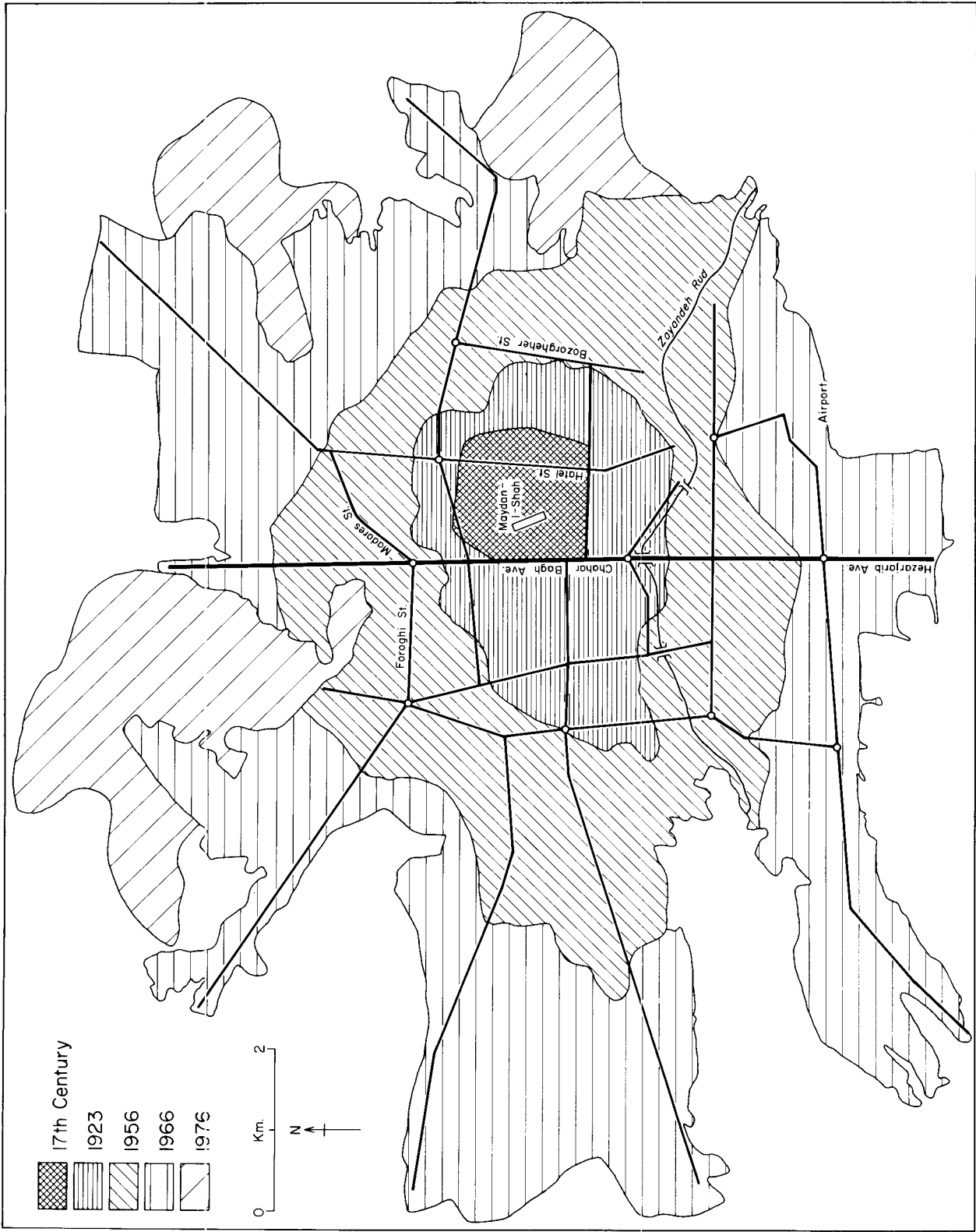
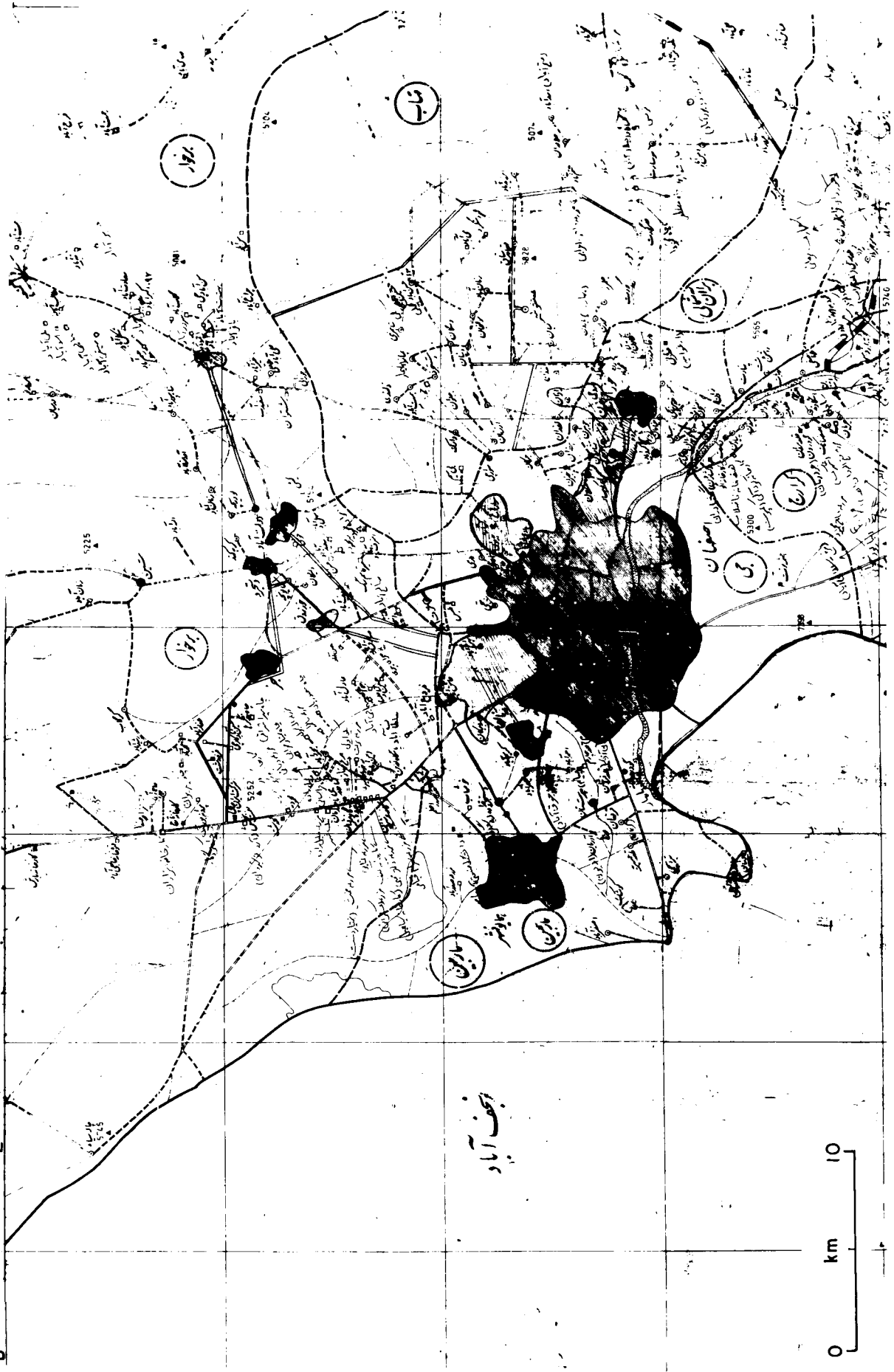


Fig 33 THE MOST RECENT MAP of ISFAHAN-1976 (Rough Map)



any reliable reports of the size of the city in 1976, the calculation of population density is not valid.

8.2 CONCLUSION

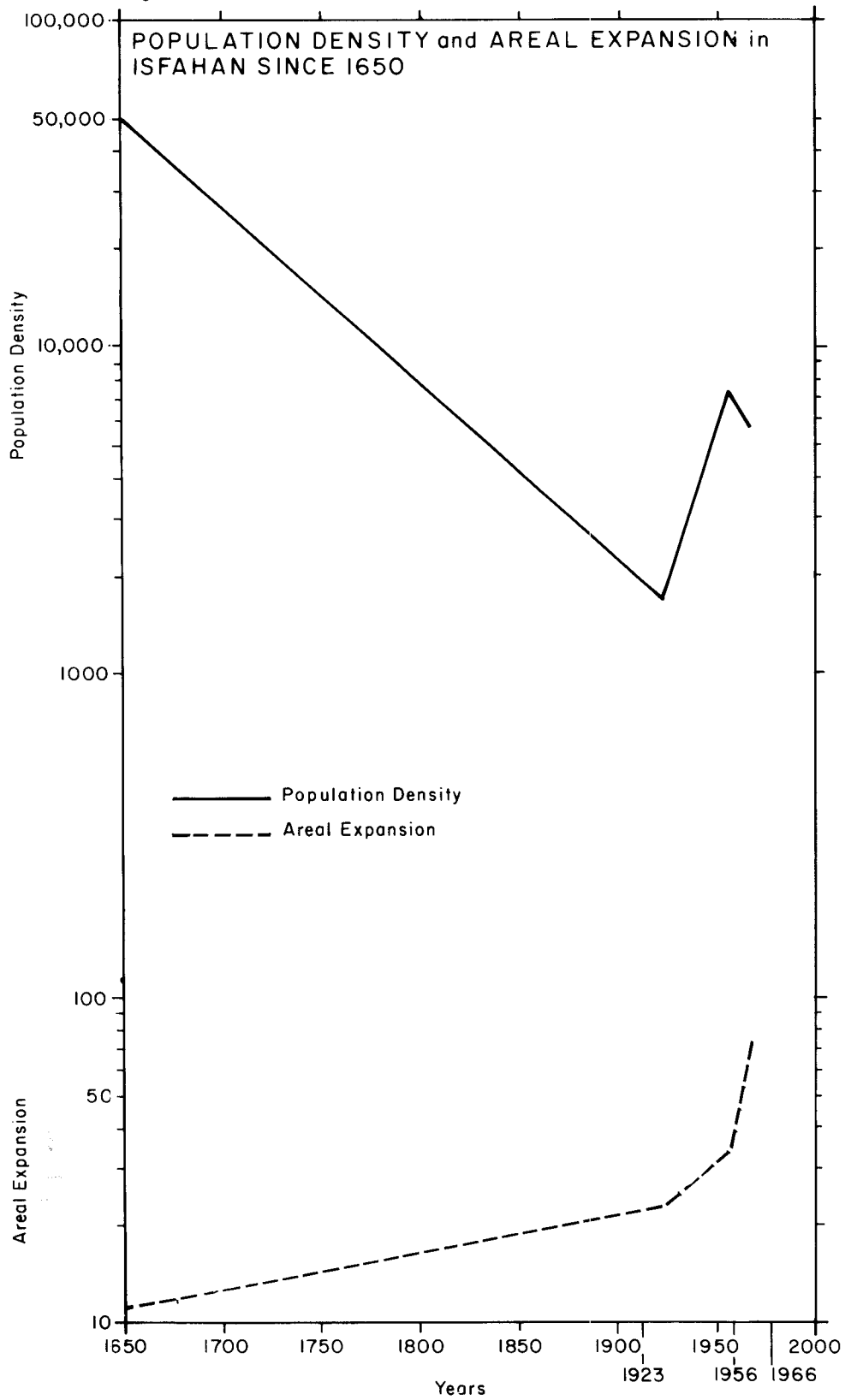
Differential peripheral expansion of Isfahan City since the 17th Century is summarized in Fig. 33, which roughly shows the outlines of the city at various dates. On the whole, the city has expanded in every direction since the original shape in the 17th Century. Today it has few gardens and little greenery, and the surrounding cultivated areas, gardens and farms, look like retreating from the centre of the city and being occupied by residential and built-up areas which have covered almost all parts of the city.

Fig. 34 graphically shows the pattern of the areal expansion and changes in the density of the population per square Km. since the 17th Century. As it is clear, the changes in population density did not coincide with the areal expansion, except in the period between 1923 and 1956; in other periods the population density decreased while the city was expanding. On the whole, although the population of Isfahan City since 1923 was always growing, the areal expansion had a more rapid growth.

City expansion in Isfahan is rather similar to other large Iranian cities. Although, for example, Tehran's expansion looks very complicated and discussion about the different factors seems not very relevant to the present survey, there are some common elements helping city growth in both Isfahan and Tehran, and indeed other large cities in Iran. These elements include:

- (1) Increased economic activities, in the sense of diverse factories, workshops and some other related productive centres.
- (2) The less active agricultural sector in the surrounding rural areas, and other declining activities in the closer towns, which cause

Fig 34



out-migration from the villages or smaller cities.

(3) Population growth, both because of high natural increase and migration to the city.

(4) The development of low density residential areas.

(5) The increase in motor transport.

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CHAPTER IX

POPULATION GROWTH IN ISFAHAN

Isfahan's population has increased at a rate of 4-5 percent per annum since 1956. According to the censuses, in the period 1956-1966 the increase was by 169,337 or 1.7 times, and in the next decade (1966-1976) the population still had a high increase of 247,781 or 1.6 times greater to reach a total of 671,825. Its growth rate during the first decade appears to have been slightly more rapid than during the second decade.

The major factors of population increase were, (i) number of births, (ii) number of deaths, (iii) net migration, and (iv) areal expansion. The keys were the high natural increase, resulting from the declining death and high, though declining, birth rates and also a great number of rural migrants, who moved towards Isfahan. So far, family planning activities in Isfahan and Iran as a whole have made a serious attempt to control the fertility explosion and reduce the number of births and therefore natural increase. This activity, although very reliable reports on their work are not available, may be considered as a relatively effective factor in reducing the number of births in Isfahan and Iran as a whole, but more attention is required to achieve more progress.

Annual growth of the population of Isfahan may be calculated by using the U.N. formula⁽¹⁾ (Table 82). In the second decade, as it is clear from the table, Isfahan and also some other large cities like Tehran, Mashhad, Shiraz, Ahvaz, and Abadan had a slower growth than during the first decade of 1956-1966. Meanwhile some other cities like Tabriz, Hamedan and Kermanshah had a more rapid increase. On the whole, the three following points probably explain the different patterns of

Table 82: The growth of the population of some large cities of Iran, during 1956-66-76

Cities	1956	1966	1976	56-66	66-76
Iran	18,954,704	25,078,923	33,591,875	2.8	2.9
Tehran	1,512,084	2,719,730	4,496,159	6.0	5.1
Isfahan	254,708	424,045	671,825	5.2	4.7
Mashhad	241,989	409,616	670,180	5.4	5.0
Tabriz	289,996	403,413	598,576	3.3	4.0
Shiraz	170,659	269,865	416,408	4.6	4.4
Ahvaz	120,098	206,375	329,006	5.7	4.7
Abadan	226,083	272,962	296,081	1.8	0.8
Kermanshahan	125,439	187,930	290,861	4.1	4.4
Rasht	109,491	143,557	187,203	2.7	2.7
Hamedan	99,909	124,167	155,846	2.2	2.3

Source: First National Census of Iran. Vol. 2, 1956 .

Second National Census of Iran, Vol.168, 1966 .

First results of the Third National Census, 1976.

growth in the large cities in the second decade.

1. More progress and better results of family planning activities in some cities where the programme has received more support from society.
2. Recently increased industrial activities in some previously less-active cities, which attracted more migrants and therefore affected the direction of migration towards other cities.
3. New roads between previously isolated towns and cities, which have helped more movement and migration.

The recent rapid growth of the population in Iranian cities is not an unusual picture in the Middle East. Dewdney in his article, 'Turkey, Recent Population Trends' wrote "Growth in recent years has been much more rapid in urban than in rural areas."⁽²⁾ He compared the growth of the population in urban areas with the total growth of the country between 1950 and 1965, and said, "... while the population of Turkey rose by nearly 50 percent, the urban element increased by 138 percent, a numerical growth of 5.4 million."⁽³⁾ Dewdney believes that "... migration from rural areas plays an important role in urban growth."⁽⁴⁾ Another example may be seen in Iraq. "Since 1930 there has been both an absolute and a relative increase in the number of urban dwellers, of whom there were 3.6 million at the last census (1965), 43.9 percent of the total population. The annual rate of urban growth was 5.1 percent between 1947 and 1957, and 5.7 percent between 1957 and 1965."⁽⁵⁾

Unfortunately, the exact number of births and deaths in Isfahan City and Iran as a whole is not clear. The absence of data also precludes illustration of net migration from Isfahan towards other regions, so net migration remains uncertain also. Considering all the limited

available data, the conclusion may be made that, very similar to the other large Iranian cities, the growth of the population in Isfahan City is due, on the one hand, to the high natural increase, and on the other, to migration and areal expansion. Consequently, in Isfahan City, any plans for population control must place a great emphasis on reducing natural increase. Birth control should be considered as the most important factor. Moreover, migration to Isfahan, which is mostly from rural areas. Clark describing the rural-urban movements in Iran, explains the reasons for these migrations and writes, "It is in the agricultural sector that the greatest push factors are found."⁽⁶⁾ Migration control would not happen in the cities unless more jobs, better health conditions, more educational facilities and higher standards of living take place in rural areas. It seems logical that by reducing the natural increase and migration in the city, areal expansion could also be controlled.

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1. Per Annum growth

U.N. formula $\left(\sqrt[t]{\frac{P_1}{P_0}} - 1 \right) \times 100$

where P_0 = Population at the beginning of the period.

P_1 = Population at the end of the period.

t = Number of years.

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CONCLUSION

Having considered various aspects of the population geography of Isfahan City over a period of 20 years, it is valuable now to make a comprehensive summary of different findings achieved throughout this study.

Although Isfahan City since the very beginning was one of the most important Iranian cities with favourable physical factors, such as its particular location away from all the frontiers, its good climate, very fertile soil, and its siting on important roads, Shah Abbas the Great by choosing the city as his capital multiplied its glory and gave it a fabulous name which will remain forever. During this time, different unofficial estimates of the city's population, mostly by travelers, gave varied totals, some as high as 1,000,000 (Chardin's estimate), indicating a rapid population growth for that period. The decline of the city started by Shah-Abbas' death and continued during his successor's time. Never again was Isfahan the capital of the country, and more than any other Iranian city, it suffered from sieges, wars, massacres and suppressions during different periods, which directly affected population change. The best example is during the Afghan invasion, when the total population was reduced to less than 50,000 inhabitants. After nearly two centuries, by the time of Reza Shah's rule, like other parts of the country, the dark period of Isfahan gradually started clearing. Modernization, in the sense of industrialization and urbanization, came to Isfahan. Many new factories, plants and workshops were established towards the south of the city, which were the first economic poles for migration towards the city, and the first factors which changed the pattern of population change and structure.

The First National Census of Iran in 1956 and the second one in 1966 officially reported the different characteristics of the population of Isfahan City as well as the rest of the country. From the occupational structure point of view, Isfahan City, similar to other large Persian cities, exhibited a pattern in 1966 which was different from that in 1956. There was a stagnation in agriculture, an improvement in the industrial sector, a decrease in the proportion of active population (due to an increase in the percentage of students), and a decline in the proportion of employed (because the recently developed industry in the city was not able to employ a great number of migrants who were mostly unskilled and manual labourers). Although the newly established industrial centres, particularly the steel mill, did not engaged all the active population in the city, they gave a fantastic surge to the city which encouraged many migrants to leave their homes and move towards the city, all seeking for a better job and a higher standard of living. Since in Iran, and most of the other Middle Eastern Countries, there is an excess of male migrants to females, the sex ratio in Isfahan City increased by 1966 and, as the early results of the latest National Census indicate, again in 1976 (the ratio rose from 104.9 males per 100 females in 1956 to 107.3 in 1966, and 112.3 in 1976).

Although the migration towards Isfahan, due to the flourishing economy in the city, pushed the growth of the population, particularly in the very recent years, it was not the only effective factor. On the whole, migration had less influence upon the growth of the population in Isfahan than natural increase. Like many other developing countries, Iran as a whole has a declining mortality pattern. Due to better equipped hospitals, clinics and other health centres, and also higher standards of hygiene in all of the large cities of Iran, the mortality rate is

even lower in those cities than smaller localities. The wide base of the age-sex pyramid of Iran and Isfahan reflects firstly the high numbers of births and secondly the decline in infant mortality. Although, as it has been surveyed through chapters four and six, due to the poor, untrustworthy and inaccurate data of the registered births and deaths, an exact and clear picture of natural increase in Isfahan, as well as all other parts of the country, is not easy to draw. However, the rough figures of vital events in Isfahan indicate the great influence of natural increase upon the total growth in the city. High birth rates, although not as high as in some less-developed regions, may be considered as the major and most important factor.

Considering the importance of the birth rate in Iran as a whole, the Government decided to have a family planning programme in 1969. Many socio-cultural problems retarded the development of the family control projects in Iran and Isfahan, like the social disgrace of sterility, the great fear of infant deaths, the low cost of living of children and their work (mostly after the age of 6, but helping family incomes) and religious encouragements of having more children. Nevertheless considerable work has been done on fertility control. The Ministry of Health which runs the whole project has reported the achievements of nearly 95% of the major goals during the 4th development plan (1968-1973). The progress of family control in Isfahan City may be understood by noticing the growth by 4.6 times of the number of contraceptive acceptors over a period of 5 years (1969-1974). Although much evidence shows the progress of family planning activities in Iran, the need of even further development in that programme is still required. The huge proportion of the children under 10 could create problems in the very close future if the family planning programme is not seriously enlarged. To achieve more

progress in family planning activities, more knowledge, awareness and practice is urgently required, with attention being focussed on the middle and lower classes, as well as rural residents. For more progress in reducing the number of births, the economic characteristics of the households, in the sense of their incomes per person and their employment status, particularly among the middle and lower class population, should be carefully controlled by the government, since one of the most important reasons for having more children is their economic help to families after the ages of 6 or 7. Hopefully, much evidence exists which indicates how eager people are to have less children. Young couples, these days, mostly want no more than three children, and households are getting smaller. Features like urban living, higher incomes (which have been recently achieved in some types of jobs) and increased communications (which destroy the fear of being isolated from the other regions and encourage more social contacts between people) also have a great influence upon the desire of having smaller households, and may be considered as significant elements in the reduction in the number of births.

Another important factor of population growth in Isfahan, after the natural increase, is in-migration. This feature may be balanced by more development in the agricultural sector in the rural areas. Indeed, in different regions many changes and developments are required within the agricultural economy. For example, in one region agriculture may be able to absorb more manpower through mechanization, whereas in other regions mechanization may bring unemployment and out-migration. However, as soon as agriculture receives more attention and more progress, it will reduce the push factors, and there will be a noticeable reduction in the number of migrants from the rural areas towards larger cities like Isfahan. More progress will be achieved when new productive centres

develop in small or medium-sized cities, particularly in those which are close to Isfahan City. In other words, by spreading out the industrial establishments, the heavy load of migrants towards the city will certainly decrease.

Finally, it is hoped that this study of Population Geography of Isfahan City with its different findings and simple suggestions, provides a rough picture of the pattern of population growth in the city, while demonstrating some of the problems arising from this growth.

APPENDIX I: Percent households with certain size
(1 to 6 and 6+ per household) by
Province in Iran, 1956

Province	1	2	3	4	5	6	6+
Iran	5.4	12.2	16.3	17.9	16.5	13.0	31.8
Central	8.8	13.4	16.1	16.8	15.0	12.4	29.9
Gilan	3.9	10.4	15.5	17.8	16.7	13.7	35.6
Mazandaran	5.4	11.2	15.3	17.5	16.5	13.4	34.1
East-Azarbayijan	4.0	10.4	15.0	17.5	17.2	13.9	36.0
West-Azarbayijan	4.4	9.8	14.0	16.6	16.5	13.2	38.8
Kermanshahan	3.5	10.8	15.6	18.4	17.8	14.3	33.9
Kordestan	2.7	9.2	14.9	18.3	17.3	13.9	37.6
Khuzestan	4.5	10.0	14.1	17.3	17.0	14.1	37.1
Fars-Banader	5.1	12.8	16.8	18.2	16.9	12.9	30.3
Kerman	5.9	14.2	19.6	19.7	16.4	12.1	24.1
Khorasan	6.2	15.7	20.0	19.2	16.2	10.7	23.0
Isfahan	6.1	14.8	16.6	17.6	16.1	12.5	28.7
Sistan-- Baluchestan	2.8	13.8	18.8	19.7	16.8	12.1	28.0

Source: First National Census of Iran, 1956, Vol.2,p.29.

APPENDIX II: Percent households with certain size (1 - 6 and 6 +)
by Province in Iran, 1966

Province	1	2	3	4	5	6	6+
Iran	5.5	11.6	13.5	15.2	15.4	13.9	38.8
Central	6.7	12.4	13.8	15.3	15.4	13.8	36.4
Gilan	4.4	10.5	13.4	15.2	15.4	13.7	41.0
Mazandaran	5.3	9.6	12.1	14.0	14.8	13.9	44.1
East-Azarbayijan	3.7	9.1	11.9	14.7	16.3	15.2	44.2
West-Azarbayijan	4.2	8.9	11.4	14.1	15.1	14.5	46.3
Kermanshahan	4.0	9.9	12.9	15.3	15.7	15.0	42.1
Khuzestan	4.4	9.4	11.5	13.5	14.0	13.3	47.1
Fars	5.3	11.8	13.5	14.6	14.7	13.7	40.0
Kerman	6.8	13.8	14.8	15.6	15.1	13.2	33.8
Khorasan	7.3	14.6	16.4	16.8	15.7	12.7	29.3
Isfahan	6.7	13.8	13.6	14.9	15.1	13.8	35.9
Sistan-Baluchestan	4.8	15.6	17.0	17.4	15.9	12.4	29.3
Kordestan	4.3	9.6	13.2	15.8	16.0	14.3	41.2
Hamedan	4.2	10.7	13.1	15.5	16.3	15.0	40.2
Chaharmahal- Bakhtiary	4.4	11.4	13.1	14.4	14.6	13.9	42.2
Lorestan	3.3	9.5	12.6	14.8	16.0	15.5	43.8
Ilam	1.9	7.7	11.0	13.8	15.1	15.1	50.4
Kohkiluyeh- Boveirahmad	3.0	10.5	13.0	15.1	15.6	14.8	42.8
Persian Gulf Ports and Isles	4.8	11.3	13.8	14.9	15.1	13.7	40.0
Oman Sea Ports and Isles	5.5	15.4	17.0	17.3	15.7	12.2	29.1
Semnan	8.7	13.3	13.4	14.3	14.8	13.4	35.5

Source: Second National Census of Iran, Vol.168,
1966, p.127.

APPENDIX III: Total death, by sex according to international classification of causes of death
in Tehran City, 1956-64

Class description	Code No.	1956			1964				
		Male	Female	Total	%	Male	Female	Total	%
		1-138	678	471	1,149	7.9	1,511	1,236	2,747
140-239	329	228	557	3.8	845	553	1,398	5.9	
Allergic, endocrine system metabolic & nutritional diseases	240-289	288	262	550	3.8	445	298	743	3.1
Diseases of blood and blood forming organs	290-299	63	38	101	0.7	107	73	180	0.8
Mental, psychoneurotic and personality diseases	300-326	11	14	25	0.2	12	8	20	0.1
Diseases of the nervous system sense organs	330-398	199	169	368	2.5	246	179	425	1.8
Diseases of the circulatory system	400-468	905	739	1,644	11.3	1,794	1,417	3,211	13.5
Diseases of respiratory system	470-527	1,011	780	1,791	12.4	1,921	1,462	3,383	14.2
Diseases of the digestive system	530-587	1,064	937	2,001	13.9	2,411	2,162	4,573	19.2
Diseases of the genitourinary system	590-637	375	258	633	4.4	555	470	1,025	4.3
Diseases of the pregnancy, child birth and puerperium	640-689	-	35	35	0.2	4	15	19	0.1
Diseases of the skin and cellulartissue	690-719	-	-	-	-	-	-	-	-
Diseases of the bones & organs of movement	720-749	-	-	-	-	-	3	3	-
Congenital malformations system	750-759	7	5	12	0.1	5	3	8	-
Certain diseases of early infancy	760-776	289	215	504	3.5	1,709	1,130	2,839	11.9
Symptoms senility and ill-defined conditions	780-795	2,407	1,885	4,292	29.6	1,101	900	2,001	8.5
Accident, poisoning & violence	800-999	552	273	825	5.7	812	397	1,209	5.1
Total		8,178	6,309	14,487	100.0	13,478	10,306	23,789	100.0

Source: Ministry of Health, Health Statistics and Survey Office.

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