



THE HISTORICAL AND CURRENT URBAN DEVELOPMENT
OF IRAN: IMPLICATIONS FOR URBANIZATION
AND THE FUTURE

By

Vahid Movahed

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF URBAN PLANNING

School of Urban Planning and Landscape Architecture

1974

G89749

.....To my mother, brothers and
memory of my father

ACKNOWLEDGMENTS

I wish to express my gratitude to several people who have aided in the preparation and writing of this research document.

First, I would like to express my sincere appreciation to Professor Sanford S. Farness, my advisor. His constructive suggestions and assistance were immeasurable. I would also like to thank Professors Charles Barr, Donald Anderson, and Keith Honey, who helped me throughout my graduate study.

Second, I would like to thank my brother, Yahya, without whose help and encouragement this paper would never have been written.

Finally, thanks go to my friend, Mr. Fourzin, whose help in researching this document is greatly appreciated.

TABLE OF CONTENTS

	Page
LIST OF TABLES	ix
LIST OF FIGURES	x
 Chapter	
I. INTRODUCTION	1
Purpose of the Study	1
Overview	2
II. HISTORICAL BACKGROUND	4
Introduction	4
Early Civilization in Iran	9
Early Transportation in Iran	11
Shoes for the Beasts of Burden	11
The Wheel	12
Road Building	12
Early Crafts and Industries in Iran	13
The Earliest Cities and Architecture in Iran	13
Cities	13
Architecture	15
Early Building Material in Iran	16
Bricks	16
Lime and Mortar	16
Gypsum	17
Bitumen and Asphalt	17
III. THE NATURAL SYSTEM IN IRAN	18
Land	18
The Geography of Iran or Persia	18
Political and Geographical Boundaries	18
Deserts	18
Water Supply and Drainage--Mountains	19
Weather	21
Climate	21
Rainfall	22

Chapter	Page
Humidity	22
Wind	23
Summary of Characteristics and Problems of Natural Systems	24
IV. THE CULTURAL SYSTEM OF IRAN	25
Culture in Traditional Iranian Society	25
The Persian Way of Life as a Value System	27
Values by Cultural Traditions in Iran	27
Individualism	27
Fate	28
Respect	28
Business	29
Enjoyment	29
Values by Religious Traditions	29
Zoroastrianism	29
Shi'a	30
Values of Family Life	30
Westernization of Values	30
Social Structure	31
Settlement Patterns	31
Distribution of Population	32
Density	33
Transportation	36
The Auto Age in Iran	36
Inefficient Traffic System	37
Mobility	37
Pollution	37
Railroads	38
Roads	40
Air Transportation	40
Shipping	42
Population	44
General Population Characteristics	44
A Comparative Analysis of the Iranian Census of 1956 and 1966	47
Structure of Social Power	50
The Upper Class	50
The Lower Class	52
The Middle Class	55
Nomadic Tribes Structure	55
Village Society	57
Market Town Society	58
Urban Society	59
Social Mobility	60
Living Conditions	61
Education in Iran	63

Chapter	Page
Economic Structure	67
Agriculture	67
Irrigation	69
Land Utilization	70
Production	70
Mechanization	72
Forestry and Parks	72
Land Reform	72
Summary of Agriculture Problems	73
Industry in Iran	74
The Reza Shah Period	75
The 1950's	75
The Third Plan	76
Industry in the Fourth Plan	77
Housing Industry	77
Oil Industry	81
Natural Gas	82
Carpet	83
Metallurgical Industry	84
Automobile Industry	85
Textiles	85
Aluminum Industry	86
Chemical Industry	86
Leather	86
Minerals	87
Labor	89
Trade	90
Rural Trade	92
Urban Trade	92
Summary of Economic Problems	93
Housing Problems	93
Industry and Mining Problems	93
Political Structure	94
Constitutional System	94
Government and Executive Systems	95
Government Policy	95
Legal System	96
Local Government	97
Provinces and Governorates	97
Local Levels and Elective Council	98
Planning Act in Iran	98
Summary of Political Problems	99
V. GENERAL CHARACTERISTICS OF IRANIAN CITIES	100
Geographic Function as Locational	
Determinant of Cities	101
Urban Planning in Iran Under Town Planning	102
Urban Land Use Zoning	103
Scope of Planning and Zoning	105

Chapter	Page
Social and Environmental Characteristics of	
Urban Slum Dwellers	108
Housing	108
Health	108
Income	109
Food Consumption	110
Education	110
Leisure	111
Present Patterns and Problems of Iranian Cities . . .	112
The Function of Cities	112
Tehran	113
New Shopping Streets	115
Sprawl Growth	116
Traffic Conditions	116
Physical and Population Growth of Tehran	117
Tehran's Problems and Recommendations for	
Their Solution	118
Insufficient Water	119
Economic Problems	119
Space Shortage	121
Growth Limitations	121
Industries Outside of Tehran	123
Isfahan	123
Shiraz	124
Persepolis	124
Mashad	125
Tabriz	125
Abadan	126
Ahwaz	126
Planning and Development in Iran	126
Plan Organization of Iran	129
First Seven Year Plan	130
Second Seven Year Plan	131
Third Development Plan	132
Fourth Development Plan	133
Fifth Development Plan	133
Goals, Objectives, and Policies of National	
Development Plans in Iran	133
Recent Planning for Urban and Industrial	
Development (The White Revolution)	134
Result of Ten Years White Revolution (1963-1973)	
and Recommendations for Further Reform	138
Land Reform	138
Nationalization of Forests	139
Sale of Government Factories	139
Workers' Share	140
Equal Right of Women	140
Literacy Corps	141
Health Corps	141

Chapter	Page
Extension and Development Corps	141
House of Justice	142
Nationalization of Water Resources	142
Urban and Rural Reconstruction	142
Administration and Education Reform	143
Rural Development	143
Overall Summary of Problems	144
VI. SUMMARY OF PAST CULTURAL CHARACTERISTICS AND CHANGES . . .	146
VII. ANALYSIS OF PROBLEMS AND RECOMMENDATIONS AT THE NATIONAL LEVEL	149
Problems of Water Resources in Iran	149
Recommendation	150
Cultural Problems	151
Social Problems	151
Poverty	151
Recommendations	151
Education	153
Recommendations	154
Urban Economic Problems	155
Manpower Problems	155
Unemployment Problems	156
Agricultural Problems	157
Industrial Problems	158
General Economic Recommendations	158
Agriculture Recommendations	159
Industry Recommendations	160
Political Problems	161
Recommendations	161
National Urbanization and Development	163
Problems of National Planning for Urbanization . . .	163
Recommendations	168
Housing Problems at the National Level	171
Slums Problems	172
Recommendation of Housing, Slum Problems, and Urban Renewal at the National Level	175
Road Transport Recommendations	177
Recommendations on Planning for Urban Renewal . .	178
National Goals or Urban Renewal	180
Recommended Goals	182
Artifactual Goals	182
Social Goals	183
Biological Goals	185
National Benefits of Urban Renewal	186
Increased Tax Revenues	186
Better Housing	186
Improved Environment Quality	187

Chapter	Page
Removal of Slums	187
Better Circulation	188
Walking	188
Funds for Social Programs	189
Regional Planning Problems	189
Problems of Rural Settlements	189
Recommendations	190
Urban Problems	195
Recommendations	196
VIII. SUMMARY AND CONCLUSIONS	199
BIBLIOGRAPHY	203

LIST OF TABLES

Table	Page
1. Distribution of Cities in Iran in 1956 and 1966	49
2. Structure of Social Power in Iran	51
3. Socio-Occupational Structure of the Iranian Employed Working Class Population Age Ten and Over	53
4. Urban-Rural Residence of the Iranian Employed Working Class Population Age Ten and Over	54
5. Socio-Occupational Structure of the Iranian Employed Middle Class Population Age Ten and Over	56
6. Number of Schools and Pupils in Iran, 1962-63 to 1969-70 . .	65
7. Land Utilization in Iran	71
8. Percentage Increase of Industry From 1962 to 1972	78
9. Urban Housing Requirement by 1981	80

LIST OF FIGURES

Figure	Page
1. The Geography of Iran	20
2. Provinces and Governorates of Iran by 1966	34
3. Population Density of Iran, 1966	35
4. Railroads by 1972	39
5. Roads by the End of the Fourth Plan, 1972	41
6. Major Ports and Airports by 1972	43
7. Cities of Over 20,000 Population in Iran, 1966	45
8. Location of Industry in Iran	79
9. Location of Mineral Deposits in Iran	88
10. Percentages of Work Force Ten Years Old and Over in Three Main Sectors of the Economy	91
11. Existing Land Use Plan in Iran	106
12. Seven Main Cities of Iran	127
13. Iran's Level of Urbanization in the World	165

CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is to analyze critically the aspect of planning and problems of urbanization in Iran, and to generate recommendations concerning the direction of urbanization in that country. Certainly, there are no easy solutions and it is not suggested that there are. But, if the relatively short history of the industrial city has shown us anything, it has been that cities become concerned about their problems only after those problems become chronic. It has always been after the event that attention is turned toward solutions. By then, the next set of problems is already being generated.

Many discussions on urbanization in developing countries such as Asia, Latin America, and Africa tend to concentrate on the immediate environmental problems caused by excessive urban growth. Such problems are posed most obviously and directly by the appalling physical and social conditions in which people are condemned to live, in terms of slums, shanty towns, congested centers, lack of sanitation, social unrest, and political conflict. Possible solutions to these problems are proposed in terms of a better distribution of basic facilities and urban services, and the creation of more stable political and social conditions.

Instead of looking upon urbanization as a process of urban growth causing a number of problems that need to be solved, another approach is interested in how this process or urbanization might be influenced so as to bring about development. The concept of urbanization as a process of urban growth is being replaced by one of urbanization as an instrument of social change and development, and improvement of human and social conditions as a prerequisite for balanced and sufficiently rapid economic growth.

National development and city planning require understanding life as the most perfect interrelation of time and space. Nature and man are one, and no meaningful interpretation of the history of man is possible without understanding his culture and environment. Therefore, this study examines first the natural system of Iran and then discusses its cultural system.

This research is not concerned solely with solutions. When we are attempting to find solutions to these problems we must first understand the dynamics of urban society, the culture of society, and some of its traditions. This is the only way we can foresee the problems that such a society will develop.

Overview

This research is divided into eight chapters. The first chapter is an introduction and statement of purpose, and an overview of the entire presentation.

The second chapter contains a historical background of the early development in Iran--civilization, cities, architecture, art, and industry. Understanding the past and developing dreams of the

future are only preparatory tasks toward discovering the evolutionary steps required to mesh the past with the necessary and desirable future.

In the third chapter geographical features and topography are discussed, under the heading "Land." The second section of the chapter is "Weather," encompassing such topics as rainfall, humidity, climate, and wind.

The fourth chapter is concerned with the cultural systems of Iran, with four major sections: culture in traditional Iranian society, social structure, economic structure, and political structure.

Present characteristics of urbanization and what urbanization means in Iran are described in Chapter V.

Chapter VI is intended to convey the relationship between Iran's cultural and natural background, as discussed in Chapters II through V, and recommendations for the future urban development of the country, contained in Chapters VII and VIII.

Chapter VII contains a discussion of some problems and recommendations concerning the direction of urbanization in Iran. Emphasis is given to the concern that Iran must continue to develop its own cultural tradition, as well as adopt Western influences to advance technologically. This chapter includes some ideas about what is and what should be, what the government has done about planning, and what can be done about the weaknesses of these policies.

Chapter VIII is the conclusion of the study, and outlines general ideas concerning the direction of urban development in Iran.

CHAPTER II

HISTORICAL BACKGROUND

Introduction

Persia first came into world history about 550 B.C. when Cyrus II, known as Cyrus the Great, King of Persia, revolted against Astyages, his Median overlord. Cyrus II united the two kingdoms of Persia and Media, and so laid the foundations of an empire. At its height, the Persian Empire comprised almost all of the area now known as the Middle East. Within thirty years Cyrus and his successors, Cambyuses and Darius, had conquered the Babylonian and Egyptian Empires and occupied the whole of the Fertile Crescent, the Nile Valley down to the Cataracts, and nearly all of Asia Minor. This Achaemenid Empire lasted for about 200 years, until it was destroyed by Alexander the Great of Macedonia. These 200 years were the high point of Persian history.

There was still some glory to come, however. After the Parthian occupation, which succeeded the Macedonian invasion, Persia was restored to national greatness under the Sassanian Dynasty, and, inheriting the Parthian hostility toward Rome, succeeded first in containing and finally in defeating the attempted eastward expansion of the Roman Empire.

At that time, before the year 1 A.D., there was a great deal of urban development; many towns were built, and the safety of the roads

connecting these communities was insured. Taxation on land was begun, dams were built, and a university was founded.

The Moslem religion took root in Persia; Arabic became the official language, a process that was assisted by the Koran (the book of Moslem religious instruction and prayer).

Early in the ninth century the Tahiri Dynasty of Khrasan was established. From that time until the Seljug Dynasty, most significant events were military.

The first Seljug invasion from Central Asia at the beginning of the eleventh century established a capital at Rey, now a small town to the south of Tehran. Following the Seljug's invasion and takeover, once again the Persian Empire extended from Egypt and Syria to Turkestan, and the confused local dynasties of Persia were once more united under a single power. The arts and sciences flourished, and architecture reached a new level of excellence.

Persia has had a long history of wars, invasions, and battles. The first wave of invasion was led by Genghis Khan, the first great Mongol destroyer, in 1221. Persia was conquered in 1258 by his grandson, Hulager Khan, who founded the Il-Khan Dynasty. That Dynasty ruled Persia for nearly 100 years, until it was supplanted by a further wave of Mongol invaders under Timur, or Tamerland, who, with his capital at Samarkand, established a new Mongol empire on the ruins of the old. When Timur's empire fell apart, it was succeeded by the Usheg Dynasty in Turkestan and by the Safavid Dynasty in Persia. Shah Ismail (King of the Safavid Period) was crowned in Tabriz in 1500 A.D., establishing the first truly Persian royal line in eight centuries.

The Safavid Period in general is regarded as one of the golden eras of Persian history. An army was organized, roads were constructed, and carvanserais (inns) were built, but the period is perhaps most famous for its great works of art. Under Shah Abbas, who had a passion for fine architecture, lovely buildings were erected in Ardabil, Shiraz, Tabriz, Mashhad, and other cities. It was under Shah Abbas that Isfahan was made the capital, and received special attention. The city grew rapidly, and new plans were made for its reconstruction. The nucleus of Isfahan as it was then built remains very largely the same to this day. The magnificent royal square, which was used for polo games, is surrounded by some of the finest buildings in the world--the Masjid-e-shah, the Masjid-e-Shikl Lutfullah, and the palace of Ali Qapu. The great bridges across the Zayandehrud stand today as lasting monuments of this period.

The first contacts were made with the European powers during this period. Shah Abbas actively encouraged the English and Dutch East India Companies to set up establishments in the city, and there was a general influx of merchants, missionaries, and diplomatic missions. The dynasty began a slow decline after the death of Shah Abbas, but it was not until a century later, in 1722, that it fell to the Afghans.

Nadir Shah, who could be called the last great Persian conqueror, began his expansion of power in Kharasan. He expelled the Afghans, then recovered Armenia and Georgia from the Turks. He started to attack first Afghanistan, then Delhi, Bokhara, Vhina, and Iraq in succession. Upon his assassination in 1747, there was once

again a struggle for power. The main protagonists were the Zands in the South and the Qajars in the North. Karim Khan Zand, who ruled in Fars in Ispahan and made his capital in Shiraz, successfully repulsed the Qajars. Many of the fine buildings in Shiraz today are a result of the work of Karim Khan Zand, a benevolent and thoughtful ruler.

To the North the tribe of Bazar became increasingly powerful, and as their influence grew they clashed with the Zands in the South. The Agha Mohammad took Tehran in 1779. In 1794 he captured Kerman from Lutf Ali Khan Zand, the last of the Zand line. Two years later Agha Mohammad was crowned Shah; he was assassinated a year later, but the dynasty continued.

Under Fath Ali Shah, Persia was drawn more deeply into the power politics of the European powers. After Nasser-ed-din Shah had visited Europe, he encouraged the young Persians to go to Europe for military training and to study law and medicine.

However, the position of Persia in the world decreased until once again, as had happened so often in the country's long history, a strong man brought together the pieces of Persia and welded it into a strong, united country. That man, Reza Shah, in February, 1921, marched on Tehran with a few thousand men and overthrew the government. Reza Shah was made commander-in-chief of the army, later prime minister, and by 1925 his constituents had crowned him Shah of Persia. He created the first unified army, defeated rebel chiefs, disarmed the tribes, and established the authority of the central government throughout the country.

Reza Shah established a national bank, and applying the first systematic budget, he instituted new state schools, which were set up throughout the country, replacing the old religious establishments. The power of nobility was reduced, and he began to wipe out class distinction. Civil and criminal codes were introduced. Tehran University was founded, and women became eligible to study there. Factories were built. Government monopolies were established to handle foreign trade, and profits accruing were used to finance a great series of construction and development projects, including the famous Trans-Iranian Railway. Thousands of miles of roads were built, as were modern ports on the Persian Gulf and the Caspian Sea. Travel was once again made safe. Communications were modernized, and a reliable police force was established.

Then came the Second World War. Iran declared herself neutral, but the country's geographical location once again affected the trend of her affairs. The Allies' need for a safe supply route from Russia to the Persian Gulf led the British and Russians to attack Iran. As a result of this violation of Iran's neutrality, Reza Shah the Great decided to abdicate to his son, the crown prince, who was then twenty-two.

Iran was in a critical position until January, 1963, when the Shah began the White Revolution, a social economic, and political reform undertaken in all of Iran. This reform is discussed further in Chapter V.

Early Civilization in Iran

Modern civilization, as we know it today, is not the product of the genius of one nation. In fact, to achieve what we have today, the legacies and contributions of many nations have all played a part.

Iran, being situated in the middle of the Old World, before the growth of Europe and the discovery of America was an active member of the world. Located between East and West, in this period Iran contributed continuously to the enrichment of civilization. It not only placed its own inventive genius at the disposal of the world, but gleaned what it could from the East and West, transformed it, and transmitted it.

Pope, in Survey of Persian Art, stated this case very aptly in the following words:

From the earliest in all branches of art Persia has shown a combination of two capacities, apparently mutually contradictory, but together productive of great achievements. On the one hand there is an undeniable creative genius, on the other great facility in assimilating foreign cultural contributions.¹

What Pope wrote about art is also true in the domain of ideas, whether religious, philosophic, scientific, or administrative. It is also an accepted fact that smelting of minerals, weaving, making of pottery and bricks, and the invention of the potter's wheel and wheeled vehicles are a few of the first-rate ideas originated by the people of the Plateau of Iran. These discoveries, pregnant with revolutionary consequences, were all made in the fifth and sixth millenium B.C.

¹A. U. Pope, Survey of Persian Art, 13 vols. (New York: Oxford University Press, 1965), p. 2587.

According to Pope, "Agriculture, metallurgy and the initial religious and philosophical ideas as well as the art of writing and the science of numbers and astrology and mathematics originated in the land that today we call Middle East, and the origin of many of these cultural elements is the plateau of Iran."¹

According to some scholars, the Sumerians belonged to the same racial stock as the people of the Plateau of Iran. The Sumerians were a non-Indo-European, non-Semitic people, whose presence in the Alluvial Province, created by the lower Tigris and Euphrates, is attested to historically from the beginning of the millenium B.C. onward. In the book of Genesis, reference is made to the early settlers in Mesopotamia in the following passage:

And it came to pass, as they journeyed from the east, that they found a plain in the land of Shennar and they dwelt there and they said one to another, "go to, let us make brick and burn them thoroughly." And they had brick for stone, and lime had they for mortar.²

The Iranian Plateau is indeed east of Mesopotamia, proving, thereby, the origin of the Sumerians and the origin of the civilization they already possessed when they arrived in Mesopotamia.

According to Ghirshman:

Iran was a highway for the movement of people and for the transmission of ideas. From the pre-historic period onwards, and for 1,000 years more, it held this important position as an intermediary between East and West. In terms of what it received it never cased to give; its role was to receive, to recreate, and then to transmit.³

¹Ibid.

²Genesis 11: 2-3.

³Roman Ghirshman, Iran: From the Earliest Times to the Islamic Conquest (Baltimore: Penguin Books, 1951), p. 50.

In the case of crafts and industries, an eminent scholar on the subject, Hans Wulff, describing the weaving industry, stated that:

Wherever the Persian weaver had adopted a new technique, he rapidly assimilated it to his own style and tried to improve on it technically. If basic inventions originated outside the country the most perfect realization was often achieved in Persia and supremacy in textile technique has been maintained for well over 1,500 years.¹

Iran is one of the few ancient civilizations that, owing to its genius, has survived the onslaught of time and circumstance.

Early Transportation in Iran

From the oldest known times Iran has been the center of world trade. The great distances between the residential areas, whether village or town, led to the discovery of means for carrying men and merchandise to distant places; domesticated animals in the plateau, such as oxen, horses, camels, and donkeys, were the best means for achieving this end.

As early as the fourth millenium, the people of the Plateau of Iran engaged in trading. They exported their ceramic works, and perhaps also cereals and animals captured in hunting, in exchange for other merchandise, notably luxury goods such as jewelry and ornaments.

Shoes for the Beasts of Burden

Shoes for beasts of burden were invented by the Iranians in the fourth century B.C. They were made of copper, leather, or horse hair, but the true iron horseshoe was not introduced until the second

¹Hans Eberhard Wulff, The Traditional Crafts of Persia (Massachusetts: Massachusetts Institute of Technology Press, 1966), p. 122.

half of the first century B.C.¹ The horseshoe first appeared in the Parthian period, but it is not known whether it was an invention of the East or West.²

The Wheel

The wheel was invented in Iran. According to Durant, the wheel was first used for transport in Elam, in Iran.³ By about 2000 B.C. wheeled vehicles were in use from the Indian valley to the Syrian coast, while in Egypt no wheeled vehicles were in use before 1600 B.C.

Road Building

According to Ghirshman, a method of road building that consisted of paving the softer parts of the road and even of making artificial ruts for wheeled transport existed in the Achaemenic period.⁴ The Persian Royal Road anticipated the Roman road by several centuries.⁵

These roads, radiating from Susa, the administrative capital, to the remotest corners of the Empire, were carefully controlled and elaborately supervised. They facilitated caravan trade and increased trade volume throughout the Empire. Some of the paved roads built by the Achaemenids can still be seen in Babylon.

¹Ghirshman, p. 187.

²Ibid., p. 285.

³Will Durant, The Story of Civilization (New York: Simon & Schuster, Inc., 1935), Vol. I, p. 177.

⁴Ghirshman, p. 187.

⁵Herodotus V, 152-5.

Early Crafts and Industries in Iran

According to Ghirshman, between 15,000 and 10,000 B.C. pre-historic men lived on the Iranian Plateau, dwelling in caves or rock shelters. These men used a coarse, poorly baked pottery that, by the end of the occupation of the cave, was deep black in color, because of the smoke used in firing.¹ Pope stated,

In the light of the data recently discovered it has been proved that agriculture and perhaps the crafts attached to it, i.e., pottery making and weaving, originated in the Iranian plateau, from several essential points. The civilization in this area began 500 years before Egypt, 1000 years before India and 7000 years before China [emphasis added].²

Around 2000 B.C. the first luster ceramic ware with a black, shiny surface appeared in Tepe Hissar and after that in Siyalk. It was during Kassite rule over Iran and Mesopotamia (1750-1170 B.C.) that a further development was made; the pottery industry was enriched by a new technique that has been known ever since by the term "glazing." This was a new event for the pottery industry, and a very important achievement.

The significant point about the Islamic pottery of Iran is not the beauty of the pattern, but the superb contour of the vessel.

The Earliest Cities and Architecture in Iran

Cities

In areas where water supply sources are far apart, villages are centered around them and are usually larger than villages that

¹Ghirshman, p. 28.

²A. U. Pope, The Masterpieces of Iranian Art (New York: Dryden Press, 1945), p. 5.

depend on mountain streams, springs, and gannats. So, the natural elements of the Iranian Plateau can be considered as the main factor contributing to the concentration and distribution of population. Rainfall and temperature are other factors. Also of major consideration were economic geography and location as it affected battle strategy.

The socio-economic structure in Iran for centuries was the feudal system, which was somewhat different from the European system. In Europe, feudal landlords did not live in cities, nor did they have political power to govern the cities as they wanted. Cities were called "the free place." But in Iran, landlords lived in the cities and towns. Often a landlord never entered his village during his lifetime. Instead, he employed a person called the "mobasher," a type of foreman, who conducted the village life. The other point of difference between the European and Iranian feudal systems is that lands and villages were owned by the central government of Iran.

At that time there were several classifications of cities in Iran:

1. Some cities belonged to the non-Iranian civilization, such as Susa, Babylon, Assur, and many other small cities.
2. Some cities did not belong to the above-mentioned cities, but were influenced by them.
3. Other cities belonged to the Iranian civilization. These were Echatana, Persepolis, Pasargade, Nolanand, Tysphome, Hatrak, Darahgard, Fyrozeahad, Moshaboar, Ramhormoz, and many others.

Architecture

Architecture in Iran has had a continuous history from at least 5000 B.C.; the characteristic examples of this architecture are distributed over a vast area from Syria to North India and the borders of China, and from the Caucasus to Zanzibar.¹

As a result of climate conditions in ancient Iran, in the beginning of its history the country developed three different types of architecture. In the more rainy areas covered with forests, slanting roofs made of shrubs or tiles were common; in places where wood was available and the rainfall was not high, flat or gabled roofs were used. In the more arid areas, where wood was scarce, the Iranians tried to span their houses with some kind of dome or vault.

From earliest times, as a result of the widespread use of wood, a columnar style of architecture was favored. This style was later echoed in the stone columns of Persepolis, in Sassanian temples, and in the columnar ewers to be found in some palaces, mausoleums, and mosques of various periods that have survived the onslaught of time and natural phenomena.

According to Pope, "Persian dome builders of the Seljug period may be considered the greatest masters of this noble form which the world had hitherto produced."² And at this period of history European dome builders never approached the skill of their Iranian colleagues, according to Pope.

¹ Ibid.

² Ibid.

Like most other arts, architecture produced magnificent monuments, both secular and religious, during the Achaemenid Empire (550-330 B.C.), which came into possession of the wealth and resources of practically all the ancient western worlds. From Judea to Libya, the Iranians developed monuments to the Achaemenid Empire.

Pasargade, the seat of the Achaemenid Dynasty, contains the remnants of the monumental gatehouse and portions of an audience hall built of black and white stone. A central hall of the residential palace is noted for its architectural balance and the quality of its stonework.

Early Building Material in Iran

Bricks

According to Pope, bricks were "apparently a Persian invention,"¹ and Ghirshman found evidence of the gradual evolution of molded and baked bricks in different layers of sinjalk near Kashan, and by so doing proved beyond the shadow of a doubt that brick was invented in Iran.² It was from the central part of Iran that brick found its way as far east as Tibet and as far west as Babylon and Nineva.

Lime and Mortar

Mortar, which is a mixture of sand and slaked lime, and which was later used in Babylonia, did not originate there. Because of the

¹Ibid.

²Ghirshman, op. cit.

scarcity of fuel and calcareous ores, making mortar was expensive. To prepare the lime from the carbonate of calcium requires a temperature of over 800 degrees centigrade, and this is possible only where fuel is abundant, as in Persia. We know that lime was used in Persepolis, and therefore was known to the Iranians at least at the beginning of the Achaemenid period.¹

Gypsum

The use of gypsum as mortar and as a plaster began very early in the history of Iranian architecture. Iran has unlimited deposits of limestone and gypsum, so those materials can be produced from local sources all over the Iranian Plateau.

Bitumen and Asphalt

In Persepolis the percentage of bitumen used in making asphalt was about 50-66 percent, while today a mixture with 12-16 percent bitumen is used. Perhaps the reason for such a high percentage of bitumen to gravel and lime in ancient times enabled the people of Persepolis to use lower temperatures for melting the bitumen.

In the tenth century A.D., Mohamad Zakariza described how one can make asphalt for covering roads and roofs. He wrote: "They pour the bitumen in a pot and put it over the fire and add gravel to it and mix it continually. When such a mixture is ready they spread it over the ground and when it gets cold it becomes hard and dry." This is the oldest known document about the manner of making asphalt.²

¹E. F. Schmidt, Persepolis (Chicago: University of Chicago Press, 1970).

²Ibid.

CHAPTER III

THE NATURAL SYSTEM IN IRAN

Land

The Geography of Iran or Persia

Iran is the name used by the country's inhabitants themselves. In all other countries the land was known as Persia until 1935, when Reza Shah the Great decreed that the name "Iran" only was to be used. (The present Shah has authorized both versions.)

Political and geographical boundaries.--Iran has a surface area of approximately 1,645,000 square kilometers, and is the second largest country in the Middle East. Iran's area equals the total areas of England, France, Germany, Italy, Belgium, Holland, and Denmark in Europe or the total areas of Texas, New Mexico, Arizona, and California in the United States. It extends for about 2,600 kilometers from north to south and about 2,100 kilometers from east to west. Iran is bounded on the north by the U.S.S.R. and the Caspian Sea, on the south by the Persian Gulf and the Gulf of Oman, on the east by Afghanistan and Pakistan, and on the west by Turkey and Iraq.

Deserts.--Two great deserts, the Dasht-e-Lut and the Dash-e-Kavir, occupy a long part of the Central Plateau, and together account for one-half of the desert area and one-sixth of the total area of Iran. These deserts are the most arid in the world, and while an

occasional oasis may be found in the Kavir, the Lut is totally barren, supporting no life whatsoever.

Water supply and drainage--mountains.--Throughout large areas of Iran water supply is the main problem of life, particularly during the summer months. Only along the northern border lands, in the Zagros valleys, and in ports can fresh running water be found. Elsewhere many of the streams are short, intermittent, or salt. Their waters often are absorbed into the aluminum or rubbish that covers so many of the valley bottoms, and life is dependent on springs, wells, or artificial devices and dams for water.

The pattern of the drainage basins is remarkable, and is directly related to rainfall and the structure of the terrain. In the North, where considerable precipitation is caused by moist northerly winds, mountain torrents plunge down the northern slopes of the Alborz ranges to the Caspian Sea. In the West and Southwest, where the Zagros Mountains (see Figure 1) receive much rain and snow, a succession of river basins succeed one another from north to south, each having an outlet carved through the hills, by which the collected waters reach Mesopotamia through the Persian Gulf. Rainfall decreases southward and eastward, so that beyond the Alburz and Zagros mountains almost the whole country lies in a vast "rain-shadow." Iran becomes increasingly arid from west to east and from north to south, and with the exception of a strip of country along the coast of the Gulf of Oman, all the drainage is collected in inland sumps. As a rule, these basins align themselves parallel to the predominant structural trend from northwest to southeast. In these interior basins

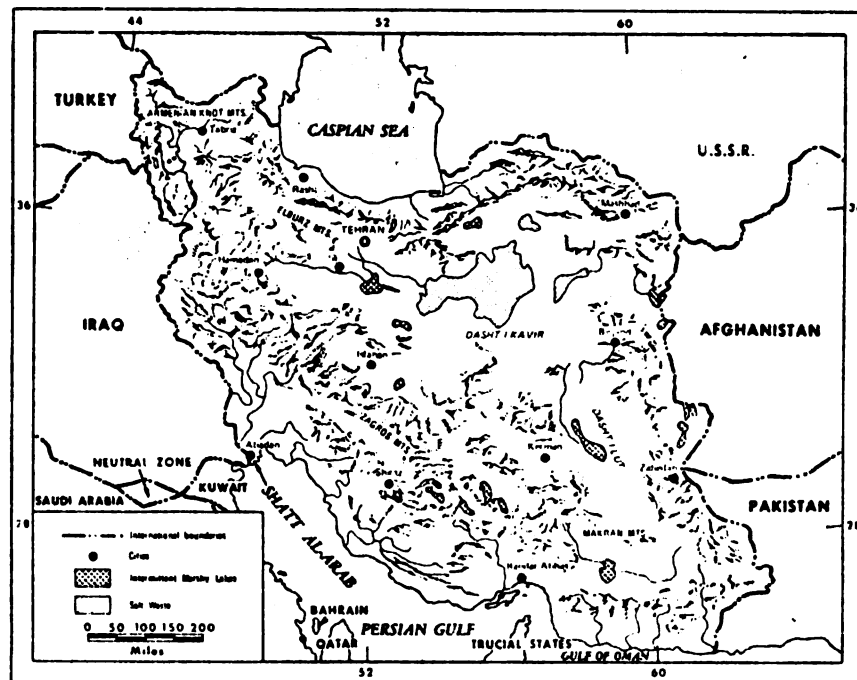


Figure 1.--The geography of Iran.

Source: Iran 1971 (Tehran: Ministry of Roads and Communication, 1971).

the volume of water in streams is very variable; although fresh and drinkable in their upper reaches, they often become salt lower down, and with very few exceptions they empty into salt lakes or salt-encrusted mires.

Only one river, the Karun, is navigable. It is 850 kilometers long, and is the widest river in Iran. Other rivers flow into the Persian Gulf and the Sea of Aman.

In general, water has been such a problem that all water resources were nationalized in October, 1967, as part of the White Revolution. Less than 14 percent of the land receives over 52 percent of the precipitation. Some areas are without precipitation for extended periods of time. Sudden storms with heavy rains a few times a year may provide the entire annual rainfall. In addition to the local damage these storms may cause, the rapid runoff precludes the use of this precipitation for agricultural purposes.

Weather

Climate

Persia lies between 25° and 40° latitude and is, therefore, entirely in the temperate zone of the northern hemisphere. Persia is the land bridge between the Mediterranean climate of parts of Asia Minor and the monsoon climate of India. In winter and spring, atmospheric depressions traveling eastward from the Mediterranean cause the bulk of the rainfall that Persia receives; in summer the influence of the southwest monsoon is felt on the shores of the Gulf of Aman, but the effect is so weak that no rainfall occurs.

Apart from the changes in wind direction accompanying the passage of low-pressure systems, the surface winds of Persia are mainly controlled by the pressure system over Central Asia, which is high in winter and low in summer.

Temperatures during the year can range from -18° to 125° F. The hottest part of Iran, and one of the hottest places on earth, is probably the hollow basin of Gezmourian in the southeast, where the average maximum daily temperature for four months in the summer does not fall below 133° F.

Rainfall

Winter is the rainy season. Generally speaking, the amount of rainfall decreases with latitude, whereas the temperature increases. Annual rainfall varies from fifty inches in the southwest center of the Caspian region to less than two inches in the desert areas. These varied climate conditions are caused chiefly by the mountainous nature of the country.

Humidity

Humidity also shows great variations. The air over most regions is dry, as would be expected in places with little or no rainfall. But on the Caspian Sea and Persian Gulf coasts, humidity is high throughout the year. Coupled with the extreme heat in the Persian Gulf area, this condition causes great discomfort, particularly in the summer.

Wind

In winter the high-pressure air mass of Central Asia creates northerly and northeasterly winds in the northern part of the country. In the southern half there is a shift toward a westerly component, which is most pronounced in the Persian Gulf area. A characteristic of the winter air flow is the large number of days on which calms occur in the Central Plateau.

Steady summer winds are a climatic feature in many parts of the country. Prevailing winds in the summer are from the northwest. They vary in velocity and direction in different localities, but the general pattern produces an increase in velocity about noon, which diminishes at sundown. In narrow mountain valleys, the winds tend to blow in opposite directions during a twenty-four hour period; during the day they blow up the valley, but as the air cools in the evening they blow down the valley, thus accounting for pleasantly refreshing summer nights. There is also a diurnal change of wind direction in the coastal areas, with usually an onshore breeze during the day and an offshore breeze at night.

In the Southeast a wind called "the wind of 120 days" blows incessantly from May to September with speeds that have reached seventy miles per hour. It creates a pandemonium of noise, sand, and dust, as well as being hot and parching. The effect of the wind in this region is clearly visible; everything looks windswept, and there are practically no trees.

Summary of Characteristics and
Problems of Natural Systems

The most important points and adverse factors affecting the development of Iran's natural resources are as follows:

1. Unfavorable geographic distribution of rainfall
2. Unseasonable distribution of rainfall
3. The high level of evaporation and evapotranspiration
4. Great distances between water resources and arable land
5. Inadequate irrigation networks
6. Lack of coordination among activities relating to development and supply of water resources and their utilization
7. Lack of adequate statistical data and studies on a natural system
8. Lack of essential laws and regulations compatible with modern methods of utilizing natural resources
9. Lack of techniques by which to utilize some frontier rivers

CHAPTER IV

THE CULTURAL SYSTEM OF IRAN

Culture in Traditional Iranian Society

Today is not only the time of space exploration, but also one of the appraisal of the role of culture. It is a time when man must find a new meaning to life, which means he must redefine his relations to the universe, to his period in history, and to his fellow man.

Man can succeed only by realizing his potentialities and becoming aware of the limited role culture plays in the life process. Although not new, this idea is greatly needed today, and we have to be ready for it. Prophets and philosophers such as Buddha, Socrates, Rumi, and Spinoza have advocated that, at deeper levels of cultural analysis, there exists a genuine common denominator for East and West, for on this universal basis the characteristics of future man can be defined. In both East and West, great universalists have recognized that man's cultural state is transitory and will eventually give way to the state of "universal man." To them, the man-made world is a step toward perfection, enlightenment, and unity with all nature, mankind, God, or the life process itself. Great thinkers have perceived culture as a bridge between the finite and the infinite, from the limited to the unlimited. Instead of gaining an answer to the essential problem of man, through culture men have discovered life

itself and developed a state of being free of anxiety; they have discovered their own selves.

In this frame, Persian culture, like any other culture, can be interpreted as having developed out of the "human situation" and as giving one answer to man's essential problem. People were prompted to seek their own security through such protective mechanisms as: dominance through external authority, submission to magical power or covert religious power, speculative thinking, artistic creation, and the discovery of self.

Those who found security through external dominance, whether rural, tribal, or urban, valued power above all else. They directed their behavior toward this end, because they believed such control brought happiness and security. Dominance existed at many levels of society. It was most powerfully expressed by the king and to lesser degrees by the tribal klans (leader of tribe), viziers (councilor of provision), landlords, and village chiefs; the man who was only a family head occupied a low position in this hierarchy.

In the case of landlords, the peasant accepted without argument the practices of the landlord and others, because the peasant believed fate had intervened. Subservience to authority and to the group was strongly evident in the relationship of the tribal people to their leaders, especially when compared with the gypsy barbers and blacksmiths who came to the tribal grounds every spring to do the menial work. The gypsies could leave the camp when they wanted, whereas a tribesman seldom felt secure enough to separate from the group. If he did, his only alternative was to join another tribe.

All historical events disclose that the most persistent force in Persian society has been the villages and tribes.

The Persian Way of Life as a Value System

Throughout Iran's long history of barbaric innovators and aggressive rulers, unfavorable geographical conditions have compelled the inhabitants to submit to fate or find ways to circumvent its imposition. The Iranian value system for dealing with diverse circumstances permits the individual considerable flexibility in his behavior. The values that originated partly from cultural tradition, those associated with religion, and values related to the family and friendship are discussed separately.

Values by Cultural Traditions in Iran

Individualism.--As one might expect, a society frequently characterized by unstable administration and bordering on anarchy has fostered a strong sense of individualism, in terms of both individual and local group loyalties.

Iranians have found numerous ways to express their sense of individualism; according to Massadegh, a former Prime Minister of Iran, "In our parliament each deputy has his own personal opinion and that is why bills, even the simplest, cannot be passed readily by this body."¹ Because Iranians do not conform as readily as do Americans, they have more difficulty working cooperatively together.

¹D. M. Wilber, Iran, Past and Present (6th ed.; Princeton: Princeton University Press, 1967).

Viewed in broad terms, individualism also describes the strong community and regional loyalties that have strengthened group autonomy at the expense of national unity, the tribes being the most noteworthy example in all periods of history. Iranians still tend to view those from other communities with a certain degree of suspicion and ridicule.

Fate.--Fate is a frequent theme in Persian literature and daily conversation. The most common use of fate implies that life is unpredictable and one must expect both good and bad. This attitude does not mean the individual must resignedly wait for things to happen; rather, he makes every effort to utilize favorable opportunities, and in some cases to manipulate people and situations to gain his end.¹ Those at the lower end of the social scale, the peasants and laborers, have far less opportunity to change their environment. But only when everything else has failed does the Persian actually resign himself to fate.

Respect.--The Persians long ago adopted an intricate code of social relations that gives due respect to authority. The person of lower social position is expected to show by his behavior his deference to those above him. A Persian also feels it is important to defend his honor and that of his family. Persians strive to avoid humiliating or criticizing others; they may agree with a statement merely to avoid publicly embarrassing the speaker. They feel truthfulness should be avoided if it brings hurt to another.

¹W. S. Haas, Iran (New York: Columbia University Press, 1946).

Business.--Business is conducted in a leisurely, enjoyable fashion. Both buyer and seller know the actual worth of an article, but haggling over the price, the feigned indignation, and all the accompanying behavior afford the participants a chance to match intellects. The sale makes each one feel he has made the most of the opportunity at hand.¹

Enjoyment.--Most of the common men think the future is uncertain. They prefer to enjoy their life from day to day rather than worry about tomorrow. Iranians have a tendency to procrastinate and avoid making decisions, particularly those that may offend a superior. Moreover, they lack the sense of efficiency and getting things done that characterizes much of Western life.

Values by Religious Traditions

Zoroastrianism.--Zoroastrianism emphasized the continual struggle between good and evil, with the eventual triumph of good. The forces of good called upon men to think good thoughts, speak good words, and do good deeds. Duty to others was stressed, as shown by the maxim: "He is a thief of duty who fails in his obligations to others."² The Zoroastrian religion largely disappeared after the seventh century A.D., and many people tend to support Shi'a doctrine and popular customs today.³

¹ Ibid.

² Ibid.

³ M. N. Dhalla, Zoroastrian Theology (New York: AMS Press, 1970).

Shi'a.--A good Muslem is expected to perform certain duties. He must worship in a prescribed way, give alms, and undertake pilgrimages. Muslems customarily give one-tenth of their income or more to charity to fulfill the obligation of alms, usually during the month of fast. This practice helps alleviate some of the distress of the indigent in countries like Iran, where there is no good extensive welfare program.

Values of Family Life

In the more traditional Persian families the child addresses his father as Master, and the mother plays a warm, permissive role. Parents expect their children to be honest and truthful, and punish them if they are not. Children learn it is their duty to placate younger siblings and submit to their demands, whatever the occasion. A good man considers it his duty to vigorously defend the honor of his sister or any other member of his family. If his sister does not marry or if she is widowed and he is the head of the family, he unquestioningly takes the responsibility for her and any children she may have.

A Persian may go to all kinds of trouble to do a favor for a friend, and he expects reciprocal treatment in return. After family ties, friendship contacts are the preferred ways of doing business and getting political favors.

Westernization of Values

Westernization has had a bad effect on Iranian culture, and changing traditions have already affected many values of the urban middle and upper classes; these changes are most evident in those

who have studied or worked abroad. Western-educated intellectuals have been chiefly responsible for introducing a number of foreign words and phrases into the spoken and written vocabulary of urban dwellers, thereby replacing the use of Persian words. Increasing Western influence, specifically after World War II, has been felt mostly in some forms of light music. Western classical music has gained large audiences in the urban centers. Fortunately, however, the classical Iranian music has experienced little innovation and has kept its traditional forms.

Social Structure

Settlement Patterns

The form of human settlement, the city, is a social system located in a geographic space that occupies a precise position in a system of interconnected settlements, extending from hamlet to megapolis. National development occurs within this social interaction, a network that stretches out over the landscape. But development in the spatial system is neither uniform nor simultaneous. The pattern of settlements creates a structure of potentials for development that will eventually be registered in indices of regional performance and will condition the evolutionary character of the society. The pattern may be better understood if we look at a generalized settlement system:

1. The settlement system is differentiated according to the functions performed by every subsystem within it.

2. Each subsystem stands at the node of a communication network that originates, absorbs, and transmits impulses of change to the other subsystems.
3. Each subsystem stands at the node of a field of forces that acts upon and influences the location of activities and population.
4. Each subsystem serves as an agent of change for the population living in dependent areas.
5. A change in the relative position of one of the subsystems in the hierarchy of dependency relations signifies a change in the structure of the system as a whole.
6. A change in a relative position of one of the subsystems in the hierarchy of dependency relations can result from a disproportionate increase or decrease in subsystem size, from changes in its social and political organization, or from a change in its functions for the system as a whole.
7. The development capacity of the system as a whole will, therefore, come directly to depend on one or more subsystems.

Distribution of Population

In early 1970 demographic studies indicated a total population in Iran of 28 million people. These estimates are based on the latest census completed in November, 1966, when the total population was about 25.8 million with an annual growth rate of about 3.1 percent. At this rate of growth the population of Iran is expected to have doubled by 1990.¹

¹ National Census of Population and Housing, November, 1966
(Tehran: Plan Organization, 1968).

The urban population of Iran increased from 5.9 million in 1956 to 9.8 million in 1966. This increase occurred especially in Tehran, the capital city, and in some other large cities. Although the growth rate has always been high, it increased markedly from 1963 to 1966.¹

Density.--Geographical and climate conditions, particularly elevation and rainfall, are the primary factors influencing the country's population density. A large percentage of the population lives in the North and Northwest, with the heaviest concentration along the Caspian Sea, near Tehran. In 1966 four provinces and one governorate, all in the North and Northwest, had population densities of 100 or more persons per square mile; six provinces and three governorates had population densities below the national average of forty-one inhabitants per square mile. Central provinces, incorporating the capital city of Tehran, had densities of about 145 persons per square mile.² (See Figures 2 and 3.)

The problems of growth and population size are most pressing in the cities, where public services such as water supply, electricity, telephone, and food have always been inadequate. Increased migration has become a main problem of Iran's cities. A comprehensive plan for expansion has not been formulated, because planners have not viewed the country as a whole.

¹Ibid.

²Ibid.

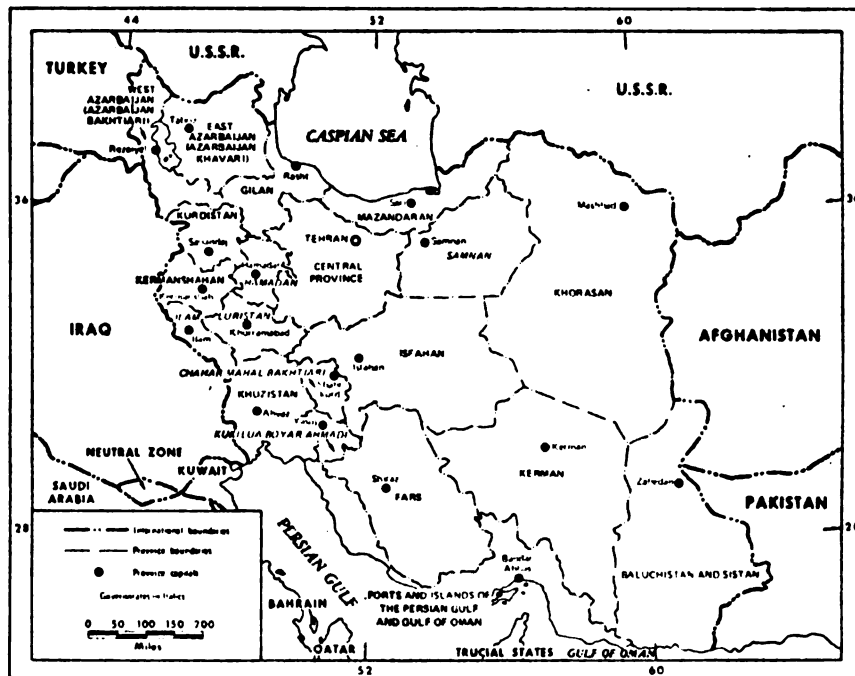


Figure 2.--Provinces and governorates of Iran by 1966.

Source: Iran 1971 (Tehran: Ministry of Roads and Communication, 1971).



SYMBOLS
PERSONS PER SQUARE KILOMETER

1 - 4.9	
5 - 9.9	
10 - 19.9	
20 - 29.9	
30 - 39.9	
40 - 49.9	
50 - 55.9	

Figure 3.--Population density of Iran, 1966.

Source: Plan Organization (Tehran: 1968).

Transportation

The Auto Age in Iran

In 1971 there were only 417,665 motor vehicles in all Iran. The increase has been 77,000 a year. In 1972, of 494,760 vehicles in Iran, about 60 percent were in Tehran; the rest of the country had about 40 percent.¹ As well as symbolizing affluence, mobility and pollution, the automobile age signifies changing habits of life, consumption, and morality. Economic implications of the automobile age have been discussed at length, but little is said about its social impact.

The economic implications of the automobile age are simple. Iran's automobile industry has offered 9,000 new jobs and claimed nine billion rials in savings, which have gone into its fixed assets. Over the past ten years, the country paid a total of one billion dollars in foreign exchange to import cars and parts for assembly. But the social implications of the automobile age must also be examined.

The local automobile industry is a sign of social affluence. Today, every junior clerk runs his own private car. At the university, 50 percent of the students own cars. In central Tehran a motorist is likely to circle around for an hour before finding a parking spot. At rush hours in most parts of Tehran, traffic jams are daily problems.

Traffic control in Tehran saps more than 60 percent of the city police force's manpower, and everybody still complains about traffic jams, traffic violations, and accidents.

¹Ibid.

Inefficient traffic system.--Our big cities, especially Tehran, have failed to establish an efficient public transportation system. The people seem to prefer private car ownership to creating an effective public transport system. It is not a question of the shortage of funds, which has bogged down the services of the Tehran United Bus Company, but rather a question of choice. Funds are available to build expressways and freeways, for the comfort of the private motorist, but support for a public transport system is lacking.

Mobility. Private car ownership has given rise to greater mobility. Increased mobility serves some worthwhile functions, such as allowing people to commute to work and to school. However, mobility has introduced some questionable ventures as well--for example, the drive-in restaurants and cinemas. But interestingly, Persians do not like to handle business from their cars. The only venture into drive-in banking failed ten years ago, and was never attempted again.

Pollution.--By and large, Tehran's air pollution is a result of the increasing number of cars. Because of Tehran's altitude, internal combustion engines cannot fully burn off the fuel. As a consequence, a car engine is likely to create more pollution in Tehran than in European cities. The polluted air moves northward to the mountains, is trapped against the mountains, and stays for a long time before it either filters out or deposits its impurities.

Finding solutions to Tehran's air pollution problems is part of a much greater effort to avoid problems of the automobile age. This is what we should begin to think about now.

Railroads

The first railroad, a ten-mile shuttle service, was laid in Iran in 1886 by a private Belgian firm. In 1911, the Russian Bank obtained a concession to extend the Russian railway network from the border town of Julfa to Tabriz, with a branch line from Sufian to Sharafkhaneh. This was completed in 1918. Within three years the Iranian government took over the operation of the Tabriz-Julfa section. During the first World War, the British were granted permission to extend the Indian railway system from the frontier at Miraj to Zahedan, a distance of seventy-five kilometers.

In 1925, the Majlis (House of Representatives) approved a bill to finance the Trans-Iranian Railway project by levying a small special tax on sugar, thus enabling Iran to build the railway without foreign borrowing. The Trans-Iranian line was completed in 1938, joining the Persian Gulf to the Caspian Sea via Tehran.

Passing through two high mountain ranges and across a high plateau, the Trans-Iranian Line is a masterpiece of railway engineering. Built at a cost of \$90 million, it starts from Bandar Shahpour on the Persian Gulf, passes through Ahwaz, Andimeshk, Dorud, Arak, Qum, Tehran, Bandar Shah (on the Caspian Sea) and ends at Gorgan. It passes through numerous tunnels and bridges, presenting passengers with breathtaking scenery.¹ (See Figure 4.)

¹Iran, 1971 (Tehran: Ministry of Roads and Communication, 1971).

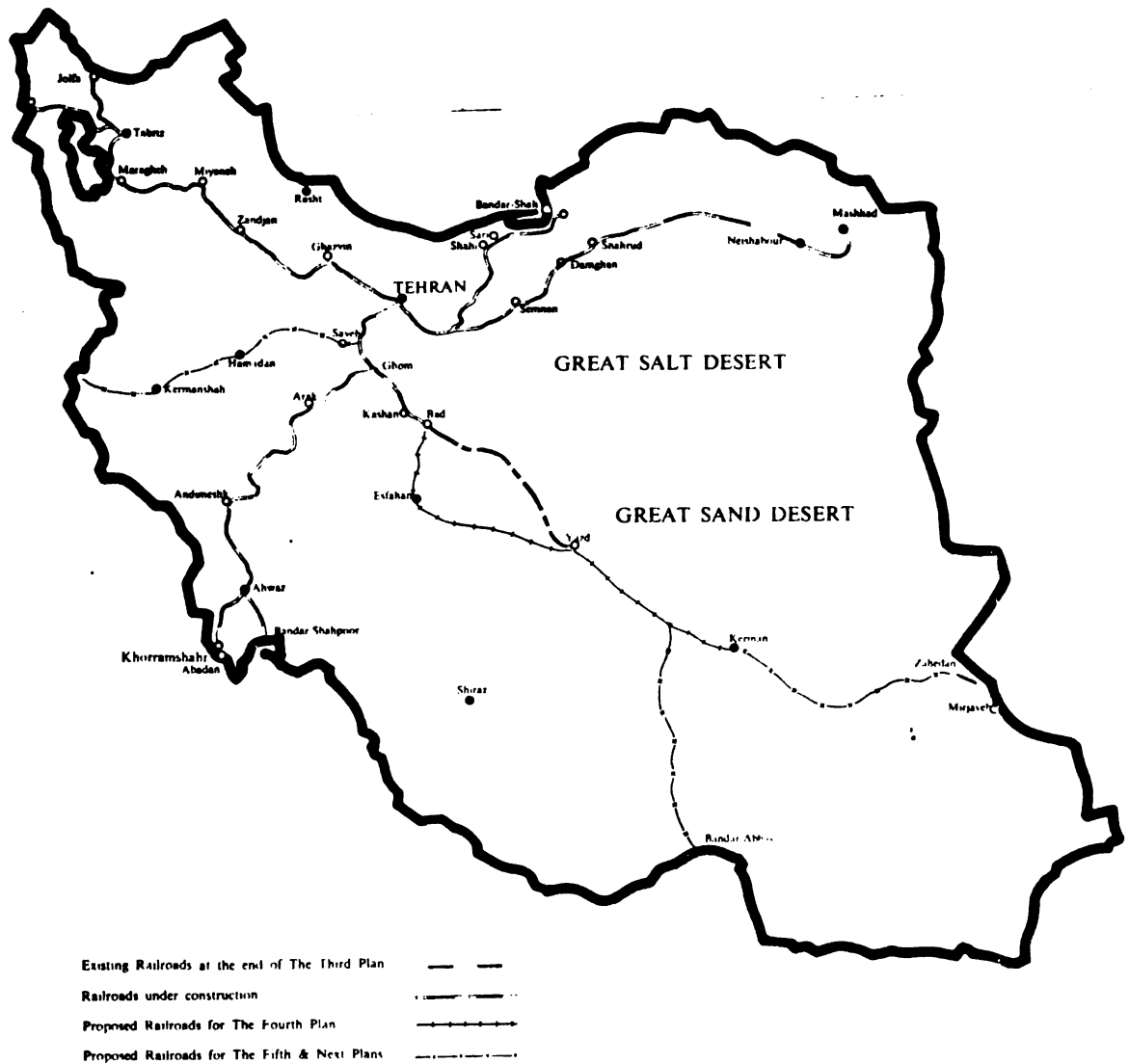


Figure 4.--Railroads by 1972.

Source: Plan Organization.

Roads

The communication routes, generally following passes through the mountains, connect provincial capitals with adjacent population centers and major cities with interior areas where agricultural production or mineral resources are abundant. The construction of modern roads began less than fifty years ago. Most main roads continue to radiate from Tehran, and follow the old caravan routes, which bypass natural obstacles.

The major goal of government road planners is to provide the maximum number of all-weather roads, but emphasis also has been placed on building more and better feeder roads and connecting isolated villages and population centers with important routes.

By 1967 the first freeway, connecting Tehran to Karaje, was completed; plans are to extend the freeway to Qzarun. Road construction allocation is provided under each of the national development plans. The fourth development plan encompassed a substantial increase in road transportation capacity as a result of the increased domestic production of trucks, passenger cars, motorcycles, and buses. Figure 5 shows the network of roads upon completion of the Fourth Plan in 1972.

Air Transportation

Air cargo traffic was initiated by Iranian Airways, established in 1949 to handle both passenger and freight service. The Persian Air Services Company, set up in 1954, carried only freight. The assets of the two companies were taken over by Iran Air, which was set



Figure 5.--Roads by the end of the Fourth Plan, 1972.

Source: Plan Organization.

up by Imperial Charter in February, 1962. By 1973 Iran Air had 2,697 employees as compared with 728 in 1963. In February, 1970, Iran Air (Irani National Airlines Company), a 51 percent government-owned national flag line, inaugurated its direct jet flights linking Iran with Istanbul, Rome, Paris, Geneva, London, Frankfurt, Hamburg, and Moscow.

The country's eighteen major international and domestic airports were expanded in 1970, and the fourth development plan allocated 2.5 billion rials for this purpose.¹ Figure 6 shows the major ports and airports by 1972.

Shipping

Before 1968 about 80 percent of all Iranian foreign trade was handled by ships and the Persian Gulf. With the important position of trade and needs the country had no merchant marine until 1968, when the Aria National Shipping Line was established. The line operated between Iran and Europe, and by 1969 was planned to have a direct link with the United States. After the establishment of the Aria National Shipping Line, special emphasis was put on the creation of national tanker fleets, and several large tankers have been purchased over the years. In addition to the National Aria flag line, there are sixteen smaller private shipping companies and a large number of small boat owners, all of them operating in coastal waters, engaged in trade with the Persian Gulf countries. All of the main ports in different types of use are shown by Figure 6.

¹Ibid.

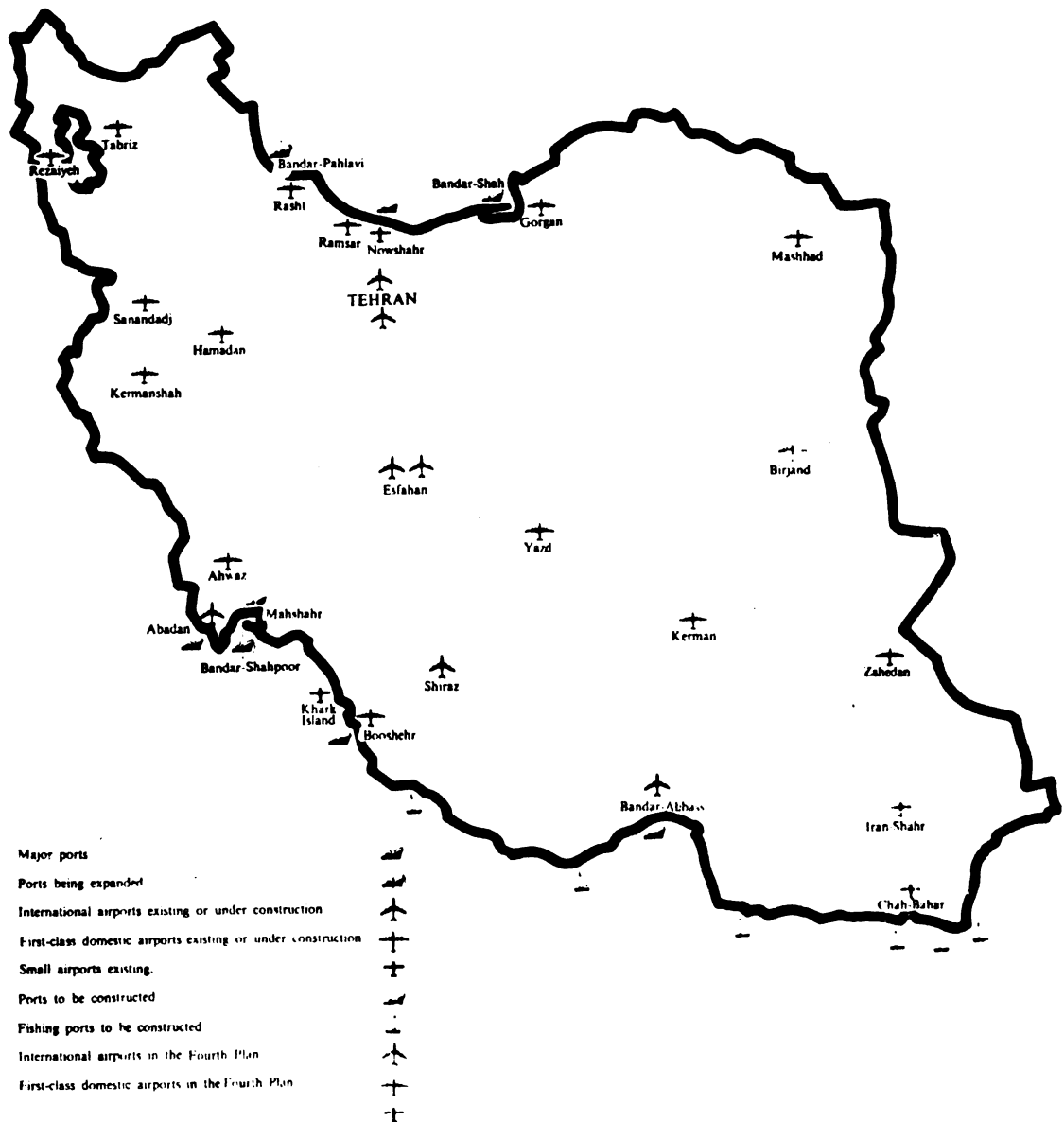


Figure 6.--Major ports and airports by 1972.

Source: Plan Organization.

Population

General Population Characteristics

The population census is a relatively new phenomenon in Iran. The first census was taken in 1956, and the second ten years later in November, 1966. During these years many changes took place, which created new social and economic problems or underlined previously existing ones. Not only did the existing urban centers show marked growth, but a number of new urban centers were created. Another point that stands out about the 1966 census is the size of an average urban or rural family, as compared with 1956. It is interesting that the number of individuals in a family has had an inverse relationship to the country's economic and industrial growth.

According to the findings of sociologists of the Tehran University Institute of Social Studies and Research, the rate of growth in urban population in Iran is 5.5 percent, while the rate of population growth in general is 3.1 percent. The difference between these two figures is explained by the fact that a majority of the rural population has started to emigrate to urban areas. In 1956, the urban population was only 31.4 percent of the country's total population. This ratio rose to 39.1 percent in 1966, and to 43 percent in 1971. Some sources estimate this ratio will grow to 60 percent by 1980.¹ For a better understanding of the population distribution in Iran, see Figure 7.

The total population of Iran (excluding the migrant population), as enumerated in the national census of 1966, was 25,323,064. Iran had

¹1966 National Census.

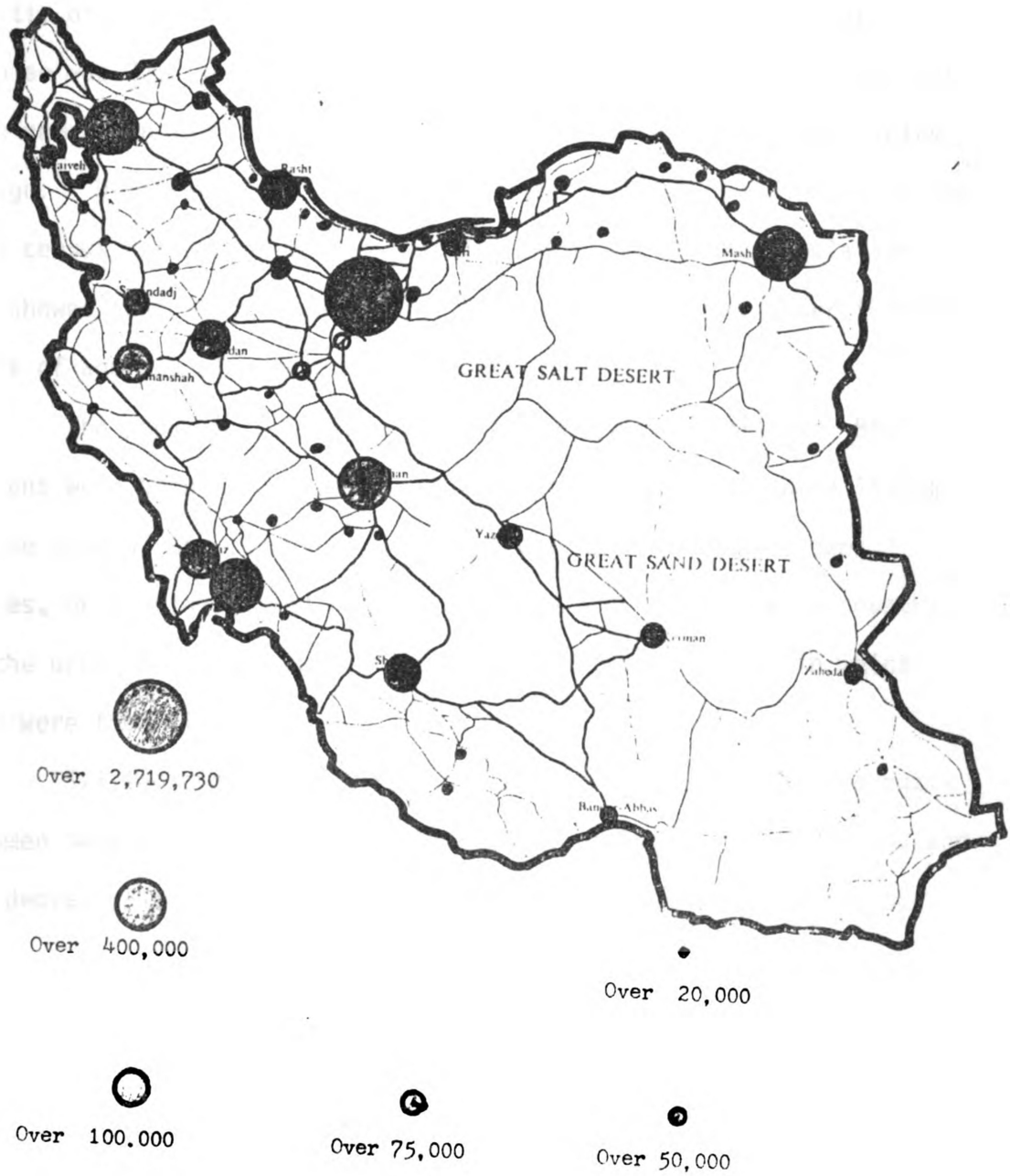


Figure 7.--Cities of over 20,000 population in Iran, 1956.

Source: Plan Organization.

a ratio of 107.3 males to 100 females. The mean age of the average Iranian was 22.2 years, with a median age of 16.9 years; 34.1 percent were under ten years of age and 54.6 percent were under twenty years of age.¹ Demographic information for 1969 verified the finding of the 1966 census pertaining to the youthful character of the population, and showed that over 46 percent of the inhabitants were under fifteen years of age and almost 68 percent were under thirty.

The population in general exhibited little mobility: 86.9 percent were born in the same city or town in which they were living at the time of the census; 4.9 percent were born in other towns, cities, or provinces; and 0.2 percent were born in a foreign country. In the urban area 73.6 percent were born in the same town in which they were then living.

Skilled and semi-skilled workers, village students, and businessmen have been attracted to the cities, particularly to Tehran, and the degree of immigration is reflected in the high ratio of men to women, the youthful character of the society, and the large percentage of Tehran's population born outside the city.

Most of the immigrants from the villages are unskilled and have difficulty finding employment, adding to the problem of unemployment and underemployment in the cities. Many who move to the largest urban centers are semi-skilled workers who had previously moved from their villages to small- and medium-sized towns. Villagers who migrate to the cities number approximately 244,000 a year, as of the 1966 census. These people spend considerable time in the environs of the

¹Ibid.

city, and having no permanent residence, they are forced to sleep in makeshift quarters. Included in this category, termed unsettled, are also some nomadic peoples who continually move between the villages and the countryside but who are not permanently settled in any one area. The 1966 census and later statistical surveys indicated the nomadic life is becoming less important in Iranian society. Many nomadic tribesmen, such as the Kurdo and the Baluchi, are gradually giving up their traditional ways of life to settle in the villages. Some of them eventually make their way to the larger towns and cities. Available statistics reported the 1962 nomadic population, apparently including semi-settled peoples, at about three million people or 15 percent of the country's total.

A Comparative Analysis of the Iranian Census of 1956 and 1966

According to the 1966 census, Iran had an average population density of 40.32 persons per square mile, whereas this density according to the 1956 census was 30 per square mile. The highest population concentration was in Central Province. Tehran, the capital, with a population of 2,719,730 (1,512,082 in 1956), is located in the center of the province. The lowest concentration of population was in Baluchestan, in the eastern part of Iran, with only 4.03 persons per square mile and 1.81 percent of the total population in 1966 (2.3 percent for 1956), because of the low rainfall, poor soil, and the lack of transportation.

A comparison of the two censuses shows that between 1956 and 1966 the rural population decreased from 68.6 to 61.26 percent of the

total population, whereas the urban population increased from 31.4 percent to 38.7 percent. There were two major causes for the increases in urbanization: the recent rapid economic growth, with emphasis on industrial development, and better opportunities in urban areas and in some cases better transportation than when the first census was taken. Of the 9.7 million urban dwellers, over 5.6 million lived in the fourteen largest cities; the rest of the population lived in 271 urban areas. (See Table 1.) This unusual concentration of population in several large cities is a typical phenomenon of most underdeveloped areas.

In 1956 the literacy rate was 15.4 percent for the population seven years old and more, and by 1966 it was 29.4 percent. This shows the growth in literacy between the two census periods was 14 percent. The literacy rate for men was 40.1, but for women it was only 17.9 percent. It was higher in urban areas, 50.4 percent, compared with 15.1 percent in rural areas.¹ This disparity in literacy rate between rural and urban areas is the result of fewer educational facilities in rural areas and the lower income of the rural population.

Iran has one of the highest birth rates in the world. In 1956 the birth rate was about 48 per thousand per year, and the death rate 22 per thousand, resulting in an average of 26 per thousand annual increase. After the second census the average birth rate decreased to 32 per thousand.

Further improvement in living conditions, specifically sanitation, preventive medicine, and improvement of nutrition are

¹Ibid.

Table 1.--Distribution of cities in Iran in 1956 and 1966.

Size of Population	Number of Cities	Percentage of Cities	Percentage of Population
<u>1956</u>			
Less than 5,000	13	6.5	.8
5,000- 9,999	90	45.2	10.4
10,000- 24,999	56	28.1	14.6
25,000- 49,999	22	11.1	12.8
50,000- 99,999	9	4.5	10.6
100,000-249,999	6	3.0	16.6
250,000-499,999	2	1.0	9.1
500,000 and more	1	.5	25.1
Totals	199	100.0	100.0
<u>1966</u>			
Less than 5,000	22	8.1	.8
5,000- 9,999	118	43.5	8.1
10,000- 24,999	72	26.6	11.3
25,000- 49,999	30	11.1	11.0
50,000- 99,999	15	5.5	10.9
100,000-249,999	8	3.0	11.9
250,000-499,999	5	1.8	18.2
500,000 and more	1	0.14	27.8
Totals	271	100.0	100.0

Source: National Census of Iran (Tehran, 1956 and 1966).

likely to cut the infant mortality and general death rates even more drastically.

Structure of Social Power

Contemporary Iranian society cannot be categorically classified as feudal. Instead, because of general modernization and some of the economic reforms and class fluctuation, one may accurately describe the structure of Iranian society as neo-feudal (see Table 2). In this neo-feudal society exists a myriad of inner-dynamics. Utilizing social class as the basic tool of analysis, it is possible to focus attention upon the concrete aspirations of defined groups of human beings and to provide a means of examining the vital relationship that exists between the socio-political process and the social structure of a society. Iran reflects the following picture.

The Upper Class

In Iranian society, the upper class maintained a near monopoly of power until the social revolution of 1963. The upper class can be broken into six major segments: (1) native landlords, (2) royal family, (3) tribal nobility, (4) high Ulama, (5) industrial aristocracy and bankers, and (6) landless, nonbourgeois aristocracy. In 1960 it was estimated that a few hundred land-owning families owned an estimated 80 to 85 percent of all cultivable land in Iran.¹ According to Groseclose, the landlords often never see their villages.² They

¹Robert J. Pranger, Political and Economic Balance in Iran (Washington, D.C.: A. M. Enterprise, 1960), p. 282.

²Elgin Groseclose, Money and Man: Introduction to Iran (New York: Ungar, 1967), p. 50.

Table 2.--Structure of social power in Iran.

Upper Classes:

Foreign
Capitalists

Native Landlords
Tribal Nobility
Royal Family

Industrial Aristocracy
Landless, Nonbourgeois
Aristocracy
High Ulama

Middle Classes:

Native
Entrepreneurs

Bureaucratic
Intelligentsia

Middle Landowning
Groups

- Intellectuals--students
& teachers
- White-collar workers
& bureaucrats
- Professional personnel
- Middle-ranking army
officers

Lower Classes:

Transport
Workers

Oil & Mining
Workers

Construction

Manufacturing
and Crafts

Service Occupations

Peasant Classes:

Small Peasant
Proprietors

Landless Peasantry
(including Tribal
Masses)

usually live in large cities, such as Tehran, or the capital of some foreign country, with the best facilities and enjoyment. Certain members of this new industrial elite rose from the petty bourgeoisie. Some of them had already become engaged in entrepreneurial activity before the recently accelerated implementation of land reform.

The Lower Class

The second major group of the Iranian class structure is composed of the lower class, because of the special connection that exists between the upper and lower classes. The lower class may be broken down into four groups: (1) working classes, (2) landed peasants, (3) landless peasantry, and (4) tribal masses. The great bulk of the lower class is composed of the landless peasants. The 1956 census revealed that almost two million employed persons can be classified as belonging to the working class (Tables 3 and 4). This is about one-third of the employed Iranian population. As Tables 3 and 4 indicate, the working class includes all urban and rural laborers who are employed in the mining of minerals, transportation, construction, manufacturing, service occupations, and crafts. Iran, like the Middle East in general, is predominantly an agricultural society. Agriculture accounts for between 40 and 50 percent of the G.N.P., while the petroleum industry accounts for less than 15 percent. The official census of 1956 showed one-half of the employed population are peasants who are directly engaged in farming occupations.¹

¹National and Province Statistics of the First Census of Iran: November 1956 (Tehran: June, 1962).

Table 3.--Socio-occupational structure of the Iranian employed working class population age ten and over.^a

Working Class	Self-Employed	Govt. Employees	Private Employees	Family Workers & Other	Total
Mining & Minerals	3,400	5,000	45,000	300	53,700
Transport	36,700	23,100	74,000	4,300	138,100
Construction, Manufacturing and Crafts	260,400	89,400	740,300	35,600	1,125,700
Construction	9,000	36,600	279,800	600	326,000
Carpets, Fiber, and Leather	166,000	13,100	283,200	25,000	287,300
Woodworking	28,300	3,900	34,500	3,300	70,000
Metal Trades	28,800	10,200	48,900	3,500	91,400
Electric	1,100	4,300	4,100	100	9,600
Ceramic	1,600	100	1,200	300	3,200
Machine	800	4,100	5,300	100	10,300
Printing and Paper Projects	500	500	2,900	100	4,000
Food & Tobacco	16,800	5,500	57,300	1,900	81,500
Chemical	3,400	2,000	6,900	200	12,500
Misc. Crafts	4,100	9,100	16,200	500	29,900
Service	43,000	66,200	334,600	7,200	451,000
Protective	1,000	41,700	16,600	100	60,000
Personal	31,500	12,800	263,100	2,500	310,500
Miscellaneous	10,500	11,700	54,900	4,600	82,000
Unidentified	1,800	4,800	62,600	97,800	167,000
Totals	345,300	188,500	1,256,500	145,200	1,935,500

^aThis table was constructed from information extracted from the recent official census. See Government of Iran, Ministry of Interior, "Social and Economic Characteristics of the Inhabitants for Iran and the Census Provinces," National and Province Statistics of the First Census of Iran: November 1956 (Tehran: June, 1962), II, 309-311. All figures in this table have been rounded off to the nearest hundredth.

Table 4.--Urban-rural residence of the Iranian employed working class population age ten and over.^a

	Self-Employed	Govt. Employees	Private Employees	Family Workers & Other	Total
Urban	157,800	159,000	705,900	73,100	1,095,800
Mining & Minerals	2,200	1,400	16,300	200	20,100
Transport	17,500	19,000	48,100	2,000	86,600
Construction, Manufacturing, and Crafts	114,400	51,000	445,800	12,800	624,000
Service	23,000	43,000	180,800	1,800	248,600
Unidentified	700	44,600	14,900	56,300	116,500
Rural	187,500	77,100	550,400	72,200	887,200
Mining & Minerals	1,200	3,600	28,700	100	33,600
Transport	19,200	4,100	25,800	2,300	51,400
Construction, Manufacturing, and Crafts	146,000	38,500	294,500	22,900	501,900
Service	20,000	23,800	153,700	5,400	202,900
Unidentified	1,100	7,100	47,700	41,500	97,400
Working Class (Total)	345,300	236,100	1,256,300	145,300	1,983,000

^aThis table was constructed from information extracted from the recent official census. See Government of Iran, Ministry of Interior, "Social and Economic Characteristics of the Inhabitants for Iran and the Census Provinces," National and Province Statistics of the First Census of Iran: November, 1956 (Tehran: June, 1962), II, 267-269. All figures in this table have been rounded off to the nearest hundredth.

The Middle Class

Between the upper and lower classes in Iran there exists what can be called the middle class. This sector of the Iranian social structure demands close scrutiny. The middle class can be broken down into two major sections, and a third minor segment also exists as part of the middle class. One section is composed of the native business groups. Table 5 indicates that the bulk of the Iranian property-owning middle class is composed of those who are self-employed in commerce and industry. Another part of this class is represented by employers in major occupations such as agriculture. The category also includes a number of small industry owners. Table 5 shows that approximately 300,000 people are employed in this entrepreneurial middle class. The other major portion of the middle class consists of bureaucrats. The socio-economic position of this class rests upon particular accomplishments and attainments resulting from special skills and talents. Its value stems from functions, performance, and services, rather than from material wealth or property. The bureaucratic group includes professional, technical, and cultural occupations as well as white-collar and sales personnel employed in commerce and industry. The largest single occupational group in this class is government bureaucrats, who number approximately 200,000.

Nomadic Tribes Structure

The most important of the tribal groups that are widely distributed throughout Iran are the Kurds, Bakhtjari, Qashga'i, Mamasani, Khamesh, Shahsevars, Araba, Baluchi, and Turkman. The first five tribes are found primarily in the Zagros mountain chain. Certain of

Table 5.--Socio-occupational structure of the Iranian employed middle class population age ten and over.^a

Middle Classes (Total)	665,000
Bureaucratic Intelligentsia (Total)	332,000
Professional, Technical and Cultural	93,200
Government Employees	54,800
Self-Employed	22,800
Private Employees	15,600
Bureaucratic	175,900
Government Employees	146,500
Self-Employed	17,000
Private Employees	12,400
Commerce and Retail	62,900
Government Employees	2,100
Private Employees	60,800
Entrepreneurial (Total)	298,900
Employers	34,700
Professional-Technical	600
Managerial and Administrative	3,200
Commerce and Retail Selling	9,700
Mining and Minerals	500
Transport	900
Construction, Manufacturing and Crafts	16,300
Service	3,000
Unidentified	500
Self-Employed	264,200
Commerce and Retail Selling	264,200
Medium Landowners (Total)	34,100

^aThis table was constructed from information extracted from the recent official census. See Government of Iran, Ministry of Interior, "Social and Economic Characteristics of the Inhabitants for Iran and the Census Provinces," National and Province Statistics of the First Census of Iran: November 1956 (Tehran: June, 1962), II, 309-310. All figures in this table have been rounded off to the nearest hundredth.

the tribes, including the Kurds and the Araba, have veered toward a settled agricultural life, but the true nomads keep to a pastoral economy dependent on large flocks of sheep and goats. These nomads are the most picturesque element of the Iranian population, representing the best physical type, which has always furnished the backbone of Iranian armies, from which several ruling dynasties have sprung.

The tribes move their quarters according to the season. The tribal lands occupied in the summer often contain orchards and groves of nut-bearing trees, which are an added source of cash income. Ready cash is used for the relatively few items not produced by the tribes themselves: sugar, tea, cotton piece goods, arms and ammunition, and jewelry. Other valuable property of the tribes is the herds of horses and the guns; the men are fine marksmen and are very proud of their weapons.

The social life of the tribes centers around the guest tent of the tribal chief. Acquaintances and strangers are welcomed to the generous hospitality of the guest tent.

In early periods the central government tried to break the armed strength of the tribes' accustomed haunts, and more recently tribal revolts have been severely quelled and attempts made to settle the nomads in newly built villages. Also, the 1963 land reform was a strong point in settling the nomads.

Village Society

For the most part, village life runs smoothly. Robberies and disorders are few, and local disputes are solved by the headman, customarily chosen by the landlords (before 1963 land reforms).

Many villages have a public and private bath. The building, constructed at the expense of the local landowner or local government and shared with the villagers, has a series of rooms that are mostly underground so that only the upper parts of the domes with their glass lighting apertures project above the surface. One man is put in charge of the community bath, and it is his duty to keep it clean and see that steaming hot water is available for a given number of hours each week. The villagers can bathe as often as they wish, and everyone helps to support the bath attendant by contributing wheat, straw, fuel, fruit, and money.

In the village life there is no distinction between the hours of toil and those of amusement and recreation. There is no organization of leisure hour activity, and, indeed, there is little leisure except in the winter months. Conversation is the chief form of diversion and relaxation when a group of men gathers to drink tea, discuss the weather, and exchange news and opinions.

Market Town Society

The market town is a large village settlement of a few thousand people; it is situated on a main thoroughfare, such as a provincial highway. The market town acts as a geographic, economic, and social link between rural and urban areas. Market town is a place to see friends, to report births and deaths, to find supplemental employment, to obtain certain items not available in one's own village, and to market crops. Those villagers living where there are no schools or teachers may send their children to school at the nearest market town.

The social structure of the market town is essentially urban; the dominant positions in the community are held by the mayor, heads of "gendarmerie" units and of government bureaus, and perhaps the leading mullah or teacher. The next level is represented by the leaders of the bazaar, small landowners, and lower-level teachers. The next group includes petty civil servants, small shopkeepers, and the bulk of the "gendarmerie." At the bottom of the social scale are the illiterate workmen, messengers, servants, beggars, and other drifters who continually move from community to community. Social mobility in the market town tends to be horizontal rather than vertical, except for a few people at the bottom of the society. Most people in the market town are oriented toward urban life and expect to improve their social position by moving there when the opportunity arises. This movement from the rural to the urban area is reflected in the changing demographic patterns and economic trends of the country.

Urban Society

Many of the towns of Iran fit into the same pattern, populated by between 40,000 and 100,000 people and situated about eighty miles apart along the main highways. Most of their sites were chosen because they were originally points of intersections of important trade routes; some of them now serve as collection and distribution points for farming regions. Every town bears testimony to the program of modernization begun about 1925 during the reign of Reza Shah. Wide avenues were cut through crowded residential quarters and helped relieve congestion in the towns and provide space for new buildings; however, in

some cases, modernization destroyed some of a town's rural charm. All the towns have newly constructed primary and secondary schools, which are quite adequate to meet local needs. Other new structures include hospitals and other governmental buildings.

In spite of the fact that shops line the avenues, a good deal of the retail and nearly all of the wholesale business takes place in the bazaar. Essentially, the bazaar is a single long street, lined with small shops, and covered for its entire length by vaults of fired brick so that merchants and shoppers have complete protection from the summer sun and winter rains. At intervals wide portals lead into structures, each with a large central court surrounded on all sides by offices or storerooms and, in the finer bazaars, roofed with vaults of fired brick. These buildings are the headquarters of the wholesale merchants.

The townspeople normally have a better educational and higher social position than the villagers, and are the products of many centuries of cultural continuity.

Social Mobility

Social mobility in Persia is in two directions. Vertical mobility in almost every segment of the society allows an individual to move from class to class or up or down the social ladder within his own class. Vertical mobility, however, is most pronounced in the urban class structure. Horizontal mobility is also common, especially when a nomadic tribesman turns to a sedentary existence or when a peasant farmer migrates to the city. The number of upper class individuals who were born into middle and lower class families is increasing.

Conversely, the children of upper class families are not assured of continued membership in that class.

Religion can be a major barrier to social mobility. The feeling is widely held that non-Muslims, such as Christians, Zours, and Bahais, should not hold positions of authority over Muslims. Members of minority religious groups are thus prevented from achieving full admission into the elite class. There are exceptions, but generally non-Muslims do not have the same opportunity as Muslims to improve their social positions.

Living Conditions

In 1955 it was estimated that, in Tehran, 40 percent of the children died before reaching the age of fifteen, and the figures are probably higher in other parts of the country, especially in the rural areas. The National Office of Registration stated that there were about eleven deaths per thousand per year in the total population.

Almost all Iranians, whatever their social class, suffer to some degree from chronic malnutrition. Bad eating habits prevent a large part of the population from getting enough protein, calcium, and vitamins in their diet. Bread more than rice is the major staple food in Iran, and the price of meat puts it out of reach for most Iranian families. In 1935 reports showed that an urban middle class family spent 56 percent of its total income on food. In 1974 it was estimated that a peasant probably spends 90 percent of his income on food. Also, his average diet still contains fewer than 2,000 calories per day.

The level of living conditions in 1970 was modest, but the gains of a rapidly developing economy gradually were beginning to reach new segments of the population. Urban cash incomes were rising as newly established industrial enterprises offered job opportunities to a growing number of people. Health, education, and other social services were reaching various rural areas. Crops were beginning to replace subsistence farming. A social insurance plan, launched in 1969, covered a relatively small sector of the wage-earning labor force, but legislation is being implemented to extend social insurance to the farming population. By 1962 some 300,000 workers were covered by social insurance. This number more than doubled by 1969. The social welfare program's budget is 1 percent of the total budget of the fourth development plan.

An increase in one- and two-room family dwellings, mainly in Tehran (where the growth rate is about twice that of the country as a whole) extended the city limits, placing burdens on municipal services not equipped to serve large populations. The lack of housing represents a major problem in the capital and in the provincial cities that were stricken by earthquakes in 1968 and 1969.

In most of the country, urban residents have benefited from the better availability of consumer goods and of educational, medical, and recreational facilities. Moreover, people employed by modern urban industrial enterprises enjoy better living and working conditions and most of these enterprises provide low-rent, sanitary dwellings, food supplements, and educational services to their workers.

Many rural families live at a subsistence level, and their houses primarily are in bad condition. According to census data, about 97 percent of the rural dwellings are built of mud bricks, straw or wood; many do not have safe drinking water. Disease is widespread because of inadequate environment, sanitation, and poor personal hygiene. But the Medical Corps has helped rural dwellers to have a better education and better environmental conditions, resulting in better health and higher literacy levels.

Earthquakes and floods in many areas constitute permanent hazards for the urban and rural population. In August, 1968, more than 12,000 people were killed and as many left homeless. Floods during the winter of 1968 and early 1969 caused extensive loss of life and property damage, washing away roads and destroying thousands of rural hamlets.

Education in Iran

Education plays an important role in the Iranian society, but facilities have not kept up with growing needs. Illiteracy grew to staggering proportions because the school system excluded almost the entire rural area. Also, with the recent rapid population increases, migration to the cities has posed a problem in an age of otherwise rapid technological advances. This problem is being challenged with increased vigor, and success has been achieved over the past few years.

In the academic year 1969-70, about three million students were enrolled in elementary schools. Of that number, about 60 percent were in the cities and the rest were studying in rural areas.

In the same academic year, almost 900,000 students were attending secondary schools, a rise of about 16 percent over the year before. Almost 90 percent of this total were attending schools in the cities.

At Iranian universities and schools of higher studies, about 60,000 students were enrolled in classes in the year 1968-69. In addition, 22,000 Iranians were pursuing higher studies abroad. Table 6 shows the number of schools and pupils in Iran in the years from 1962 to 1970.

One of the first reforms that took place in 1941 was to make education compulsory and free for all children. In view of lack of schools and shortage of teachers at that time, this represented a goal at which to aim, rather than a practical possibility. As can be seen from Table 6, the number of schools rapidly increased, and teacher training colleges were established.

In 1963, institution of a new program was made whereby high school graduates due to enter military service would be able to join the Literacy Corps instead of the regular Army. The Literacy Corps provided four months training for each cadet, who was sent to a village, where he set up classes for basic education in arithmetic, writing, and reading. This program made it possible to children and adults alike in the remotest villages to receive some education.

During the following year, adult education classes were set up in towns and cities throughout the country. In 1968-69, about 944,000 adult students were studying either in the literacy classes or in classes conducted by members of the Literacy Corps.

Table 6.--Number of schools and pupils in Iran, 1962-63 to 1969-70.

	Academic year 1962-63	Academic year 1963-64	Academic year 1964-65	Academic year 1965-66	Academic year 1966-67	Academic year 1967-68	Academic year 1968-69	Academic year 1969-70
SCHOOLS:								
Primary	12,451	13,302	15,647	15,135	14,740	15,429	15,556	15,776
Secondary	1,207	1,269	1,402	1,554	1,683	1,867	2,067	2,298
Vocational and Technical	86	96	103	105	118	138	154	164
Teachers' Training	87	57	50	52	64	93	111	123
Literacy Corps	2,346	2,907	6,799	11,133	11,726	7,901	8,873	10,050
PUPILS (Persons):								
Primary Schools	1,719,353	1,841,206	2,030,733	2,181,633	2,378,082	2,575,667	2,753,132	2,916,266
Secondary Schools	326,856	369,069	426,402	493,735	579,716	674,058	781,507	897,443
Vocational and Technical Schools	9,398	10,467	12,681	14,632	15,956	16,273	19,059	23,335
Teachers' Training Schools and Colleges	2,422	713	736	1,661	5,692	6,693	6,059	9,275
Literacy Corps Primary Schools	82,791	106,000	228,500	365,813	438,804	269,437	292,970	321,239

Source: Ministry of Education (Tehran: 1971).

Another improvement made in recent years has been the increased number of technical and vocational schools, particularly teacher training colleges.

In addition, practical lessons have been introduced into the general school curriculum. Up until ten years ago, students were rich in theoretical knowledge, but very poor in the application of the theories on which they had spent so much time and hard work. Home economics classes were introduced in girls' schools, and today there are many courses in cooking, dressmaking, child care, interior decoration, handicraft, and other subjects which would help a young educated woman to build a happy home.

Despite the efforts of the Literacy Corps and other institutions, however, the bulk of educational facilities is to be found in the cities of the country, or, most particularly, in Tehran.

According to the 1966 census, the population of Iran was 25.7 million. Of this, about 4.8 million children were of school age and should have been in school, whereas the actual number was just over two million.¹ Thus, despite all the efforts being made through conventional education, more than two million school-age children were still without schooling. This caused the authorities to seek a more effective means of raising the level of literacy and schooling among children, as well as among illiterate adults.

The problems were many, the main one being the fact that about 75 percent of the population of the country lives in some 50,000 villages, more than half of which have no schools at all. The shortage

¹1966 National Census.

of qualified teachers prevented a rapid increase in the number of schools. It was to meet this problem that the Literacy Corps was launched as one of the main points of the White Revolution. This was a necessary move, because although the education budget had increased spectacularly since 1926, still by 1955 only 18 percent of the population of the country was literate, only one-third of the school-age children could find their way into classrooms, and over 90 percent of the children attending school lived in cities and towns.

Economic Structure

Agriculture

In the transition from subsistence to civilization, the decisive step that man took was the introduction of husbandry. Persian civilization was really started when man realized that instead of searching for self-sown wild grains he himself could sow the seeds of wheat, barley, millet, and rice; and instead of hunting the various wild game and fish, he could domesticate the game, wild sheep, goats, and asses.

In the sphere of agriculture, Iran has helped the development of agriculture in three ways: first, by controlling the forces of nature and domesticating animals and plants existing in the wild state in the plateau; second, by inventing ways and means of procuring water from the places where it can be found and diverting it to the places where it was needed for irrigation; and third, by inventing various agricultural implements, watermills and windmills, storing the wheat by creating gardens, and using manure to restore to the land what had been lost through uninterrupted cultivation.

Iran has been considered primarily an agricultural country, but the percentage of the whole area under cultivation is extremely small; very large cultivable but unused areas await development. In most parts of Iran methods of cultivation are as old as primary methods. Plowing is done by oxen, donkey, mules, or sometimes camels dragging a crooked wooden stick with an old piece of iron attached. With the present level of agricultural consumption, Iran is self-sufficient. Inasmuch as there is no pressure of population in the country because of the few inhabitants per square mile, one reason for the low production of agricultural products may be attributed to a lack of incentive.

It is clear that only a small percentage of the land in Iran is under cultivation. Also, most of it is not effectively cultivated. In general, strip farming, land ownership and distribution, and lack of knowledge about modern agricultural techniques and practices are the main obstacles to the expansion of agricultural output.¹ Consequently, productivity of the average cultivator is quite low. In addition, so many people ordinarily share in the output that the standard of living in the rural area is generally abysmal and the agriculture in Iran is characterized by the existence of mass "disguised unemployment" in the land.²

¹Sadri Mansour, "Economic Planning in Iran" (unpublished paper, University of Pennsylvania, 1961), pp. 14-15.

²For a definition of disguised unemployment, see the United Nations, Measures for the Development of Underdeveloped Countries (New York: United Nations, 1951), p. 7.

About 60 percent of Iran's population lives in rural areas and relies primarily on agriculture. Under the traditional land tenure system, landlords owned about 57 percent of all villages, and tenant farmers made up a substantial part of the agricultural labor force. But in 1960, owners of large estates were required to sell part of their holdings to the government for redistribution on the basis of purchase contracts. In October, 1969, all titles of rented lands were ordered to be transferred to the tenant farmers. These measures have basically changed the composition of labor in the countryside because many tenant farmers, formerly landless, have become owners of redistributed lands.

Irrigation.--Of the land cultivated annually in Iran, over half is irrigated. Irrigated land produces more than 50 percent of the crops harvested. Because of the limited amount of water available, only a portion of the irrigated land is under irrigation at any one time.

The usual method of irrigation in Iran is by quannats. Quannats are underground channels dug into the alluvial fans rising from the valleys toward the slopes of the mountains. The maintenance of quannats is a costly operation.

A second method of irrigation, which is common in hillside farming, is the use of diversion channels from rivers and streams to carry water directly to the cultivated areas. To date there has been little systematic use of river water for irrigation; it has generally been pumped or drawn off by individual landowners without regard to conservation or the rights of others.

The third system of irrigation is by water pumped from wells; this system is usually used in the southern part of Iran, mainly for irrigation of date gardens.

It is estimated that before 1964 more than 75 percent of the available water was unused, flowing to waste in the sea or in the desert area. In 1964 the Ministry of Water and Power was created for the development and management of the nation's water and power resources. During the last decade many dams and deep pumps have been built, resulting in a better irrigation system for some areas.

Land Utilization.--Because of the shortage of water and poverty of soil, only roughly one-third of the cultivable lands are in production in any one year. As Table 7 shows, 11.5 percent of the land is in forests, 6.1 percent is in grazing lands, and 52.1 percent is other unusable land and wasteland that offers no opportunity for future cultivation.

Production.--The total agricultural production by 1968 was about 135 billion Rials (U.S.\$ 1.8 billion). About 45 percent of this amount was derived from wheat, cotton, rice, and other field crops; about 20 percent from orchards of garden fruits; and the remaining 35 percent from livestock and livestock products. Until 1959 the country was self-sufficient in basic foodstuffs, except tea and sugar, and had a sizable surplus of other crops. The rapidly increasing population in the last two decades and the drought of 1959 have necessitated importing considerable amounts of wheat to meet the needs of the country. Since 1955 the food production has shown a small gradual increase, with

Table 7.--Land utilization in Iran.

Type	Total land area (in thousand acres)	Permanently cultivated land (in percent)	Total cultivated land (in percent)	Total area (in percent)
Cultivated land				
In production	17,537	--	37.4	--
Irrigated cultivation	(9,780)	44.6	--	--
Dry cultivation	(9,757)	55.4	--	--
Fallow seasonally	<u>29,393</u>	--	62.6	--
Subtotal	46,930	--	--	11.5
Potentially cultivable land	76,570	--	--	18.8
Permanent pastures and meadows	24,700	--	--	6.1
Forest and brush-lands (also used as permanent pastures not included above)	46,930	--	--	11.5
Unusable land (deserts, lakes, swamps, mountains, roads, and densely populated areas such as cities and villages)	<u>212,420</u>	<u>--</u>	<u>--</u>	<u>52.1</u>
Total	407,550	100.0	100.0	100.0

Source: Adapted from Iran Almanac and Book of Facts (Tehran: The Echo of Iran, 1969), p. 356.

the sharp drops in 1959 and 1964 reflecting agricultural production crises. The crisis was especially critical in 1964.

Mechanization.--The government has been encouraging farm mechanization since the end of World War II, but such improvements did not take place until the implementation of land reform in the 1960's. The intent of the government program was to raise the number of tractors and other machinery. Traditionally, farming methods were basically the same as those used thousands of years ago. In addition, the farmers are generally conservative by nature and often hesitate to adopt new methods that depart from established traditions. The effect of modernization can be felt only in the recently established cooperative and joint stock companies.

Forestry and parks.--The second largest natural resource of Iran, after oil, is forest land. It covers about one-ninth of the total area of the country. In the past the country had a much larger area of forest lands, but centuries of grazing by sheep and goats and unrestricted exploitation by charcoal burners have depleted its resources.

To prevent the indiscriminate exploitation of the forests without an adequate reforestation program, the government has nationalized all forests and pastures.

Land reform.--During the period from 1906 to 1960, many land reform laws were passed, but they were limited to particular areas and forms of ownership. They either were never implemented or were ineffective because of poor administration and planning. An exception

was the Shah's crown-land distribution program during the 1952-1962 period.

Land has been highly regarded for its social and political prestige, as well as a source of income. Landowners traditionally have resisted selling their lands, even in times of financial need. In 1963, for the first time in the country's history, an extensive land reform program was implemented, despite strong opposition from the powerful interests affected. The program was based on the desire of the Shah and his government to broaden their political lease, to give vent to the growing demand for land and social reforms, and also to ease the lot of the peasants.

The Shah took forceful steps in the land reform, including dissolving the landlord-dominated parliament, rewriting the weak reform law, and giving his aggressive and powerful Minister of Agriculture the task of implementing the program. Land reform has benefited urban planning, because formerly the only method of self-improvement was migration of rural people to urban areas, presenting many problems for the cities.

Summary of Agriculture Problems

Iranian agriculture is still faced with some important basic problems, which in general are the following:

1. Illiteracy of farmers
2. Lack of basic technological information
3. Shortages in the agricultural sector
4. Shortage of water resources and failure to utilize existing water resources to the full

5. Farmers' ignorance of modern methods of production and marketing
6. Farmers' financial insecurity
7. Lack of policies to support agricultural income
8. Small size of agricultural units

Industry in Iran

In almost every country industry is a glamour sector of economic development. People look to industrial development to provide much-needed employment; to generate higher individual and national incomes; to relieve the balance of payments by import substitution; to open up markets for the primary products of agriculture, mining, forestry, and fishing; to give the country greater economic independence; to generate new tax revenues; and to act as an important source of national pride.

Curiously, one of the most important benefits of sound industrialization is often low on the layman's list, i.e., to lower the prices of industrial goods for consumers. By and large, these hoped-for benefits of industrialization are sensible and realistic--provided a country makes sensible choices.

Before World War II, Iran's industrial progress was confined mainly to state-run enterprises (except oil). Today Iran is not nearly as advanced industrially as India, Mexico, and Brazil, but it has made a good start and has good prospects.

In any country where investment decisions are guided primarily by a free market, industrialization follows a standard path. Iran is already well launched into this path. The classic pattern breaks into three types of industries: (1) consumer goods, (2) capital goods, and

(3) exports. These are all pioneer industries and depend primarily on domestic raw materials. Once pioneer industries have been established, their expansion also follows predictable patterns.

Typically, the industrial sector will grow along three axes: (1) horizontally, through the straightforward replication of existing units; (2) vertically, along lines of forward and backward linkages; and (3) by the establishment of new, unrelated industries outside the system.

With this background we now look at Iranian industry in the last twenty-five years, beginning with the Reza Shah period the the planned organization program.

The Reza Shah Period

Apart from oil, modern industry in Iran dates from the mid-1930's when Reza Shah launched a vigorous program of industrial investment as part of his program for modernizing the country. The industries started in the 1930's were almost all government owned. They included textiles, sugar, and cement. The size of Reza Shah's industrial effort was more impressive than its long-term results. By the 1950's few of the government plants were well run, and almost the only profitable ones were those enjoying a monopoly.

The 1950's

The most interesting and significant industrial development of the 1950's was the emergence of a private sector on a much larger scale than anyone had expected. The growth was especially marked after 1956, when private investment doubled. The boom was partly the

product of an alarmingly liberal policy of industrial credit, a policy administered by the Ministry of Industries and Mines. By the end of the Second Plan, in 1960, industrial production probably accounted for 13 to 14 percent of domestic production. The oil industry contributed another 12 percent.

The Third Plan

As events turned out, the Second Plan did much less for industry and mining than originally intended. It was almost exclusively a program of completing, modernizing, and constructing government-owned plants. In designing a comprehensive industrial program for the Third Plan, the main problem was how to sustain this new industrial thrust while putting it on a sounder basis. The people charged with preparing the industry plan were the three Iranians and one foreign advisor who constituted the Industry Section. These four individuals were by no means the most knowledgeable individuals in Tehran concerning industry. In the end, with all their planning, virtually no effective consultations took place between the planners and the potential industrialists. This lack of consultation was not just a matter of oversight; the absence of any institutional structuring of employers, and the thinness with which the planners' limited time and energies had to be spread over their limitless tasks, made consulting virtually impossible.

Everything was centralized in Tehran, but overcentralization was not a fault of the planners' approach to their task; it simply reflected the historical policy of not allowing local government and private interest groups to become strong.

Industry in the Fourth Plan

During the Third Plan, the private sector's share in industrial investments was considerably greater than that of the public sector. But in view of major existing projects, such as the establishment of the steel, petro-chemical, machine making, and aluminum industries, as well as future ones such as the manufacture of tractors and various mechanical engineering and defense industries, the government's share in industrial and mining investment has risen considerably. Table 8 shows the percentage by which selected industries have increased during the last ten years. Figure 8 shows the locations of the major industries in Iran.

Housing industry.--The total number of houses in the whole country was about 3,900,000 by the end of 1966; 1,290,000 were built with mud and wood and 1,125,000 with mud and mud bricks, with only 11,000 built of concrete.¹ Since 66 percent of these buildings are over ten years old, slums present a big problem. Slow progress is being made in overcoming housing problems with the aid of the industrialized nations and international agencies. During the Third Plan, only 4,320 low-cost housing units were built. In general this is not enough for the needs of the whole country. Table 9 shows the future urban housing need of Iran by 1981.

Most new housing in Iran is mass employee housing, stimulated by the rapid growth of large-scale private and government enterprises in new city and suburban areas. Priority is given to skilled clerical

¹Bureau of the Census of Iran (Tehran, 1972), p. 181.

Table 8.--Percentage increase of industry from 1962 to 1972.^a

Industrial Activities	1962 %	1965 %	1967 %	1972 %
Food and tobacco industry	33.3	29.3	31.7	23.5
Textiles, clothing & leather	15.6	18.4	18.7	14.4
Basic metals and metallic products	7.0	5.4	7.2	5.8
Cellulose	3.2	10.4	9.4	7.3
Pharmaceuticals	0.3	0.7	0.9	1.2
Chemicals	4.6	4.1	4.3	2.4
Petrochemicals	..	0.4	0.4	12.4
Mechanical & electrical engineering & vehicles	13.5	10.0	9.1	14.9
Nonmetallic minerals	10.3	7.7	6.6	6.0
Handicrafts and carpets	9.7	7.8	7.1	6.0
Other industries	0.4	0.8	0.7	0.9

^aThese percentages indicate the rate of growth.

Source: Plan Organization of Iran, Tehran, 1972.

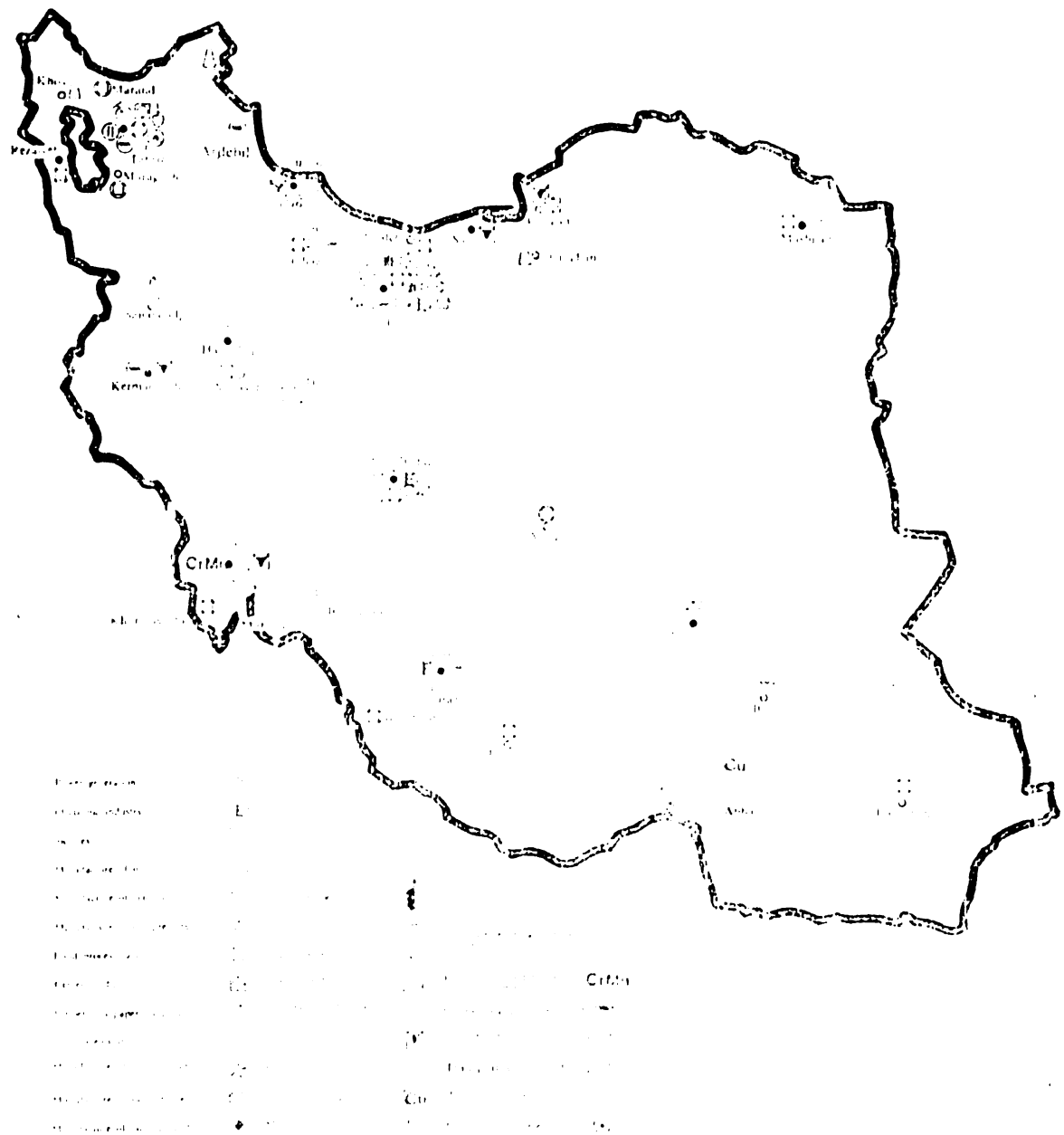


Figure 8.--Location of industry in Iran.

Source: Plan Organization, 1972.

Table 9.--Urban housing requirement by 1981.

Size of Cities	Projected Number of Families	Housing Requirements ^a
Development sales	2,272,740	1,537,610
100,000 and more	258,237	144,078
25,000 - 100,000	627,468	294,127
5,000 - 25,000	572,003	234,996
Total needed by 1981	3,720,950	2,210,811
Total needed by 1971	2,307,950	1,509,637 ^b

^aThere is no document that shows what percentage of this need was constructed.

^bShortage of housing by the year 1971 was 798,313.

Source: Ministry of Development and Housing (Tehran, 1970), p. 23.

and administrative employees. The majority of employed urban industrial workers, however, are ill-housed, and their needs remain unmet and almost totally unexplored.

Company housing is not a universal remedy for all ills. In fact, it generates new problems within the framework of social and economic development. But, in general, much new urban housing is built by the people themselves with the help of friends and relatives.

An increasing share of new housing for salaried and self-employed workers is being built by local builders. Those builders play a crucial role, since workers cannot build for themselves and work at the same time. With technical assistance, local builders can improve construction techniques, learn how to design economical and convenient dwellings for the special needs of their culture, and at the same time learn how the basic principles of business.

An additional housing problem facing Iran is that it is very difficult for a middle class family to build a house in a desirable part of the city because of the high price of land.

Oil industry.--Oil and gas seeps have been known since earliest times. The major oil fields ran for one hundred miles in the southern foothills of the Zagros mountains in the central western part of the country.

William Knox D'Arcy, an Australian millionaire who was British by origin, succeeded in obtaining, through the auspices of the British Minister, the concession for oil exploitation and exploration throughout Iran. The concession, which was signed in 1901, was valid for sixty years. It was stipulated that 16 percent of the net profits of the

concession was to be paid to the government of Iran. But in November, 1932, the D'Arcy concession was cancelled by the Iranian government, and a new agreement was reached in May, 1933. The new agreement increased the rate of payment, reduced the area of concession to 100,000 square miles, and extended the concession period to December, 1993. But the Iranian oil industry was nationalized in 1951, following a dispute with the Anglo-Iranian Oil Company, which had developed the original D'Arcy concession. The National Iranian Oil Company came into being to safeguard and advance Iran's national interests in obtaining higher revenues from its oil resources.

The current volume of production is well over a billion barrels per year, covering all of Iran's growing domestic needs and providing an export surplus to world markets in excess of three billion barrels per year. Oil production in 1970 placed Iran third in the world, behind only the United States and the Soviet Union.

Natural gas.--Natural gas is found in abundance everywhere oil is produced, and is available in two forms: in a free state above the oil reservoirs and in dissolved forms. In the southern part of the country 5,300 cubic feet of natural gas are produced with every ton of oil.

In 1969 gas reserves were estimated at about 66 billion cubic feet, and specialists estimated that after the depletion of oil the gas residue would raise this figure to about 95 billion cubic feet.

Until 1963 natural gas mostly was wasted. Since 1968 the government has made gas available either by pumping it through pipelines

to the main urban centers or by exporting it in liquified form to foreign consumers. The new trunkline connecting Gachsaran, in the South, and Astara, in the North, will prevent waste of this gas. In addition to delivering approximately six billion cubic meters of natural gas to the U.S.S.R. annually, the pipeline will supply two billion cubic meters of gas for domestic and industrial uses to the towns and villages along its route. The pipeline's capacity will be raised to sixteen billion cubic meters, with six billion cubic meters for domestic use.

Carpet.--Persian carpets have enjoyed international recognition for centuries, and in the 1960's they comprised 20 percent of the nonoil exports. Persian carpets are known for their traditional fine quality, high standards of workmanship, and beautiful patterns and colors. Reza Shah established the carpet-weaving section in the school of fine arts to teach designers and weavers and to prevent any further decline in the carpet inudstry.

In 1968 there were more than 120,000 carpet weaving stands or looms in the country, and about 1.5 million people earned their living or part of their income by weaving carpets. That same year the country's total carpet production was about 4.4 million square yards, including 60,000 square yards made in the workshops of the Iranian Carpet Company. In the past, most of the workers were children between the ages of six and ten, but under the new law workers must be twelve years old.

Carpets are usually known by the name of the principal town or district in which they are made; many are made by the farmers to supplement their income. Tribal herdsmen also make their own carpets, and,

as in the case of urban manufacturers, they often have their distinctive designs and colors--usually bolder geometric patterns. The tribal product is usually sold or bartered locally, but occasionally some of these carpets find their way to the foreign market, particularly in times of tribal distress.

The total amount of capital invested in the carpet and rug industry cannot be accurately estimated because most of the weaving shops are in homes, camps, or somehow scattered throughout tribal or remote rural areas.

Metallurgical industry.--Before 1968, metallurgical industry activities were limited to several small Iranian foundries and an electrolytic copper refinery. In 1936 negotiations were started with the German Krupp Works for a steel mill at Karaj (twenty-five miles northwest of Tehran), but World War II delayed any decision for a definite plan to construct the mill. There was no project until 1965, when the government accepted the Soviet Union's offer to build the steel mill near Isfahan, at a cost of around U.S. \$286 million at 2.5 percent interest, in return for natural gas deliveries. The construction started in 1967 on 988 acres of land about 25 miles southwest of Isfahan, with a capacity of 600,000 tons of pig iron with possible expansion to about five million tons by 1983.

In its initial phase the mill employed about 7,000 workers. When the mill reaches its potential, it will provide, directly or indirectly, some 50,000 new jobs. A large number of technicians have been and are being trained in the Soviet Union or trained on site by Soviet technicians.

In addition to the existing steel mill, other colossal projects for establishment of new mills and jobs in various parts of the country are being completed.

Automobile industry.--The auto industry, in particular, has been encouraged to build more parts and to import fewer components for local assembly. In 1967, the Peykan (Arrow) was marketed by the Iran National Company. Other cars and commercial vehicles are assembled or partly produced in Iran under license from Fiat, Jeep, Landrover, Magyrus, Volvo, Layland, Benz, and Citroen companies. General Motors also has a large branch in Iran. In 1969 about 8,700 buses, trucks, and other commercial vehicles were produced in one year, and vehicles were exported to several countries, including Iraq, Bulgaria, Czechoslovakia, and Pakistan.

Textiles.--The textile industry, centered in Isfahan and Tehran, is the second largest and oldest industry in Iran after the oil industry. The first textile industry mill dates back to the 1930's. Both government and private capital have been invested in the industry, which now more than provides for the entire cotton textile needs of the country and also produces exports for several foreign countries including the United States, Britain, and Eastern Europe.

The textile industry employs about 57,000 workers, including 17,000 in Isfahan and 12,000 in Tehran, and the rest in other provinces of Iran.

Aluminum industry.--In June, 1966, a draft agreement was prepared for the establishment of a large aluminum plant near Ark (south-west of Tehran) with Iran, Pakistan, and the Reynolds Corporation of America as partners. The initial capacity was 20,000 tons a year, and final capacity will be 45,000 tons. Another aluminum plant was started in Khuzistan, with production of 45,000 tons of aluminum ingots.

Chemical industry.--By 1969 around forty-four commencement permits were issued for establishment of chemical industries. The total capital at the first stage was about 1.26 billion Rials; it is planned that a total of 1,523 technicians and workers will work for the mills. In the same year, thirteen production units in the chemical industries commenced operation. The total capital invested for such factories was about 7.5 billion Rials.

Some other industries such as B. F. Goodrich, General Tire and Rubber Company, and the plastic industry are in operation. Their large output is not just for the uses of the Iranian people, but some of their products are being exported as well.

Leather.--Until some years ago, the leather industry was out of date and was based on small shops and factories. However, several shoemaking and other leather factories have been established, and growth has been high. Iran exports shoes to such countries as the Soviet Union and Czechoslovakia and some other near-by countries. Some of the new plants were established and commenced operation in 1969, 1970, and 1971.

Minerals.--Iran has a large source of mineral wealth. The main reason these resources have not been exploited or explored is the lack of good transportation and port systems. But recent government programs for the expansion of transportation are rapidly changing this situation.

In 1968, the total number of mines was up to 1,261, and the total investment was 3.3 billion Rials.¹ The most abundant minerals are: coal, chromite, iron, manganese, lead, zinc, sulphur, copper, red oxide, turquoise, and gold (see Figure 9). Deposits of nickel, sulphur, arsenic, antimony, and borax have been exploited for centuries.

About thirty coal deposits containing 1.68 billion tons have been identified so far. The most promising deposit of coking coal was found in the South about fifty miles northwest of Kerman. This deposit, which contains about 60 percent fixed carbon, will be used by the Isfahan steel mill.

The bulk of Iran's lead and zinc production is exported, although some lead ore is smelted locally. Lead production for 1966 increased some 18 percent over the 1965 level, and amounted to 20,000 metric tons, an increase of 13 percent over production for the previous year.

For the past several years all government organizations concerned with mineral exploration have been engaged in efforts to find suitable domestic iron ore for the establishment of an integrated iron and steel industry based on Iranian raw materials. By exploring so many

¹Statistics on Iranian Mines (Tehran, 1969), p. 2.

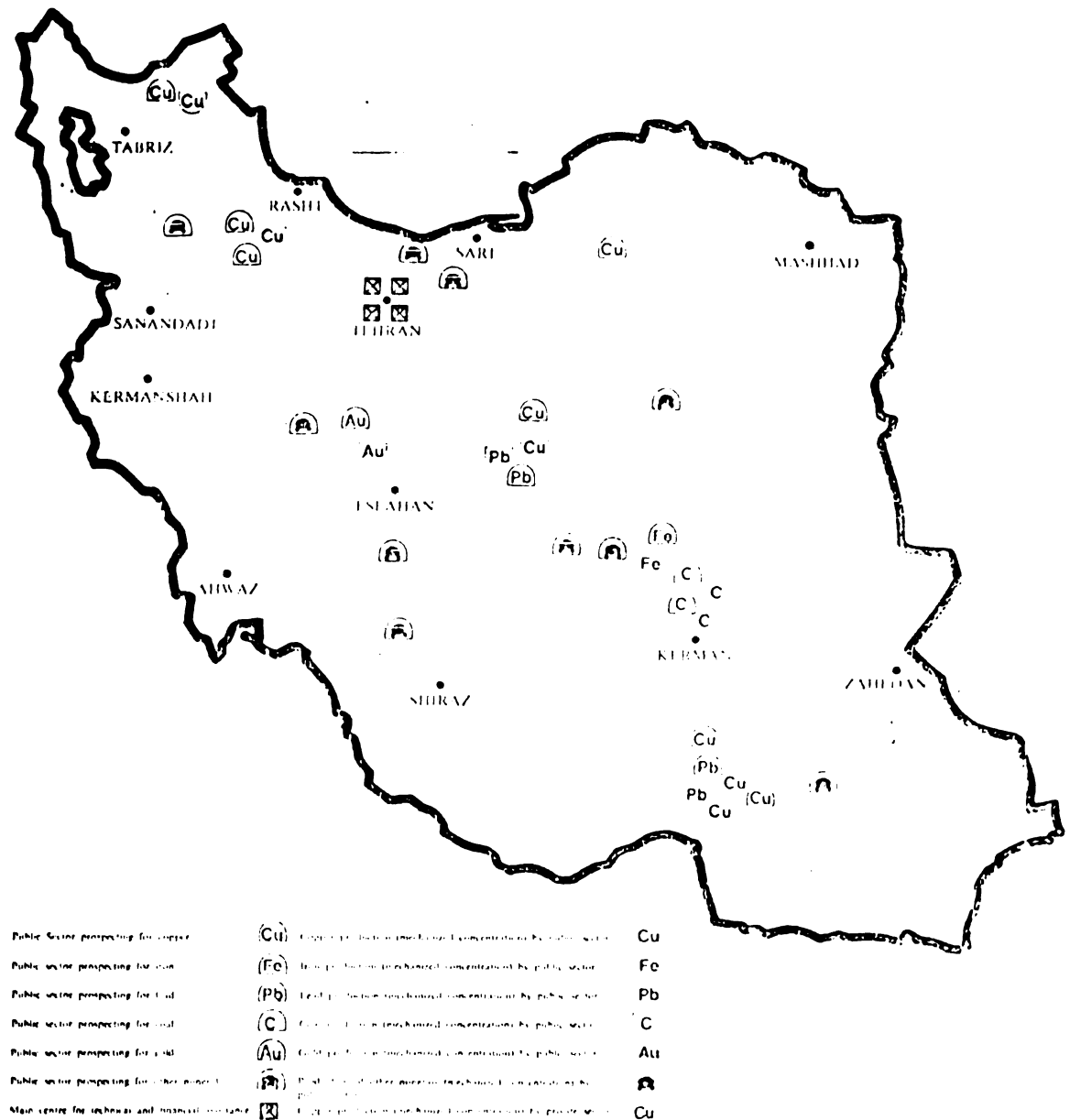


Figure 9.--Location of mineral deposits in Iran.

Source: Plan Organization, 1972.

mines of iron ore, it is believed that there are ample reserves of iron ore in Iran to support a moderate-sized integrated domestic steel industry.

Prospecting for bauxite is still in its initial stages, but it is of major importance in view of plans already under way for establishing an aluminum smelter. In December, 1967, an agreement was signed between the Iranian and Pakistani governments and Reynolds Aluminum Company to construct a \$45 million aluminum smelter, which began operation in 1971.

Labor

During the census year 1966, the population aged ten and older totaled 16,535,844. Of these, 7,584,085 were economically active.¹ This category included employed persons, persons actively seeking work, and those who had an occupation, but were temporarily out of work. The remaining were inactive, such as students, homemakers, and those unable to work. The same census showed active males were 77 percent of the population and active women were 12.5 percent. The census also showed 38 percent of the total employed population was working in private industry, the same proportion was self-employed, and the remainder held government positions.

The almost three million agricultural workers are affected by seasonal fluctuations. Traditionally, agriculture activities are shared by the entire family, including the children, many of whom are put to work before their tenth birthday.

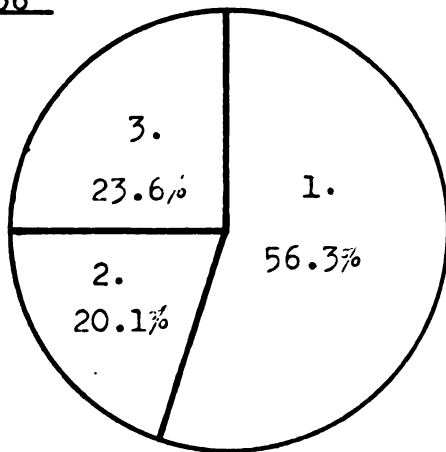
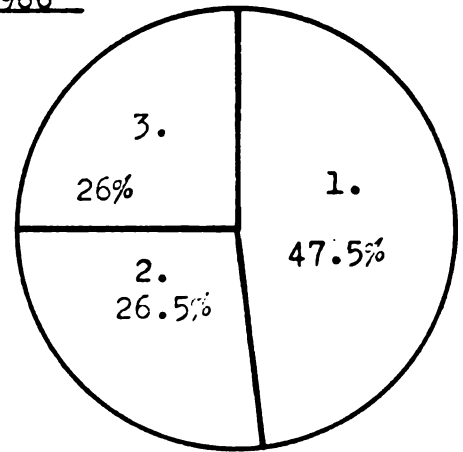
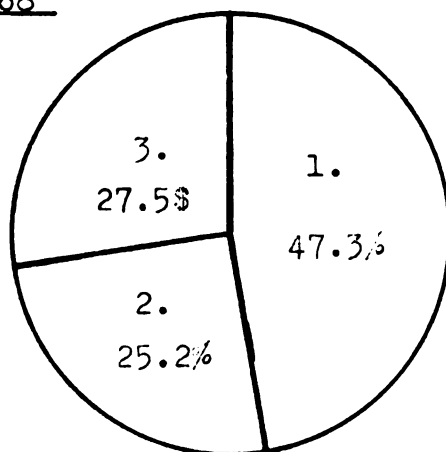
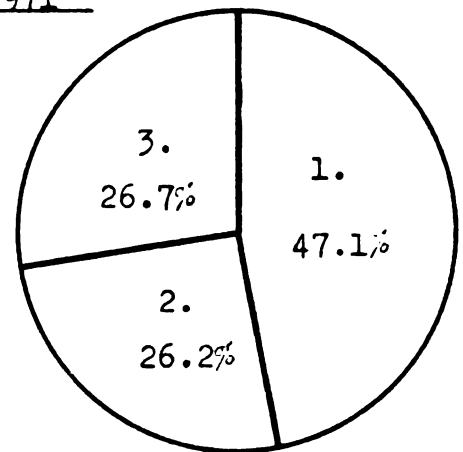
¹1966 National Census.

Professional workers (engineers, technicians, physicians, and administrators with university degrees) constituted only about 3.2 percent of the labor force. The percentage of the work force in three main sectors of the economy (agriculture, industry, social services) is shown in Figure 10.

Some of the larger modern enterprises in the major cities are noted for providing a good working environment and modern sanitation. Most of the small workshops and enterprises are unable to comply with the official regulations, but, in general, they offer better ventilation, lights, and sanitary facilities than the homes of low-income workers.

Trade

Iran has been famous throughout history for caravansaries and bazaars. Its pattern as a safe link between East and West has altered little in the twenty-six years that have elapsed since the government launched its first development program in 1948. During the economic development, roads and railway systems were substantially expanded, new areas were opened, and most of the rural areas were linked with urban areas. Distribution and storage difficulties continue to lead to frequent food shortages in urban areas during the winter and spring. These supply difficulties lead to periodic price increases and during a period of shortage, to substantial differences between the wholesale and retail prices as a result of speculative hoarding. After the White Revolution the government encouraged the establishment of producer cooperatives in the rural areas to combat these conditions.

1956196619681971

Key:

1 = Agriculture

2 = Industry

3 = Social Services

Figure 10.--Percentages of work force ten years old and over in three main sectors of the economy.

Source: National Census of Iran.

Rural Trade

Before 1963 only the large landholders could afford to seek out profitable markets for their products by contracting the harvest to wholesalers or factories that offered the best price. But for the rural people who did not have the connections to sell their products in urban areas, middlemen ordinarily bought their stock well below the actual market prices. Sharecroppers who decided not to sell their produce to landowners or middlemen had to transport it either on their backs or on donkeys; these trips usually took much time and were not financially beneficial.

The situation has almost completely changed from what it was two or three decades ago. By 1968 there were 8,894 cooperatives with a combined membership of 1.3 million people.¹ Rural cooperatives have become the sole distributors of seeds and fertilizers, and provide farmers higher prices for their products as well as advice on agricultural production.

Urban Trade

The traditional bazaar is a labyrinth of winding lanes covered with a vaulted roof, in which merchants rent little booths and alcoves for their shops. The bazaar still dominates the trades as it has for centuries. In some larger cities, especially in Tehran, it must compete with modern chain stores, supermarkets, and specialty stores. In this case it is safe to say the bazaars are westernized and have gone far beyond their culture and traditional way of life.

¹Ministry of Agriculture (Tehran, 1968).

In urban areas, trade and marketing practices are traditionally inefficient and costly. Most merchants operate with high profit margins and prefer high profits on a few sales rather than lower profits on an increased volume of sales. Still, it is difficult for the government to have good control over all prices in the market. In some cases the government operates several monopolistic trading enterprises, such as oil and oil products, cereals, bread, sugar, tobacco, tea, and opium. Some of them are important sources of revenue for the government.

Summary of Economic Problems

Housing problems.--Housing is one of the main problems of rapidly developing urban areas in Iran, as shown by the following:

1. Lack of housing
2. Lack of building standards and quality materials
3. Lack of facilities
4. Lack of policy and national planning
5. Lack of low-income housing
6. Lack of land use control
7. Lack of sufficient loans
8. Lack of government investment
9. Lack of cultural and traditional design

Industry and mining problems.--Some of the basic general problems with which the country's industries are faced are as follows:

1. Shortage of operating capital for factories

2. Lack of adequate facilities and suitable regulations in the case of capital loans to private sectors
3. Weakness of management
4. Low scale of production
5. Lack of sufficient information for industrial growth
6. Lack of domestic as well as foreign investment on a large-scale basis--especially in the case of mining.

Political Structure

Constitutional System

Before 1906 Iran was an absolute monarchy, without a popular representative institution. The constitution, originally based on a division of power, provided for a two-house legislature--a Senate and a Maglis, or House of Representatives, both of which may enact legislation. The Maglis theoretically possesses more power and enacts most of the legislation, which is, however, subject to the Shah's approval. His signature is required on all bills before they can become law. At present the Maglis has 200 members, who are elected by the people for a four-year term of office on the basis of proportional representation. Minority religions elect their own representation.

The Senate has sixty members, who serve a four-year term. Thirty members are appointed by the Shah; the other thirty are elected by the voters. All bills must be approved by both houses of Parliament. The state budget and bills relating to purely financial matters are voted on only by the lower house, although they are submitted to the Senate for comments and suggestions.

The Shah, under the law, is a constitutional monarch with powers in trust from the nation vested by the people and "by the grace of God"; his role in the governmental system is highly significant. The Shah has the power to call special sessions of Parliament and can dissolve either or both houses, but new elections must be held within thirty days. The declaration of war and conclusion of peace are within the Shah's power. The Shah is commander-in-chief of all armed forces, and confers military rank and awards conforming to law.

Government and Executive Systems

The Prime Minister is appointed by the Shah, on recommendation of Parliament, and is generally the leader of the majority political party. He must be Iranian and Muslem. He is the executive head of the Council of Ministers, selects and nominates ministers for the Shah's approval, and presents budgets to the Maglis and to his ministers.

Government Policy.--The policy of the government today is based on the twelve points of the White Revolution. The twelve points call for:

1. The abolition of the peasant-landlord tenure system and the redistribution and sale to their former peasants (on easy terms) of all absentee-landlord holdings in excess of one village.
2. The public ownership of all forest lands of the nation for the purpose of conservation, proper management and better utilization of their resources.
3. The public sale of Government-owned industrial enterprises as securities to finance agrarian reconstruction and development programs, and to provide profitable investment opportunities for former landlords in particular and for small savers in general.
4. Incentives to increase labor-productivity by means of profit-sharing arrangements to be worked out between industrial workers and management to the extent of up to 20 percent of net corporate earnings.

5. The amendment of the electoral law so as to grant voting and other related rights to women, extending equal and universal suffrage to all Iranian citizens regardless of sex.

6. The formation of the Literacy Corps from high school graduate conscripts to act as primary-school teachers and multi-purpose village level workers in rural areas, combating illiteracy, superstition and ignorance.

7. The formation of the Health Corps from physicians and dentists to bring free treatment and medicines to rural areas, improving sanitary conditions and health standards.

8. The formation of the Development and Agricultural Extension Corps to modernize the physical structure of the village and to help farmers acquire new skills necessary to raise farm productivity.

9. The establishment of village courts, better known as Houses of Equity, so that local quarrels may be settled pragmatically, equitably and speedily, bringing the rule of enlightened modern law to the villages.

10. The public ownership of all fresh water resources to prevent wastage. Those who have excessive water on their land will have to share it with others. Those who do not have enough will receive Government assistance to develop their water resources.

11. A national reconstruction scheme to improve the living standards of all individuals. It includes slum clearance and urban renewal along with the physical regeneration of the countryside to provide manpower with better living environment.

12. Administrative decentralization to grant greater autonomy to the provinces. The reform seeks to wipe out red tape and bureaucracy in all government departments and calls for a complete reorganization of the nation's educational system.¹

Legal System.--In the nineteenth century Iran had two bodies of law--religious and secular. These were administered respectively by the Islamic clergy and the Shah's government. But with the constitutional movement of 1906 and culminating in the legal reforms under Reza Shah, the authority and function of the religious courts declined and all administration of law was brought under the central government. Major changes in administration, especially in the late 1920's, were accompanied by parliamentary promulgation of legal codes (modeled after the French) and subsequent revisions.

¹Iran 1971.

By 1973, however, the remaining religious courts and branches and all other courts were clearly organized under the Ministry of Justice and all courts of every kind and level were obligated to hand down verdicts in compliance with the established codes of law.

Local government.--Articles 90 through 93 of the Supplementary Law of 1907, dealing with the local government,¹ directed that provincial and district councils shall be set up throughout the country under special regulations, that the members shall be directly elected by the local inhabitants under these special regulations, that these councils shall have the authority to supervise reforms in the public interest subject to national law, and that the fiscal accounts of these councils shall be made public

By the new establishment of local government the Shah called for increased efforts to speed up the creation of local institutions in the interests of decentralization. But political, economic, and educational conditions have hampered local development; control by the central-government-appointed governors and ministries continues to be dominant.

Provinces and governorates.--The administrative disposition of the country includes fourteen provinces, including central provinces of Tehran and eight governorates. The latter designation is applied to smaller, less developed areas and has been used as a transition stage to full provincial status. The royally appointed executive head is

¹Iran 1971.

designated a governor, rather than a governor general as in the provinces. The governor reports directly to the Minister of the Interior.

Local levels and elective council.--Each province and governorate is subdivided into smaller administrative segments called counties, administered by junior Farmandars; each county is further divided into districts, each headed by a Bachshadar; each district into groups of villages governed by Dehdars; and each group of villages into single villages administered by the headman or Katkhoda.

Large urban municipalities may have county or district status. Cities and towns have municipal governments with a mayor and council locally elected, appointed by a division of municipal affairs in the Ministry of the Interior on recommendation from the provincial governor, or a combination of elected and appointed officials, according to the stage of government. The mayor of Tehran is appointed by the Shah on recommendation of the Minister of the Interior and with approval of the Council of Ministers.

Planning Act in Iran

Town planning legislation in Iran consists mainly of the Municipal Act of 1955, with its 1965 amendments, and the Urban Renewal Act of 1968.

The Municipal Act presents in detail the general set-up with regard to the duties and election of mayors and the organization of municipal councils and municipalities. It also provides regulations for development, slum clearance, and development control. All development within towns must adhere to the guidelines set by the master plans.

Urban renewal is run as a profitable venture by the municipalities for buying, selling, and rebuilding according to plans. The Urban Renewal Act sets out, in detail, methods of compensation, land use control, and restrictions on height and elevation of buildings. A .5 percent tax is levied on all property to be used solely for town improvement schemes and urban renewal projects. Land values are based on each zone and building's value, and are revised every five years.

Summary of Political Problems

Some of the basic general problems that face governmental organizations are as follows:

1. Lack of comprehensive short-and long-range study and programming
2. Lack of research
3. Lack of cooperation between people and government
4. Lack of cooperation among all governmental organizations
5. Lack of modern organization
6. Lack of new regulations that operate with this century
7. Lack of well-educated decision makers in governmental organizations

CHAPTER V

GENERAL CHARACTERISTICS OF IRANIAN CITIES

The cities of Iran, even from ancient times, have had a variety of forms. The outer limits of the old Iranian cities were always well defined, and served as fortification. The city's center was marked either by a fortress or an open square with the major buildings situated around it. Where the focal point of the city was the square, that square usually contained the Friday mosque, the bazaar, and the palace of the king or the governor's residence. Other main buildings were the caravansary, public bathhouse, hostel, prison, exapo, and maybe a high tower whenever the city had a particularly impressive surrounding countryside. The defense walls were very often surrounded by a large, deep moat, with one or two entrances. Beyond the city walls there were often extensive plantations, not only supplying the cities with fresh fruit, vegetables, and staple foods, but also acting as a greenbelt. Garden walls were and still are a major feature of Iranian houses and towns. These walls were built not only for defense purposes, but also for privacy. Gardens have always played an important role in city planning in Iran. The Persian gardens, which have very ancient origins, are famous throughout the world.

Throughout history, three major plan types have dominated the city plans of Iran:

1. The circular layout of towns appears to have an Iranian origin. This type has been seen in northwest Iran, Azarbaijan, and Elam. The gates to many of these cities were staggered to make a tortuous entry in time of siege.
2. The elongated cross plan was often formed by a large avenue that connected the palace to the main congregational mosque. The Qazevin is the most famous example of this kind of plan.
3. The open garden city plan began to develop as security and the need for defense diminished; for example, Tabriz and Isfahan were laid out in the open field.

Geographic Function as Locational Determinant of Cities

Water has been one of the main factors affecting the location, size, and patterns of settlement in northern Iran, where precipitation is adequate for crop-raising purposes and for urban requirements. The other important determinant is the location of natural resources, such as oil and the oil industry in the area at the head of the Persian Gulf in southwest Iran.

Almost all Iranian cities, except those on the coast, have problems of water supply. Around the dry central basins, villages and towns are located at the foot of mountains to utilize water from the streams before it vanishes into the deserts. Other urban centers are located in oases that abruptly end in the desert. Along the

Persian Gulf coast there is some rainfall, but the high heat and humidity have kept down settlement. The arid conditions of the interior, with the scarcity of rainfall and rapid ground absorption, make the few short rivers of prime importance in settlement locations.

The population centers grew rapidly after World War II, as peasants came in from the countryside seeking jobs; nearly all cities feel the strain of their large populations. Most cities have regular air services and some have rail connections and an increasing number are being joined to each other by roads.

Urban Planning in Iran Under Town Planning

The Plan Organization of Iran has until now supplied the funds and initiated the programs for the preparation of master plans. Town planning started with the Fourth Plan and the first master plan was prepared for Tehran with the assistance of Victor Gruen, an American firm. It was intended to have a master plan for fourteen large cities of Iran at the end of the Fourth Plan, and with this direction a number of master plans have already been prepared. Most of these plans have to be submitted to the technical committee of the high planning councils, which are responsible for the coordination and approval of all of the country's town planning schemes, including master plans, urban renewal, housing, and other development projects. The final decisions are made at the ministerial level. After the final sanction by the high planning council, the approval plans are submitted to the Ministry of Interior to send to the appropriate municipal councils for local approval.

The only school of urban planning in Iran is part of the Department of Fine Arts in the Tehran University School of Architecture, which provides an extension in town planning to the course in architecture. The School of Planning was founded in 1965 and offers the equivalent of a Ph.D. in Civic Design after three years of course work.

Urban Land Use Zoning

For most people, the major part of life is spent at home. The home's characteristics greatly influence the quality of one's life. Thus a pleasant neighborhood and convenience to work and shopping are most significant environmental goals.

For those concerned with the quality of life, housing and local environmental conditions merit the highest priority. One means to achieve these objectives is to eliminate political zoning, and thereby allow the real estate market greater opportunity to satisfy the needs and desires of consumers.

In an attempt to solve certain problems of land use and development, zoning has created greater problems for society. When zoning restricts the operation of the real estate market, it also restricts the supply of housing. Likewise, when zoning curtails development, it stifles business activity and badly needed revenues to local governments. When zoning reduces competition, it inhibits the creation of a better environment with better living conditions. The central government of Iran is spending gigantic sums in efforts, often futile, to overcome these consequences.

New zoning solutions abound, but they will have little or adverse effect unless they largely remove politics from the control of land use. Land use regulations at any level mean politics and political power will continue making decisions for reasons that have little or no relationship to the best and most efficient use of the land. The private sector is much more likely to utilize the land to provide better for the environmental and material needs of the people.

Three parts in each town and city in Iran are feasible areas for land use studies: (1) the old city, (2) new suburban business districts, and (3) the squatter area. The old city can be considered the downtown area, which is usually comprised of the bazaar and government buildings; the slum area is usually close to this section of the city. In the case of land use in cities, Iran has no fixed location or structural regulations for city buildings, and until recently there were no master plans for cities in Iran. Although there was such a plan by the end of 1972, and there will be a master plan for fourteen large cities of Iran, there is no documentation of how many other cities have master plans.

The suburban or new portion of the city is somewhat more differentiated in land use than the older ones. In older areas it is very common to find residential, commercial, and industrial activities taking place within the same block or even with the same cluster of houses. In the new areas the type of land use is most different. This is particularly true in the case of new areas for high-income groups, where the western patterns of separation of land use are more likely to be observed.

The squatter areas usually consist of recent immigrants living in huts and various other temporary structures; this is the sad area of the city because there are no facilities, water, electricity, sewer systems, open space, and so on.

Unfortunately, there are no exact percentages on land use in the cities of Iran. There is only some information on Tehran. (See Figure 11.) By 1971, Tehran encompassed 180 kilometers, with 41.6 percent residential area, 10.4 percent industrial, 3.98 percent commercial, 10.65 percent government land and buildings, 1.33 percent allocated to public health, 1.70 percent educational land, 1.18 percent recreational land, and 1.53 percent allocated to social services.¹ It seems there is a great need to control land use, and to make the city workable.

Scope of Planning and Zoning

In planning, primary emphasis is on the physical environment. Yet, the social environment is also involved in many ways. First, intelligent correlation of decisions on the development of the physical environment necessarily involves deriving consistent assumptions and policies from the social environment.

As cities develop, a thorough planning analysis does not always reveal a single solution that will best satisfy the needs of everyone involved. In fact, such situations are rare.

The scope and content of zoning as an instrument of planning are primarily concerned with implementing land use planning. Zoning may

¹Tehran--Master Plan (Tehran, 1971).



Source: Plan Organization.

have a role in yet another aspect of a comprehensive plan--planning for public facilities and for related social programs, regulating the timing of development, and so on. In fact, the distinctions between planning for land use and for other aspects of developments are likely to be increasingly blurred as an integrated planning program proceeds. Legally, the appropriate relative roles of zoning and other regulatory devices are, of course, purely a matter of statutory interpretation. However, the present enabling legislative guidance is now beginning to spell out this broader function of zoning.

The question of planning background in zoning regulation arises directly in another line of cases. When a community decides to adopt zoning, it normally takes a year or more of work--basic planning, drafting of zoning regulations, and public hearings--before a zoning law is ready for final consideration. Obviously, there is the possibility of considerable damage by changes made in the interim; in fact, the danger of such harmful changes is often what precipitates the decision to go into zoning in the first place. However, the validity of such interim regulations is vulnerable because they are clearly not the result of any plan and because their adoption did not follow the procedure prescribed in the enabling act.

As a general proposition, it is safe to say that zoning decisions have greater impact on individual pocketbooks than any other kinds of decisions made by local officials. Since zoning would be quite unworkable if there were not sufficient flexibility to meet the peculiar problems of particular pieces of land and to adapt to changing

times, the best protection the public has against abuse is the willingness of courts to review zoning decisions carefully.

Social and Environmental Characteristics of Urban Slum Dwellers

Housing

It was possible in the medieval town for a family to own its house and for ownership to remain in the family two or more generations. In most cases the house was also a work place, and the work of the family did not change, or rarely changed, from one generation to the next. Under industrialism the work of a man may change once, twice, or more in the course of his active life, and he may be identified with a whole series of work places. For work reasons, he may have to change his place of residence again and again.

But slums still exist in almost all of our cities, regardless of size and age of the building and material used. The low-income family and middle class still are strongly facing the dilemma of obtaining decent shelter. Even the new houses being built today are designed more to satisfy the way people lived yesterday than the way they live today and will live tomorrow. This is especially true with regard to the types of materials used. For purposes of evaluation we should understand better the environment of slums in general.

Health

Inadequate water supply and lack of sewage and sewage disposal drainage are the dangers prevalent in the slum areas. This has endangered the health of not only the slum dwellers, but also of the

residents in the neighborhood. These slums are infested with diseases caused by bad and stagnant water, poor ventilation, congestion, excessive smoking, and tobacco chewing. There is no open space at all. There are no washing facilities either. Every housewife cleans the utensils and bathes her children and the domestic animals right in front of the mud houses. Another major problem is that most of the slums and residential areas are faced with inadequate toilet facilities. An early morning visit to such an area reveals a shocking sight of children relieving themselves on the stone slabs. The streets are not paved and do not allow good access to one another, especially in some large cities such as Tehran, Mashad, Tabriz, Isfahan, Kerman, Shirdaz, and many others.

Income

The economic condition of the slum dwellers is far from satisfactory. They are very poor, primarily as a result of illiteracy, unemployment, and laziness. Almost all of the adults are alcoholics (in large cities, not in religious areas). The bad social environment and lack of sanitation have been responsible for the contagious diseases prevailing in the slums. Medical expenses consume a large portion of the inhabitants' income. All these factors explain the necessity for loans. Survival becomes a problem, so the residents of the area are forced to go to the money lenders. The debts slowly mount up and in the long run force the poor people of slum areas into insolvency.

When the prices are very high, it is not possible for the head of the family to maintain his family with an income of 3,000

Rials (US\$ 40) per month. Because of the heavy and tiresome work, these people cannot take any extra employment to supplement their income. Poverty has forced most parents to put their children to some jobs rather than continuing their schooling. Unemployment has been another cause for their poor economic status. The youths of the locality who are unemployed are a heavy burden on the family. The youths feel it is their parents' duty to feed them. The few jobs they do get are temporary and for short periods. They earn a little money working as coolies, and spend the rest of their time gambling and loafing.

Food Consumption

Most of the poor and the slum dwellers are often unhealthy, and spend much for medicine and medical treatment. These people generally consume bread and rice, and sometimes meat; they use vegetables sparsely. The price of meat and rice is rising, and the low-income group is finding it difficult to provide these foods for their families. Even if they buy rice or meat at least once a month, or even weekly, the quality is perhaps the poorest. Only about 40 percent of these people eat meat daily.

Education

Thirty percent of the slum dwellers are literates and most are under thirty years old. The largest group of this population who are illiterates are in the income groups of \$220 and below.¹

¹Ministry of Economy (Tehran, 1972).

Those who have a higher income have a relatively higher degree of literacy.

Parents' economic backwardness has been a factor standing in the way of the education of their children. Parents want the children to work for the family and help out financially, rather than receive an education.

Leisure

Gambling among the poor slum dwellers is essentially a male activity. These forbidden pleasures are very common; hence the leisure time activities have become commercialized. Businessmen have long since learned that even poor people are willing to play for pleasure. Motion picture theatres consistently attract a significantly higher percentage of people than do any other forms of recreation. Practically all boys smoke, regardless of age; smoking is a symbol of manhood and independence. Use of alcoholic beverages is learned from their parents or neighborhood quite early in life. These types of people are physically weak, mentally subnormal and inefficient, and are normally wrecks.

Most of the youths who are unemployed gamble at all hours of the day. Groups of boys are found under a tree, playing cards or marbles, with a few others looking on perhaps to caution the participants in case of a raid. This kind of gambling is continued for several hours. Sometimes the police may arrest them, but it is not usual.

Present Patterns and Problems of Iranian Cities

The Function of Cities¹

Men came together to build cities in answer to their joint needs for community and communication, defense and protection, trade and exchange, worship and government, culture and learning. As Lewis Manford said: "The city is the form and symbol of an integrated social relationship; it is the seat of the temple, the market, the hall of justice, the academy of learning."²

The city is for people, but its basic function, housing, is miserably neglected in many cities today. Cities have always attracted people by offering "the good life" and a safe place for their inhabitants to live.

One of the basic functions of the city is its economic function, both as procedure and market place. This function must be linked with transportation: Cities have been built at strategic spots for the exchange of goods, at harbors, river crossings, and trade route intersections. Others started as local or original markets. The city has been the center of education and the location for universities. Many cities have become famous because of their universities, such as Oxford and Cambridge Universities; in turn, university cities within the city grew in Paris, Edinburgh, Vienna, and many other towns.

¹The source of information in this section is the National Census of Iran (Tehran: Plan Organization, 1972).

²Lewis Manford, City Development (New York: Harcourt, Brace and Company, 1945).

Existing functions of cities continually change; new ones emerge while traditional ones disappear. All this change is expressed in the changing city form. The function of the cities must serve the citizens and the urban community. As their needs change, so does the city's form.

In the case of the functions of Iranian cities, we will mention some details about Tehran as the capital of Iran and the center of industry and political administration. We will also mention some other main cities and compare the growth of populations in seven cities of Iran.

Tehran

Tehran is a capital designed mainly for motor traffic. Tehran has none of the architectural masterpieces usually scattered with such profusion through the old capitals of Islam. Instead, there are only pretentious modern buildings, imposing sometimes, but mostly in a rather heavy "neo-Achaemenian" style. The amazing growth of the small capital of the Kajars, a sleepy little town of no more than 1,512,000 inhabitants in 1956 and some 3.5 million today, is unique in the Middle East.

Tehran is a city of contrasts--from the shady parks in the aristocratic suburbs at the foot of the mountains to the shanties in the dust of the brick-clay quarries at the desert-like southern edges. The accelerated, unwieldy growth of Tehran is a strictly contemporary phenomenon. The city was not raised to the status of capital of Iran until a late stage, and even after its political promotion it remained for a long time a small town with problems

that scarcely differed from those of the country's many regional capitals. On the whole, its position was sufficiently central to encourage the growth of a metropolis extending its influence over the whole country, although its site was certainly determined by general considerations of accessibility.

The energy and authority of Reza Shah created the political conditions essential for the growth of a capital city. It was this great reformer who really made a metropolis of Tehran. He also left his mark on the layout of the city. The arrival of new inhabitants had simply led to a light increase in the population, which must have been relatively low and the end of the eighteenth century. It was not until the reign of Nasreddin Shah that the city was first reorganized as a whole. Under Nasreddin Shah the city already had a few large, modern streets; but inside its octagonal walls were incorporated --rather haphazardly--the residential suburbs with palaces and gardens to the north, and the brickworks and clay quarries to the south. At the beginning of the thirties he laid down a gigantic geometrical checkerboard of wide avenues through the whole of the old town. Some of these avenues followed earlier outlines, notably the line of the old fortifications, but most of them were laid down with a superb disregard for existing buildings. In old Tehran the impositions of a patterned layout were carried further than in any other large Iranian town. To rediscover the avenues and find the narrow lanes across which they have been cut, recent extensions consist of relatively wide secondary roads laid out in the same geometrical way.

One is immediately struck by the great variety of buildings along the thoroughfares of Reza Shah's checkerboard, especially in the residential districts, and by the numerous empty spaces and unbuilt plots. Housing estates are infrequent except in the east of the town where public capital was used to build the Chahar Sad Dastgah in 1946-49, and Kuh-Narmak on the Mazandaran road in 1956-57; in 1960 Tehran Nu was built for the poorer classes in the same sector. The first large-scale undertaking was the privately financed Tehran-Pars, a complex ensemble ranging from relatively modest houses to luxury dwellings built from 1958 in the midst of the desert east of the town. By starting building in several remote spots at the same time and fixing a uniform price for land, this development acted as a check on land speculation.

New shopping streets.--The busiest shopping centers now lie outside the bazaar. The beginnings of this new business district lie well in the past. At the end of the nineteenth century the business center had spread beyond the bazaar to the north. Today, however, by far the busiest shopping sector lies farther west. There are all sorts of shops, in no set order, and a constant bustle of activity prevails. A new shopping center has also grown up recently in the west of Tehran. There is no more religious segregation in these new districts, where almost all the Armenians and Jews from the bazaar have established themselves. Nevertheless, these centers look different from the shopping centers of large European cities. The houses are low, mostly with a single, unimposing story above the shop on the ground floor. The transition from the central districts to the

well-to-do northern residential districts now extends as far as the foot of the Elburz Mountains. Relatively empty zones still separate the town proper from the former holiday villages at the foot of the mountains.

Sprawl growth.--Technology, industrial growth, and machinery are some of the reasons Tehran has new suburban areas surrounding it. Lack of control and lack of a comprehensive plan have also added to the sprawl growth of Tehran. Some reasons for this are: (1) Tehran is the capital of Iran and is the center of trade and all administration; (2) All organization and industry are concentrated in Tehran; and (3) The main railroad station is located in Tehran. For these reasons, the population of Tehran grew from 400,000 in 1940 to 3,500,000 in 1972. By estimate of the Plan Organization, by 1978 the population will be five million, and by 1988 it will be nine million. By looking at a map of Tehran we can find all avenues and streets have been the same width since 1950, even though the population has grown, as have the numbers of vehicles in the city. What can we expect with these conditions but traffic congestion and numerous accidents, not to mention the pollution?

Traffic conditions.--New Tehran is faced with traffic problems, as some other main cities of Iran will be in the near future. The number of cars in Tehran has increased 35 percent, and the total number of registered cars in Iran is about 500 cars a day. Traffic problems do not just affect the drivers and inhabitants of Tehran; the

main problem is psychological, and we can see the reaction of that closely in society as a whole.

The traffic problem in Tehran is obvious, and if we ask a layman what the main problem in the city is, he will undoubtedly say traffic, especially during rush hours. The number of vehicles in Tehran is no more than in some other cities of the world, but there is more congestion in Tehran because of the lack of any kind of traffic plan. Also, there is no public transportation system other than the buses and trains.

Physical and population growth of Tehran.--According to the 1966 census of Iran, the city of Tehran had a population of 2,719,730. By 1972 the population of Tehran was 3,495,000, residing in 466,733 households--an average of 4.99 persons per household.

The higher degree of tolerance in Tehran has made the city a much more suitable place for minority groups than other areas. Cultural enclaves are mostly broken down. Therefore, such distinctions as accent, clothing style, dietary habits, and personal appearance in general are obscured. Should they desire, minority members can be assimilated in the society quite easily. Such a possibility makes Tehran much more attractive for settlement than other cities in Iran.

Tehran is not only the capital of Iran, but also serves as many functions as it is possible for a city to perform. It serves as a very strong administrative center, as well as an economic center. Most industries are located in Tehran, and according to one account the city has around 10,000 large and small manufacturing and processing

plants and industries, and is the center of production for construction materials. One could say everything is located in Tehran.

Tehran is an educational city as well. Three private universities and four or five independent institutions for higher education are located in Tehran, as well as half of the public higher training schools and more than half of the private higher training schools. The only school of urban planning in Iran is located in Tehran.

Tehran's Problems and Recommendations for Their Solution

What is an optimum population for Tehran? Nobody knows, and until some definitions are clarified it will be difficult to come up with an accurate answer. What we do know is the projection of the Plan and Budget Organization demographers, who believe that if existing trends continue, Tehran's population will rise to five million by 1978 and to nine million by 1988.

Existing trends in population growth must not continue. The government is determined to discourage the further expansion of Tehran and the best way to do so is to limit the city's population growth. Several factors have led to the government's policy on curbing Tehran's further expansion. One is an eventual scarcity of water. This factor has been repeatedly discussed, although never in detail. Other factors, such as pollution, shortage of housing, and traffic, are equally important.

Insufficient water.--There are conflicting views on how serious the water problem in Tehran is. Optimists believe the problem has been grossly exaggerated and that the available resources, if tapped in the most economical manner, can meet the requirements of a population well over five million with a per capita water consumption of 100 cubic meters a year. The optimists maintain the waters of the Lar, Karaj, and Taleqan Rivers can be exclusively diverted to Tehran for urban and industrial consumption. Today part of the Karaj and Lar River water is allocated to Tehran for industrial and household use, and part of the water goes to agriculture. The water of the Taleqan and Shahud Rivers will be allocated to the Taleqan and Qazin areas. If the water from these rivers is denied to agriculture, some experts maintain, there will be enough available for commercial and household use in Tehran, with a population of ten million and a host of industries. In pure, economic terms, this would be more justified than "wasting expensively tapped water from the dams for traditional agriculture," to quote the experts.

Plan and Budget Organization demographers, who are as much concerned with "human cost" as with economic justification, maintain that the dislocation of rural population in the areas around Tehran will create further problems and in the final analysis these problems will cancel out the economic benefits of allocating all the water the city needs; for example, industry or agricultural dislocation in the Central Province.

Economic problems.--Other considerations have influenced the government to favor limiting Tehran's growth. These are the housing,

traffic, and air pollution problems. As Tehran's population grows, the need for more adequate housing will grow. And, as income levels rise the quality of housing must also improve. It is, therefore, important to build more and better houses. During the next five years it is estimated that the private sector will build 200,000 housing units in Tehran. The public sector will build an additional 21,000 units. These estimates are conservative, however. If Tehran's population grows at the rate of 5 percent per year, which is the estimated minimum, the need for housing will be greater than what the Fifth Plan has provided. The extra 221,000 housing units needed by 1978 will not solve a housing shortage if the present trend of population growth continues.

Since Tehran needs space for commercial and administrative use as well as for residences, the population growth will put pressure on available land space. Real estate agents and land promoters have suggested the creation of satellite towns around the city. But even then land space is limited, unless one takes the only convenient course--spreading the city toward Karaj. This, in turn, has its own problems. Karaj is itself a full-fledged town with a high population growth and a number of local industries. Tehran cannot grow at the expense of Karaj, the way land speculators propose. Meanwhile, in addition to buildings, land is required for other purposes such as the creation of parks, recreational centers, sports fields, streets, and highways. The shortage of land in Tehran will become even more acute when these requirements are taken into account.

Space shortage.--It is possible to reconstruct parts of Tehran and obtain space through more economical land usage. This would partially solve the problem of space shortage, but the fact remains that Tehran will not be able to grow further unless vertical expansion is attempted. Even then, the need for green and open space will not be met by vertical expansion. This brings us to the problem of traffic and pollution, which are more or less related. Unless some of Tehran's traffic goes underground, the city cannot cope with the growing number of internal combustion vehicles.

Tehran's traffic problem stems to a great extent from a lack of efficient public transportation services. Private car ownership is inevitable because bus services are inadequate and taxi services unreliable. It is possible to increase the number of buses and speed up their movement in the city by assigning them to special lanes, but this presupposes a transport policy on the part of the government in general and the municipality in particular. There is nothing in the Fifth Plan to suggest such a policy will be formulated, either by the government or by the municipality.

Growth limitations.--The most practical step in alleviating these problems is, therefore, to suggest limitations on the growth of the city in order to stop the population increase and subsequently limit car ownership. Building an underground train service for Tehran has been discussed, but the talk has not yet reached the drawing-board stage. Even then, it would take five years or even more to build an underground train network for Tehran and by then, unless the

population growth is checked, the traffic problem will be worse than it is today.

An increase in the number of cars adds to the pollution problem, but there is also a possibility of increasing industrial pollution. The municipality is aware of the problem and is trying to discourage industry. But unless there is foolproof legislation against pollution, its expansion cannot be checked. This legislation does not seem to be on any department's program. All these factors suggest that the most convenient way to stop Tehran's problems from worsening is to limit its growth. But how? Already the government does not allow new industries within 120 kilometers of the city limits. This policy was adopted at least five years ago. But it is now taking a new shape; the accent is on economic and administrative decentralization.

Much has been said of economic decentralization--encouraging industry to go to the provinces. Through tax holidays and other favors, industries have been encouraged to venture out of Tehran. Several industries in Tehran have actually opted to go out and eliminate their manufacturing outfit in Tehran. But one fact has emerged from the development; the transfer of industry to the provinces increases the volume of traffic on the highways leading to and from Tehran. An industrialist sets up a plant in, say, Zanjan. He appoints a plant manager with wide powers to run the industrial and production operations there. But, he must live in Tehran to be close to the seat of decision making. So he has to travel back and forth to his plant site to supervise affairs.

Industries outside of Tehran.--Industries have gone out of Tehran, but industrialists have stayed there. The production site has moved out, but the management, sales, commercial, and advertising offices all remain in Tehran. Even shipping lines have their main offices in Tehran. A real decentralization would embrace the industrial administration and government administration as well. It has been estimated that one civil servant in Tehran creates 1.4 jobs because of his administrative power, which attracts the private sector to Tehran--the seat of power. Plan and Budget Organization demographers have estimated that 50 percent of civil service personnel could be moved to the provinces if there were proper administrative planning.

To move civil servants out of Tehran, a pay increase would not be enough. They need educational, health, and recreational benefits and chances for promotion. This means, rather than distributing administrative power throughout the country, the government must create rivals to Tehran.

Isfahan

The country's textile center (after Tehran) is situated on the Zayandeh-Rud oasis. It has a fine climate and a rich, absorbent soil. The city is known throughout Iran for its variety of vegetables and fruits. The population of Isfahan was 255,000 by 1956 census, and was estimated to be 575,000 by 1972; the annual growth rate is 5.2 percent.

Some of the ancient buildings, palaces, mosques, and bridges that were built more than 700 years ago are still in use. Here is

found Masjed Shah Mosque, generally regarded as the finest example of Persian architecture. The city reached its height in the seventeenth century, when art, miniature paintings, carpets, and metal work were at their highest level. Still, Isfahan is the place of most important hand-made and metal work of Iran and the world. The first steel mill was situated near Isfahan (25 miles southwest of Isfahan). The mill will employ 7,000 workers by the year 1983 with the capacity of five million tons of pig iron. By 1967 the government began preparing a master plan for Isfahan.

Shiraz

Shiraz, one of the most important cities in Iran, is situated in the South. The population of Shiraz was 270,000 in 1966, and was estimated at 356,000 in 1972, with a growth rate of 3.7 percent. Because of its location in a valley six miles wide and twenty miles long, the city has a mild climate, clear skies, well-watered slopes, and good natural grazing ground nearby. About twenty different tribes live in the surrounding mountains, and on the rolling hills to the north farmers produce a wide variety of vegetables and fruits.

Persepolis

This famous city of ancient Persia is located north of Shiraz, and has the largest and best preserved architectural relics of the Achaemenid period, including the royal audience hall and other buildings, residential and public places. The master plan of Persepolis was started by 1965.

Mashad

The city of Mashad is located in northeast Iran. Mashad had a population of 409,000 by 1966 and was estimated to have 562,000 inhabitants by 1972, with a growth rate of 5.4 percent. Migration is one of the important problems of this city. Mashad is the holiest city of Shi'a Muslims, and is a meeting place for devout Muslims from the whole country and also from other Muslim countries. The city is surrounded by orchards, vineyards, and wheat fields.

One of the most outstanding works of civic design in the world is undoubtedly the complex of buildings that constitutes the Imam Reza in the center of the city. A series of interconnected squares makes this complex one of the finest and most colorful pieces of civic design in the world. In this center are found caravansaries, bazaars, schools, libraries, museums, and shopping areas.

Tabriz

Tabriz is the principal urban center of northwest Iran, and the second largest city in the country. The population was 403,000 in 1966 and had grown to an estimated 493,000 by 1972 by the annual rate of 3.9 percent. Tabriz has been periodically affected by earthquakes. The high altitude, with temperatures sometimes dropping to 18°F., also make it the coldest city in Iran. Invasions and commerce have brought a variety of people to the city, especially Armenians and Turks. Many years ago Tabriz was the center for trade between the East and West.

The master plan for Tabriz was started in 1966; before that there was no direction for the growth of the city.

Abadan

Abadan is one of the newest cities in Iran, with a population of 273,000 in 1966, an estimated 306,000 by 1972, and a growth rate of 1.0. Situated on an island with the Arvan-Rud River to the west and a tributary of the Karun River on the east, Abadan has the hottest, most oppressive climate in Iran.

The city dates from 1909, when it became the site of one of the world's largest oil refineries; from this time until 1966 Abadan was one of the fastest growing cities in Iran. The refinery and its facilities divide the city into two parts. The northern part is an area of oil company housing; the southern part consists of the bazaar and beyond that a large residential area.

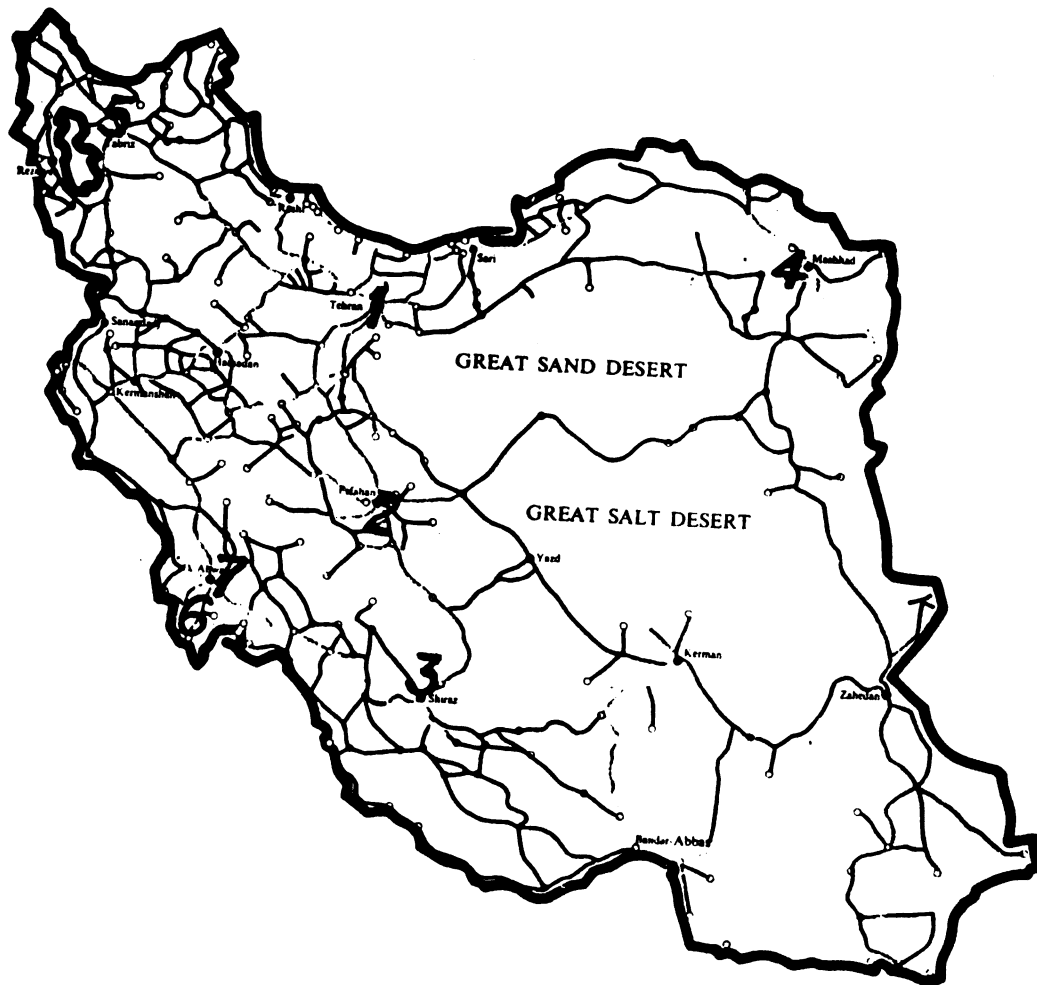
Ahwaz

Situated in southwest Iran and on the west bank of the Karun River, Ahwaz had a population of 206,000 in 1966 and an estimated 286,000 inhabitants by 1972, with an annual growth rate of 5.6 percent. It is the center of political and commercial activity for the province of Khugestan. The Dez Dam was very effective for the development of this area, and Ahwaz and surrounding areas started becoming more prosperous as a result of the dam. This city did not have a master plan until 1965, when the government began preparation of the master plan.

Planning and Development in Iran

Plan Organization of Iran

In a well-known statement Victor Hugo said that the future belongs to no one, for the future belongs to God; what we can do is to



<u>City</u>	<u>Population</u>		
	<u>1956</u>	<u>1966</u>	<u>1972</u>
1. Tehran	1,512,000	2,719,730	3,403,495
2. Esfahan	255,000	424,000	575,000
3. Shiraz	171,000	270,000	356,000
4. Mashad	241,000	409,000	562,000
5. Tabriz	290,000	403,000	493,000
6. Abadan	229,000	273,000	306,000
7. Ahwaz	120,000	206,000	286,000

Figure 12.--Seven main cities of Iran.

Source: National Census of Iran, 1973.

prepare ourselves for the future, to make ourselves capable of fulfilling what it expects of us. The present is what makes the past. Our problems are those of the past, and are not completely economic or social. It is not for us to make edicts, to regulate, to extend bureaucracy into the country of the future. But we must take stock of ourselves, of what we have to do, of the difficulties facing us, and in the midst of all our intentions try to discern a new direction, which is both possible and worthwhile. Does that direction exist? If it does, the government has fulfilled its purpose.

Developing and underdeveloped countries need to have a strong direction until they reach the point where they can provide equality, welfare, and the basic way of humanity for their people. The planning for development they undertake must be within the framework of social needs.

The necessity of planning has been recognized in Iran, for as Galbraith pointed out: "The country which does not have goals and a program for reaching these goals is commonly assumed to be going nowhere."¹ The main advantage of development planning could be seen as formulating a strategy of development and achieving a balance between economic and social goals. All these needs led to the emergence of the Iranian Plan Organization, and the initial planning stage in Iran encompassed the period from 1920 to 1939. The government was concerned

¹J. Galbraith, Economic Development (Cambridge: Harvard University Press, 1964), p. 36.

with providing the necessary conditions for the economic development of Iran. There was no coordination between departments of the government; each prepared its own programs. In the war period, 1939-1945, with the military occupation of Iran, all development programs were suspended, except for some economic activities related to wartime needs.

After the war, Iran's serious position required that the government assume a positive role in preparing an overall program of development for the country, such as establishment of an industrial and mining bank for the control of existing government-owned industries and creation of the Supreme Planning Board (now called Plan Organization) to prepare an overall development program. After three months, the Planning Board submitted a proposed plan that would entail spending sixty-two billion Rials. But domestic sources were inadequate to finance the program, and the plan did not go into effect.

In 1948 the Supreme Planning Board formulated all programs, calling for the expenditure of twenty-one billion Rials within a period of seven years. By 1949 the House passed a law authorizing the Plan Organization, a new body set up to execute the plan, to carry out the first seven-year plan.

First Seven Year Plan

The First Plan proposed the expenditure of twenty-one billion Rials (\$650 million at the time). The Plan Organization was established to carry out the plan. The revenue was raised as follows: 37.1 percent from oil, 4.8 percent from sale of government property, 4.8 percent from the private sector, 21.4 percent from loans from

Iranian banks, and 31.9 percent from world banks. Expenditure was: 25 percent agriculture, 23.6 percent communication, 14.3 percent industry and mining, 28.5 percent public affairs, and 18.6 percent telecommunication.

The plan fell far short of its objectives because of the unsettled condition in the country and suspension of oil revenues. At this stage of planning there was no mention of the quality of housing, urban planning, or urban renewal.

Second Seven Year Plan

The Second Plan began in September, 1955, and continued until September, 1962. It benefited from the resumption of oil production but, because of primarily political difficulties, the Plan Organization's original 80 percent share of revenue was cut to 60 percent in 1958 and to 55 percent in 1960. The plan allocated a total of seventy billion Rials for various projects, such as: 26 percent agriculture and irrigation, 32.6 percent communications, 15.1 percent industry and mining, and 26.3 percent public works. At this level the plan was able to achieve a 5.7 percent annual economic growth, with the most significant achievements in agriculture and communication. Several large dams increased the amount of water for irrigation and drinking purposes, and also the supply of electricity. The major highways, airport, ports, and railways were extended. At this time there was rapid development in light consumer industries, such as production of textiles, sugar, cement, and some building materials. In the field of public health, malaria was completely eradicated from the country.

Third Development Plan

By July, 1961, the outline of the development plans was changed, because authorized planners felt a plan of shorter duration would be more suitable. It was, therefore, decided that the third development plan should be for only five years.

The original budget was raised to \$2.7 billion and later to \$3.1 billion. The Plan Organization fulfilled only planning and advisory roles; actual execution of the projects became the responsibility of relevant governmental departments.

The budget of the Third Plan was allocated as follows: 22.5 percent agriculture and irrigation, 10.9 percent industries and mines, 13.5 percent fuel and power, 25 percent communication; 9 percent education, 7 percent health, 3.9 percent manpower, 4 percent urban development, 3.8 percent housing, and 0.4 percent statistics.

During the third development plan the Town Construction High Council was set up for financing urban development expenditures. According to government fiscal planning, only small municipalities were to be financed fully by the central government; the others would have to provide for part of their expenditures from their own resources, in addition to financing their own administration and local development projects. Municipalities are required by law to provide charity and welfare services. They are obliged to operate special houses for the needy and provide them with free, warm meals at least once a day.

According to the official census of 1966, the Third Plan created 600,000 new jobs.

Fourth Development Plan

In February, 1968, a bill was introduced before Parliament detailing the main object of the plan, and was launched on March 21, 1968. It was finished by March, 1973. Some of the main concerns of the Fourth Plan were: industry, agriculture, and the introduction of modern living to the rural population. Maximum efforts were made to preserve the country's natural resources. Other features of the plan were the question of public welfare and extension of social services to all classes of society, and housing and environmental reconstruction, especially to protect the interests of low-income groups. Another objective of the Fourth Plan was to create one million new jobs.

The plan called for a total investment of 810 billion Rials, 59 percent of which would come from the public sector and 41 percent from private sources. A total of 52.3 billion Rials was required in fixed investment by the oil industry. During the plan period a total revenue of 610 billion Rials was earmarked for the Plan Organization. This included 385 billion Rials from oil revenues, 150 billion Rials from foreign loans and credits, 50 billion Rials from treasury bonds and other government securities, 21 billion Rials from revenue of the petrochemical and natural gas industries, and 4 billion Rials from miscellaneous sources. From the rise in revenues required during the plan period, the government adopted a series of fiscal policy objectives.

Fifth Development Plan

The Fifth Plan was started in 1973 and will be completed in 1977. The goals of the Fifth Plan were:

- better education and social welfare
- better income, especially for low-income people
- better economic growth
- better employment
- better balance between economic and social interests
- better administrative, social goals and increase the country's defense
- better conditions for living
- increase the percentage of international trade

Some of the main policies of the Fifth Plan, now under way, are to decrease the growth rate from 3.1 to 2.6 percent; to create new jobs; and to encourage more public and private investment in education, health, agriculture, industry, and social welfare.

Goals, Objectives, and Policies of National Development Plans in Iran

The basic goal of all plans, whether of short or long duration, is to provide better conditions for every individual in the society.

During the first and second plans the mobilization of the country's human and material resources was directed chiefly toward the reconstruction of the economic infrastructure. The foundations for establishing basic industries were laid down. In terms of social

reform, the most important was the abolition of the landlord/peasant relationship.

The general objective of the Fourth Plan was to increase the rate of economic growth and national income by increasing the relative importance of industry, raising the capital output, and using advanced technology in all fields of activity, especially for the solution of problems of economic growth.

A decrease in the dependence on foreign countries for basic necessities was achieved by increasing the rate of growth in the agricultural sector to achieve the maximum supply of foodstuffs for the population and raw materials for domestic industry.

Improvements were made in administrative services by introducing basic change in the administrative system and extending advanced managerial techniques to all ministries and public and private organizations.

Recent Planning for Urban and Industrial Development (The White Revolution)

The fundamental purpose of the White Revolution was to convert the feudal and oppressive social structure of Iran into a new society based upon justice and human rights. It was called the White Revolution because it was a peaceful revolution.

The Literacy, Health, Reconstruction and Development Corps were established so that a youth must participate in full measure in the execution of the revolutionary program. Instead of two years of full-time military service, all youths, male and female, join the above mentioned corps. After a brief period in military training,

they work under the direction of the Ministry of Health, Education and Development and Housing. They work in the program about a year and one-half, and receive an acceptable salary.

The White Revolution has functioned true to its name. It has been a revolution in all respects, affecting every aspect of Iran's national life. Ten years ago the nation had a literacy rate of 26.9 percent, and most of them lived in urban areas. More than three-fourths of the population comprised the low class of society--social, economic, and political.

The twelve principles of the White Revolution form the basis of government policy today. They are as follows:

1. Land reform: The first principle lays down the basis for a new deal in agriculture. It abolishes the feudal pattern of agricultural economy. Land to the peasant is the main pillar on which rests the structure of land reforms. And for the functioning of land reforms, a network of multi-purpose cooperatives acts as the major supporting services.

2. Nationalization of forests: The second principle is based on the recognition of the natural resources as the property of the nation, and lays down the essentiality of nationalizing the forest wealth and pasture lands of Iran.

3. Government factories for landlords: The third principle star-marks the awareness that unless there is capital backing, adequate to the needs arising out of the abolition of landlords, the new farmer cannot stand by himself. And it was equally sensed that the compensation money paid to the landlords may flow into unremunerative

channels. A new device of finance securing was thus resorted to, in accordance with the compensation money payable to the landlords, which took the form of industrial shares with a guaranteed dividend. This very dynamic and ingenious device protects the dispossessed landlord economically, and at the same time secures capital for the government-owned ancillary industries that act as supporting feeders to the new needs for rural development.

4. Workers' shares: The fourth principle enunciates the most forward-looking conception in the interests of labor. This principle entitles the workers to profit-sharing in factories in which they are employed. The recognition of this right invests labor with the dignity of co-sharers in national growth, and they are no longer just cogs in the mighty machine for industrial production.

5. Equal rights for women: The fifth principle refers to the major aspects of electoral reform and to the total conferment of equal rights on women in all walks of national life. This meant truly taking the longest stride into the new age and toward the making of the modern state.

6. Literacy Corps: The sixth principle laid down the necessity of disseminating knowledge and culture as the primary duty of the state. And in implementing that recognition the most novel of all steps was taken, which is truly unique in the history of the liquidation of illiteracy--the founding of the Literacy Corps.

7. Health Corps: The seventh principle led to the establishment of the Health Development Corps for looking after the health problems of the villages.

8. Extension and development: The eighth principle gave birth to the Rural Development Corps, designed to help farmers develop the forward look and make full use of scientific aids to high yield in agriculture. These Triple Corps, constituted of vibrantly enthusiastic young job-doers, dedicated to duty and patriotic endeavor, have rightfully earned for themselves the honored name of "The Soliders of the Revolution."

9. House of Justice: The ninth principle created the Courts of Equity and Councils of Arbitration for the purpose of settling disputes at the level at which they arose by taking justice to the village instead of the village coming to town to seek justice. Similarly, the city dwellers could settle their controverted claims, primarily through arbitration, instead of cluttering up the law courts and having to bear the back-breaking expenses involved in lengthy processes of legal adjudication in higher courts.

10. Nationalization of water resources: The tenth principle lays down the nationalization of water resources as essential to national development, keeping in mind priorities for use and the twin aspects of conservation and planning of additional supplies, well ahead of the demands pressed by the increasing tempo of constructive projects.

11. Urban and rural reconstruction: The eleventh principle revolves around the pattern of social democracy and pertains to the launching of a nation-wide program of reconstruction to provide a better life for Iranian families. These programs are meant to envelop both the villages and cities, in consonance with Iranian social

conditions. They aim at the utilization of natural resources and manpower by harnessing the entire resources--intellectual and material. No talent should be left unused. That, in short, sums up the core of this social principle.

12. Administration and educational reforms: The twelfth principle stresses the urgency of more educational reforms with a view to inculcating among the youth the spirit of self-reliance and a keen sense of responsibility to the nation. In the sphere of administration the twelfth principle stresses evolving a keener consciousness of public service among officials at all levels.¹

Result of Ten Years White Revolution (1963-1973)
and Recommendations for Further Reform

Land Reform

During the first phase of land reform 16,151 villages and 943 farms were purchased at a cost of about 9.8 billion Rials and distributed among 753,258 farm families--28 percent of the rural population.

The second stage of reform affected 54,032 villages and 21,912 farms with a population of 12.32 million people.

The third phase saw the need for farm cooperatives; by the end of 1972 43 farm co-ops were operating on 171,000 hectares with over 15,000 share holders.

But Iran needs to have a greater movement; the cooperatives must be extended. Massive irrigation schemes should be implemented,

¹White Revolution of Iran (Tehran, 1972).

and farming techniques modernized; in addition, the number of people dependent upon the land must be reduced to not more than 25 percent of the population. The pieces of agricultural land must be large if they are to be mechanized. Land reform has to be a long-range program, taking twenty-five to thirty-five years to accomplish; the program must continue if Iran is to prosper.

Nationalization of Forests

By 1963 the forests of Iran became state property, new reforestation policy commenced, and an armed forestry guard was formed to protect the forests and pastures of the nation.

Since this period twenty million new trees have been planted in the forests in various parts of the country, and another 125 million trees have been planted in a 125,000 hectare area to restrain the movement of sand across Iran's vast deserts.

But there is no mention about creating new forests that will be linked to the open spaces or green belts of cities. It must be a plan whereby new forests will be planted where there is a forecasted density increase. In this case most of the forests will be useful for people and for changing the temperature of cities during the hot Iranian summer.

Sale of Government Factories

In 1963 the government owned ninety factories under the new law. The total value of the factories was 7,700 million Rials, which was divided into 154,000 shares of 50,000 Rials each. A minimum

dividend of 6 percent per year was guaranteed by the agricultural bank of Iran on behalf of the government.

But this did not include all the factories. It should be a comprehensive plan and include the new and old factories alike. At this case the value of each share is going up and will be permanent.

Workers' Share

Since 1963, 2,500 collective agreements have been concluded between factory owners and workers, with about 80,000 workers benefiting from profit-sharing arrangements.

Other developments in workers' welfare have been the establishment of a workers' welfare bank, and creation of 457 credit and consumer societies.

But it seems the workers' share should cover all of the factories, with a higher percentage of workers benefits. In terms of worker welfare the credit must be low interest, and the welfare bank should be a nonprofit organization.

Equal Rights of Women

The total number of working women rose by 60 percent in the ten-year period between the two censuses of 1956 and 1966; women are now employed in all but 12 of 207 jobs classified under the labor code.

These data describe the period from 1956 to 1966, and equal rights of women was completed by 1963; there is no exact information on the effect of this policy between 1963 and 1972.

Literacy Corps

Nearly 80,000 Literacy Corps members have gone out into the rural areas. In the ten years from 1963 to 1973, the new literates taught to read and write by corps members numbered 1.6 million-- 1,071,093 children and 554,771 adults. Another 1,582,414 children and 246,065 adults are studying in village schools.

It would be better to have a more adequate facility for the Literacy Corps, such as school facilities for children and adults. But on the whole, the Literacy Corps is one of the successful programs, narrowing the gap between rural and urban society.

Health Corps

The Health Corps started in 1964, and by the end of 1972 there were 2,830 units that treated 24 million people, providing vaccinations, dental care, and laboratory tests. The corps is also vitally concerned with family planning.

But, like the Literacy Corps, the Health Corps also lacks the necessary facilities.

Extension and Development Corps

This corps was formed in 1965 to meet a whole range of rural needs. By the end of 1972, 18,874 corpsmen had served or were serving in this area. Their responsibility is to deal with lack of roads and bridges, the absence of electricity, and the widespread ignorance of modern farming techniques that have seriously hampered progress in the villages.

But, as mentioned previously, lack of facilities and finances is one of the main problems of these corps. The government should support them financially until they can attain a higher degree of usefulness. The government has to have a comprehensive rural and urban plan and to know how and where these corps could be useful.

House of Justice

By September, 1972, there were 6,479 houses of equity which had handled 466,441 cases. A parallel court, called the adjudication council, with similar but wider power, has been established in urban areas to handle, among other things, family affairs.

Nationalization of Water Resources

The main aims of the nationalization of water policy are state supervision of the supply and distribution of water for spring and winter sowing, and the establishment of regional water boards and cooperatives to make this control effective. The program also entails the execution of projects for the harnessing and storage of surface water and efficient utilization of underground water resources.

This is a good policy for Iran if it covers all of the country area and is equal for the poor and the rich.

Urban and Rural Reconstruction

The eleventh point for progress is the loosest and most comprehensive of all the reforms. Aimed at the mobilization of all material and spiritual resources to provide a new life for Iranians, it can be extended to cover a wide variety of progressive policies.

The essence of the program in its current interpretation is a massive facelift for cities and villages, a cleaning and tidying up of modern life. The main emphasis has been on the cities where rapid urbanization and lack of planning have created all sorts of problems. This program was undertaken by the Ministry of Development and Housing.

Although this is a fantastic goal, it seems this Ministry and its program are twenty-five years behind the times. Only sixteen cities have master plans, and most of these plans were not designed with the culture and the needs of people in mind. Most of them have a good shape of drafting without any research for the needs and increasing activity of the people.

Administration and Education Reform

The main aim of this goal was to get better performance from Iran's educational and administration services. An attempt has been made to cut red tape and unnecessary formalities. There have been significant increases in the literacy rate in Iran, as well as in the number of students receiving all levels of schooling. Medical services have also shown a marked improvement.

Rural Development

During the Third Plan, the rural development program formed part of the agriculture plan. Efforts were made to extend social services to villages, build feeder roads between villages, carry out sanitary engineering and environment sanitation projects in rural areas, and expand extension and educational services in rural areas.

In total, 810 projects were executed, including the provision of public bath-houses, schools, mortuaries, and new wells for water supplies, and construction of 8,700 kilometers of feeder roads. In addition, 21,890 councils were established in 32,687 villages.

The general objective of the Fourth Plan was to extend social justice and distribute the benefits of economic growth among the rural population through village development and the establishment of public utilities. Eighteen billion Rials were allocated to village development activity, including health, social welfare, communication, agriculture, education, and electricity.

It should be pointed out that there is no regional planning agency or any kind of specific rural planning in Iran.

Overall Summary of Problems

Some of the problems with which the cities of Iran are now faced are as follows:

1. Lack of a comprehensive planning study
2. Lack of master plans for all cities in Iran
3. Lack of zoning and building regulations
4. Lack of suitable organization in terms of City Hall
5. Lack of regional planning
6. Lack of finances with which to undertake the necessary reforms
7. Lack of coordination among government agencies
8. Lack of access roads to countrysides and villages
9. Lack of housing policies

10. Lack of urban renewal programs
11. Lack of coordination between city and rural areas

CHAPTER VI

SUMMARY OF PAST CULTURAL CHARACTERISTICS AND CHANGES

We may agree that at certain stages in man's development the city came into existence to make life possible. And we may agree that it continues to exist to make life good. But it is a far cry from the justification or purpose of the city--what it ought to achieve and what it actually accomplishes. Life in most cities is partly good, and for some it is downright bad. If urban planning has any fundamental aim at all, it must be to move from historical development and the existing state of affairs to something more desirable, namely the good life.

Therefore, there is an obvious need for Iran to find its own way to development and social change. This necessitates appreciating what has happened in the past, understanding the present, developing original lines of thought for interrelation of past and present, and providing effective guidelines for the future.

The study began with a description of the complex of elements that constituted preurban society in the initial phase of Iran's cultural history, giving close general attention to those elements that changed the earlier forms of society into societies with living centers that can justifiably be called cities. All of these changes had an effect on the cultural systems of Iran. But the present

criticism is based on how these changes took place and in what way future change should be directed.

There has been a complete change from the previous period dating from the Persian Renaissance, in which planners were concerned with the classic form, the visual and symbolic arrangement of civic elements and their composition in relationship to one another. This period had its dying days in what were called the City Beautiful and Beaux Art schools.

Now one can perceive a third phase of development, in which the idea of integration appears as a theme of the planner's work. This urge to integrate or bring together the fibres of the city is a response to the separation and segregation which was, in turn, a response to the industrial confusion. In this sequence of response we now feel the need to blend some of the elements of the city together into much more dynamic and lively compositions.

To understand the whole, one has to look at its parts. But in looking at the parts, we recognize that they cannot simply be added together and a totality reconstructed from those parts. So with the study of historical development encompassing natural and cultural systems and urbanization, we can hope to achieve that overview which can make a new, more global, sense of phenomenal diversity and complexity.

Therefore, the writer feels that, when studying the process of changes of Iranians' society, one must take into account existing Iranian urban research along with the culture of the Iranian people. It is important to reexamine the questions of theory and technique of contemporary urban sociology in American and other advanced countries.

However, in adopting ideas that are useful for city planning in Iran, one must formulate new theoretical principles applicable to that country that have a close relation with the nature of Iran and Iranian cultural values.

It is, therefore, important to put development into historical perspective if we are to understand what has happened and what is happening. This is all the more necessary because, although the developing nations now have to make their way in a new and different kind of world, it is one based on a past when the western nations were concerned with serving their own interests in their overseas ventures.

Finally, we have to remember the past, for if we forget this historical content, we will not understand the problems that now exist, nor will development to solve them be likely to succeed.

CHAPTER VII

ANALYSIS OF PROBLEMS AND RECOMMENDATIONS AT THE NATIONAL LEVEL

Problems of Water Resources in Iran

One of the most important limiting factors in the developing pattern of urbanization is the availability of resources, both real and financial. The development, renewal, and maintenance of the built environment require a large proportion of the national output. Increases in the output of construction work can be reductions in the resources available for the provision of other goods and services. The built environment is not alone in being inadequate in quantity and quality. There are many claims on the national output; more resources are required for improving industrial capital, for developing education and the health or social services. Urban and national development involves a large use of land, the supply of which is largely fixed.

Of course, not all aspects of urbanization have a significant effect on the use of resources. Environmental quality depends on the way in which the resources are used, as well as on the amount used. New patterns of urbanization resulting from changes in social patterns might have little effect on the use of resources and natural systems, although they might result in changes in the directions of use.

The supply and demand for resources depends basically on population and human activity and on their interaction with natural resources.

The physical condition of Iran and the shortage of water are two of the most important factors limiting the expansion of agriculture and settlement in Iran. Most of Iranians' needs are supplied by surface water, which is directly related to rainfall.

Iran faces the following problems with regard to inadequate water supply: (1) unfavorable geographic distribution of rainfall and mountain condition--only one-third of the precipitation falls on the central plateau; (2) unfavorable land conditions and desert area comprise around one-sixth of the country; (3) there are large distances between water resources and arable land; (4) inadequate irrigation networks; (5) lack of coordination between activities relating to development and supply of water resources and their utilization; (6) lack of adequate statistical data and studies on water resources and land use planning; and (7) lack of laws and regulations compatible with modern methods of utilizing water resources.

Recommendation

In view of the nationalization of water resources, there should be a revision of regulations governing the use of water resources. Also, as a shortage of water is the main limiting factor in the development of agriculture, water will be utilized in localities where the highest output can be obtained. Also, there will be a great need of dams and canals. Regional water authorities should be established in all regions of the country, and administered on a profit-making,

commercial basis, with responsibility for the supply, distribution, and sale of water centralized in one agency.

Existing deep and shallow wells should be developed and extended, and existing sources of electric power should be used.

Cultural Problems

Social Problems

Poverty.--Today, with the high-income industrial societies, poor standards of living are not the main difficulties. The growing concern with poverty in these societies results from revelations about inequality. Obviously, the lack of full economic or social citizenship in society is different from the condition of poverty in which families are starving. In the affluent society relative deprivation, a comparative position of losing out, characterizes most of those termed poor. The historic term, poverty, once applied to low-income families in industrialized societies, is found wanting when stretched to highly industrialized societies. Poverty, then, has surreptitiously ushered in the issue of inequality in the affluent society. The inequality perspective demands that poverty programs be recognized as efforts to engineer changes in the stratification profiles of Iran.

Recommendations.--It is suggested that a minimum approach by the government in any section of society with significant inequalities must provide for a rising minimum level not only of income, assets, and basic services, but also of self-respect, opportunities for education in all social levels, and participation in many forms of decision making. The movement with the six dimensions of well-being

is not always at the same time; movement in one dimension does not necessarily mean that similar movement occurs in the other dimension. But all of these dimensions are part of each other and part of a complete component.

The six dimensions of well-being lead policy makers who deal with the poor to ask what kinds of responsibilities and burdens our society should have, and what kind of planning we need first. Since we do not have the resources to accomplish all our social goals within the next decade, our people must decide to what extent we wish to improve our city, our neighborhood amenities, legal services, the education of youth, or the health of our citizens.

It should be mentioned that in some cases a poor person is not just one who is lacking money. He is also poor in our society because he lacks power. This is the fundamental issue in the whole problem of poverty in Iranian society.

Consequently, political position becomes increasingly important in affecting our resources, and the political dimension of stratification grows in significance. Hopefully, in Iran, low-income people have organized to affect their rights to welfare and other forms of government services, rather than to affect the economic market. The relationships to government bureaucracy have become important not only for the poor and discriminated, but for all segments of Iranian society.

Since many of the poor in Iran would be well off in low-income societies that are more involved in poverty than just low levels with physical conditions of life, the issues of relative deprivation appear

to be more important. In this perspective we must increasingly turn to the indicators of inequality as well as to poverty, which implies a scientific standard of subsistence. The last third of the twentieth century requires new and more sensitive instruments than existed in the nineteenth century. The only point that may be made is free education for all in all levels of education.

Successful planning of man's physical environment means knowing man not only as a factory worker, artisan, merchant, doctor, clergyman, professor--as earner and spender--but man also as husband, father, brother; as poet, philosopher, painter, dreamer. We as planners shall never know man as his culture, as his tradition, as the way of life, and as a whole unit until we discard the narrow, particularizing, separating view of science, and take the broad unifying view of art. So we can say: When we know man, then we can plan.

Education.--College students are challenging college administrations. They want responsible "student power" and enlightenment. They want teachers who teach, not trainers who indoctrinate, and they want administrators who will make it possible.

We have not had education in Iran, and as a result more than 65 percent of the population are uneducated. They cannot write, they cannot read, they do not know what has happened, what is going on, and so on. Education was, and in some cases is, for the rich and not the poor; education is for those who can pay for it.

In higher education we have had institutions which indoctrinate an ideology, a way to experience, and a way to behave. The graduates of elementary, high, undergraduate and graduate schools are

not educated men. The source of the curricula in all these training institutes is not knowledge of what men need; curricular resources have not been philosophical anthropology and humanistic psychology.

Recommendations.--Iran has an uneducated population. Education, like true love, cannot be bought. We pay a number of Rials each year for schools and even if we doubled or quadrupled this support, it still would not yield a harvest of educated people because our training institutions are not places of education. Education is a subversive enterprise. It is a process of enlivening the creative imagination, sharpening critical skills, evoking possibilities of thinking, acting, valuing, that may run counter to prevailing orthodoxies.

The people we wrongly call teachers are graduates of training institutions (College of Education). In the writer's opinion, education seldom happens in these colleges. The "teachers" are trained in the latest means for implementing the latest curricular goals. How can we expect these teachers to educate the young? True education of the young is conspicuously lacking in Iran.

Because education in Iran is a serious problem, it is a problem involving the whole community. When 65 percent of the people are uneducated and are not able to read and write, how can we improve other components of life such as town planning? But we have to have coordination between all of the programs, and it seems this coordination does not now exist.

Urban Economic Problems

Much citizen concern with urban problems is associated with the status of the central city, relative to the outlying parts of urban areas. Many people consider the decline in the relative importance of the central city as an urban problem in itself. If the central city declines even though the private market system operates efficiently, economic problems are not the cause for the decline. It may be that the historical trend toward the concentration of jobs and people in the central city and the present trend toward separation of jobs and people within the urban area are the result of market failure. So, in terms of economic problems we need to know what the problems are and after that to find solutions for them.

Manpower problems.--In view of existing capacities of institutions of higher education in Iran, in terms of shortages of skilled technicians and engineers, shortages will be filled in the fields of civil, mechanical, and electrical engineers, for whom there is a great demand in Iran. At this time only four schools produce graduates in the field of engineering in general; this is not enough to meet current needs. Also, some of the graduates of these schools enter the teaching profession. The remainder are only enough to fill about half of the required positions; and the payment of engineers in general is twice that of an equal degree in private companies or enterprises.

Another problem with regard to training of engineers is the limited number of subjects taught by the engineering schools. Sometimes

for ten years there are the same programs and the same numbers of schools in the field of engineering. Several basic fields of study such as industrial design, metallurgy, and electronics are still overlooked.

With regard to technicians, the capacities of the country's school for the training of technicians are limited. Such are the fields of industrial chemistry, mining, and soil technology. These still are not included in the country's vocational training systems.

Unemployment problems.--The simple census of 1971 showed a 10.9 percent unemployment rate, whereas an acceptable percentage is between 4 and 5 percent. However, a person who is in need of employment can hardly get any satisfaction out of knowing that he is one of the acceptable 4 to 5 percent, rather than one of the 10 to 11 percent. Neither percentage is of value at the stores in exchange for needed products. The problem is not unemployment per se, but rather the governmental policies, programs, and objectives that must be effectively coordinated. This coordination never happened because unemployment has risen from 2.6 percent in 1956 to 10.9 percent in 1971.¹ Thus it means the government, never having recognized by law the right of employment for anyone needing work, has never attempted to establish legal procedures and programs for the benefit of the unemployment situation. Instead, unemployment reaches crisis proportions and then the government hopes to alleviate the problem by enacting temporary measures that have been tried time after time and

¹Official Census of Iran (Tehran, 1971), p. 118.

have demonstrated their inability to correct the problems. The various programs have resulted in increased work during the period of planning. But once they are in operation, using less labor to produce the same amount of products, it also means fewer people being employed. The programs have thus resulted in more benefits to the financial interest than to the people themselves.

The need for change in the economic system is evident to anyone who can read or hear. Even those who prefer to ignore what they hear or read, hoping that the economic situation will go away, must face the evidence on a day-to-day basis in purchasing the necessities of life.

There is much more hope of needed change in light of the fact that, in 1974, unemployment is around one million hours of labor per day; the loss of benefits from this unused labor is beyond comprehension. Figured on a fifty-week year and a five-day week, it amounts to two billion man-hours of wasted time each year.

Agricultural problems.--Agricultural problems relate to soil and fertility extension services, and to the supply and distribution of improved seeds and plants. Also, there are some basic problems such as the shortage of capital in agricultural sectors, the lack of basic data on agricultural problems, illiteracy and low levels of technical skills among farmers, the limited capacity of the country's pasture, the problem of water resources, and the problem of salinity of arable land, which is one of the most important problems facing the country's agriculture. The problem of capital will react on the

mechanization of agriculture; to have a limited use of machinery in the present agricultural system, it is necessary to develop large, mechanized farms.

Industrial problems.--Iran is moving in the direction of industrialization, but there is no complementary social goal. Unfortunately, Iran seems to be following the way of industrialization in developed countries; they have let the development of industry and industrial products gain the upper hand, and the people are dependent upon the demands of industry for labor rather than the industry being dependent upon the people.

Some main problems confronting industry are: insufficient numbers of skilled workers, lack of management specialists and difficulties in employing foreign experts, the shortage of operating capital for factories, lack of adequate facilities and suitable regulations for making working capital loans to the private sector, and the lack of expertise in various mining fields in terms of advanced mining techniques.

General economic recommendations.--Ways must be found to persuade the large numbers of Iranian engineers residing abroad, who have specialized training in the fields needed by Iran, to return to the country and take specialized employment. This would involve around 25,000 graduates who are studying in Europe and the United States.

Basic reform is needed in the system of technical and vocational education systems. It is also needed for maximum diversification in the curricula, and presentation and publication of textbooks, in Persian, in all fields of vocational and technical training.

There is a need to establish courses for the training of ordinary government employees, such as postal workers, firemen, railroadmen, and so on, because most of the ordinary level employees in such fields have not been trained for their work before being employed. The future demand denotes that there will be a growing need for employees who should be competent at their particular calling, even in such apparently simple jobs as warehousing, property protection, postal work, distribution and sale of manufactured items, and so on.

There is no way that an exactly equal distribution of wealth could be accomplished in any society with a large or medium population. It should, however, be possible to do so in Iran, to the extent that it would provide almost everyone with a better living standard than they now have. The fact that past civilizations were not able to accomplish that for their people is no excuse for the present conditions, or for them to continue into the future.

The government should apply the abilities of the computers and mathematicians, as well as the economists, to economic situations with the base factor being the human need rather than the monetary unit with its mathematical requirement of profit. Money should work for people rather than people being required to conform to monetary systems, to produce more equitable systems that would provide more benefits for all.

Agriculture recommendations.--The problem of salinity of arable land must be considered fully, and economical improving and desalinizing of the land must be researched with the technical and financial

support of the government. In view of the limited use of machinery in the present agricultural system, and the need to develop large, mechanized farms, in order to increase the level of knowledge among the extension workers and practical training of young villagers, all agricultural training must be extended and utilized. The needs of agricultural training, agricultural research, market organization, agricultural development funds, cooperative training programs, cooperative market centers, and modern laws and regulations must be the first step of development.

Industry recommendations.--There is a need to establish equilibrium among heavy, medium, and small industries producing capital goods, followed by industries producing consumer goods, with priority for basic goods utilized by the general public. There should be an intermediate establishment of industries in underdeveloped but suitable regions of the country in order to accelerate the development of those regions. Existing industries could be extended by means of renovation and development, maximum utilization of capacity, securing sufficient working capital, training in management, rationalizing enterprise and applying sound management practices, supplying raw material in sufficient quantities, establishing vocational schools and supporting advanced technical schools to serve the country's new industries, quality control and standardization of industrial goods, research on mining and industry, and creating new material with the needs of the people in mind.

Political Problems

The fact that planning decisions are political decisions and are by nature not susceptible to unanimous views is one problem facing city planners in Iran. The other problem is the relative weakness of elected political leadership; in matters concerning regional problems this is particularly likely to be the case. Parochialism and insularity dominate both sides of the central city's boundary line. Their mark is seen in many unhappy discussions involving transportation schemes, residential areas, industrial location planning, and school consolidation. Some of the main problems the municipality or government is involved in are: lack of educated planners, lack of new laws and zoning regulations, lack of policy plan, lack of coordination among governmental agencies, lack of citizen participation, and lack of finances.

Recommendations.--It appears that a number of approaches can be used to solve the problems associated with existing fragmented government. Local government consolidations and the large-scale production of urban public services may be increasingly employed to resolve spillover problems and attain potential size economies, which may exist in the production of various urban public services.

The role of province governments as opposed to central and local governments in achieving solutions to urban problems is not obvious, and it is likely that the provinces will be reluctant to relinquish their historical roles and positions of power as the political system intervenes to correct for market failure and inequities in the distribution of income.

Current awareness of the symptoms that have resulted from the concentration of jobs and people in urban areas has led to discussions of public policy measures designed to make rural areas more attractive. Such inducements might include relocation allowances, tax breaks to business firms locating new facilities in less populated areas, and the allocation of resources to transportation facilities to make provincial towns more accessible to major urban areas.

One of the political problems is lack of citizen participation. In fact, citizen participation in decision making about what is to be done in their community and how it is to be done may be viewed as both a right and a duty. Since the citizens are the ultimate beneficiaries of development, their interest and participation in the setting and attainment of development objectives must be secured. Citizen participation can accelerate the adaptation of recent immigrants from rural areas to urban life and promote their integration into the community.

Such participation can be organized directly through involvement in the planning process and in the execution of projects or community services, or indirectly through the formal machinery of representation and through communication. In regard to the latter, all possible means of communication should be employed, including press, radio, television, and public lectures, not only to stimulate interest in planning, but also to educate citizens about the most constructive use they can make of their opportunities to take part in this process.

Perhaps most important of all, organized forms of citizen participation, such as community development projects, may be

instrumental to the rapidly changing circumstances in urban areas undergoing accelerated growth. It may well be that one of the most effective ways of strengthening and revitalizing local government in the long run is to develop an institutional framework for urban community participation in development and implementation.

Well-prepared citizen participation will, at any rate, ensure the measure of democracy in the planning process for urban development, which is essential for improving the quality of life in Iran's large cities.

National Urbanization and Development

Problems of National Planning for Urbanization

Urbanism itself is mainly qualitative, much as many aspects of human life, especially those qualities embraced in the term "personality." Realistically, we do not speak of the personality of a city, although that is often done, as when one city as an entity is compared with another in the same country with the same culture, and other countries in the same level of urbanization.

We speak of a country as being advanced or developing mainly in terms of its level of industrialism. These levels can be measured and compared from one country to another. Not entirely by coincidence, it follows that a country with a high level of industrialism also possesses a high level of urbanism. Levels of urbanism can also be visualized by various concrete types of evidence. Although the measure normally used is the number of people living in urban areas, the degree of urbanization is usually a dynamic evaluation, meaning at the same time the number of people living in cities and the number

recently moved into cities. However, when we speak of urbanization the assumption is often implied that there is a two-fold change; people change from agricultural work to industrial work, while at the same time changing from rural to urban areas. But, it is important that one can become quite urbanized without changing from agricultural work and without changing to urban areas.

Interest in urbanization at this time is considerable, precisely because the rate of urbanization in some regions has reached the point of pain and mass suffering. Urbanization is usually painful to some degree. Iran's level of urbanization was around 29 percent by the year 1970, and was estimated to be around 43 percent by 1980 (see Figure 13).

Finally, it is pointed out that Iran does not have national planning, and because of that there are many problems, such as the following:

In all countries, cities are rich compared to their rural hinterlands. Iran is rich when compared with some other countries in the Middle East. But no society or part of a society is ever really rich in relation to all the needs and desires of its members.

The traditional concerns of economists have some relevance for urban problems in two ways. Economics can contribute to the diagnosis of urban problems and it can contribute to the choice among alternative solutions to these problems.

It is clear that many of the major problems visible in urban areas are not solely economic ones. Migration to the cities, crime and delinquency, over-crowded conditions and deteriorating housing,

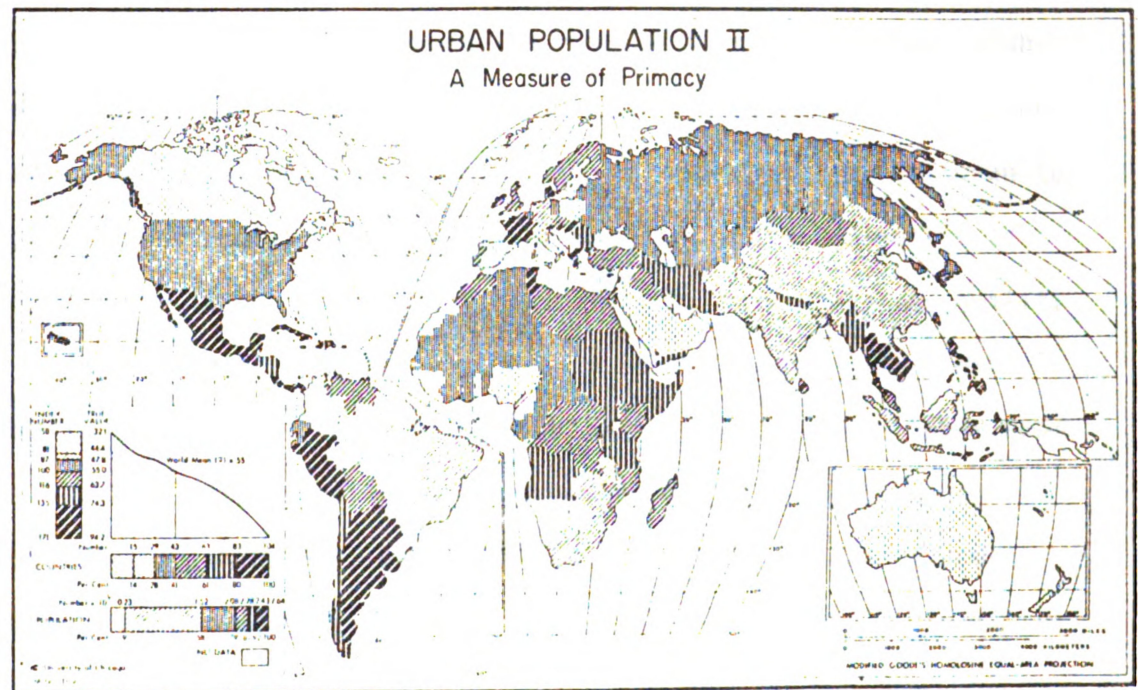
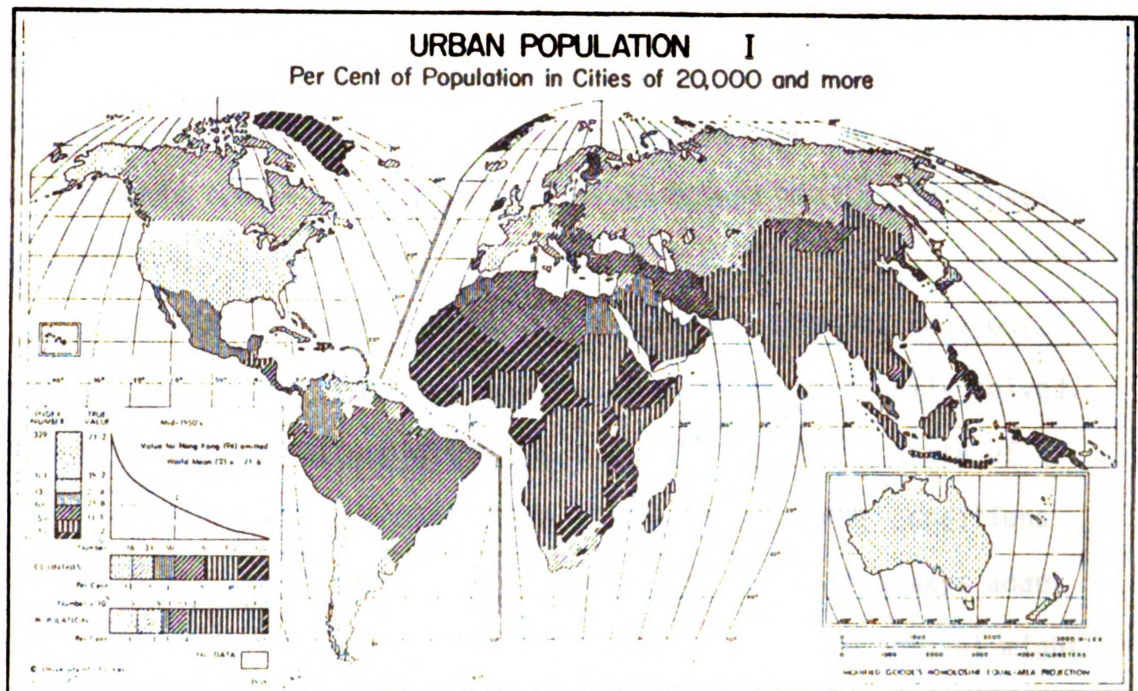


Figure 13.--Iran's level of urbanization in the world.

Source: Brian J. L. Berry, "City Size Distribution and Economic Development," Economic Development and Cultural Change, IX (July, 1961), 581.

traffic congestion, and air and water pollution in some cases are fundamental sociological difficulties. In other cases there are major technological problems. But all of the burning urban problems do have economic causes as well, and it is important that these causes be sorted out.

The more we learn about urbanism the more firm becomes our awareness that the problems of urbanization are never finally solved. To wish for final and complete solutions is to ask for a state of things in which change does not take place, except under conditions of absolute and errorless control in which the new must always adapt itself to the old. Any effort to achieve such complete control might well provoke greater problems, like social problems, in a world of changes, especially in a developing country like Iran. Those problems of urbanization are never fully solved; they concern a science that is changing, and they change with it. We need the physician to cope with our bodily ills; so too we need the social scientist to increase the level of education and literacy, to improve the quality of the environment, and to wrestle with our community ills. But, over all, we need to know what the problem is and where it came from.

The increase of the urban population with the demand for urban living, which is usually a result of industrial and economic growth, has forced upon the nation the problem of meeting general urban requirements. The industrial evaluation that has taken place in Iran in recent years has resulted in heavy increases in population in sections of the larger cities. This population increase has created shortcomings in urban facilities and services; therefore,

housing problems and slums emerge. Rapid changes in the quantity and quality of transportation and easier access to different regions and localities have in turn caused greater complexity in urban life.

Since it is difficult to solve all such problems within the framework of haphazard urban projects, ways must be found to solve these problems within the general framework of comprehensive master plans based on the principles of town planning and in conjunction with social and economic development plans.

During the Second and Third Development Plans, attention was paid to urban development to meet the social needs of urban areas in a substantive manner, but this not only failed to alleviate the need of towns for continued aid but actually intensified this need.

During the Third Plan, proposals were made for the first time regarding the need to prepare master plans and forecasts. These proposals, however, proved to be general, and detailed principles and specifications relating to these master plans were not drawn up. During the Third Plan period, a council, entitled High Council for Town Planning, was established in the Ministry of Development and Housing, to adopt general policies for town planning, coordinate and centralize studies relating to the preparation of town planning regulation, and approve master plans for towns.

During the Third and Fourth Plan periods, measures were also taken to prepare master plans for Tehran and sixteen other cities. Only the master plan for Tehran was approved and designated by the end of the Fourth Plan. However, it is not comprehensive because it lacks enough data and social studies.

Recommendations.--Modern urbanization is becoming more oriented to the many things the city means to men. The prospect of cities without problems becomes increasingly remote. The problem of urbanism is never merely local. All of the problems are linked in various networks of exchange and interdependence in the levels of regional and national planning.

Iran needs a comprehensive national planning agency. The advantage of this type of body is that it concentrates responsibility for overall planning of all kinds in an authority designated for that purpose and without other duties. It will enable a comprehensive view of the problems to be taken without a bias in favor of any particular interest. One of the aims of the Fifth Development Plan is to have a master plan for all of Iran's cities by 1978.

We do need this type of agency because national urbanization and urbanization policy are a matter of such profound importance, affecting every aspect of national life, that the final decisions must be made by the government as a whole.

A fundamental problem at the national level arises from the fact that many specialized government agencies are the principal or even the sole repositories of knowledge concerning important elements in a plan, e.g., water supply, power resources, public health requirements, hospital needs, etc. The planning authority must be able to create and formulate comprehensive concepts and policies that will transcend the proposals put forward by specialized agencies for their particular services, while yet relying on them for information, not only about existing data, but also for advice concerning "the limits of the possible."

Broadly speaking, the most important decisions should be made at the national level. The most difficult problems occur at the regional level, and the greatest mass of detail work is at the local level. The following matters require the determination of planning and policy at the national level:

1. Measures to facilitate or restrict the movement of population between different parts of the country
2. The location of industry and other employment opportunities considered nationally or as between regions
3. National highways and bridges
4. National parks and the preservation of amenities of national importance
5. Inland waterways
6. Development of major ports
7. Development of main line railways and other national transport services
8. Water supplies and large-scale drainage and irrigation schemes
9. Development of power resources (coal, gas, oil, electricity, nuclear energy)
10. Protection or expansion of agriculture
11. Determination of location, character, size, and cost of new towns
12. Promotion of industrial or trading estates
13. National land use plan
14. International airfields

15. Major questions of urban growth or restriction
16. Public housing policy
17. Planning of public health services
18. Development or creation of universities and institutes or colleges of advanced technology

In all these matters, the national interest requires that the broad lines of policy should be decided or approved at the national level. In some instances, financial subventions from the central government will be needed. In others, central ministries or other organs will have to participate in the actual processes of planning and development.

At the national level, machinery should be established for regular consultation and reports among all the ministries and agencies concerned either directly or indirectly with urban policy, planning, or development.

Effective coordination cannot necessarily be obtained by the exercise of authority. It is a matter of requiring continual discussion among the authorities concerned and a willingness on the part of each to understand the interests and needs of the others.

The following matters of policy and planning require regional decisions:

1. Distribution of industry and population within a region
2. Trading estates in a region
3. Development of courbanizations, cities of different sizes, etc.
4. Reclamation of derelict land

5. Provision of housing for overspill
6. Highways and bridges of regional importance and traffic engineering within the region
7. Public transport services within the region
8. Regional parks, open spaces, playing fields, green belts
9. Market gardening and agriculture
10. Supplies of water, electricity, gas, etc. within the region
11. Sewage disposal works
12. Refuse disposal (not collection)
13. Hospitals, sanatoria, etc.
14. Provision of public health services
15. Major housing schemes

Almost everything else can be left for the local authorities to determine. It is unnecessary to set out in detail all the residual matters relating to urbanization policy and planning that fall within the competence of the local authorities; in general, there has to be good coordination among all three levels.

Housing Problems at the National Level

The relationship between population and food has been a subject of continuous discussion and debate for many years, but when one turns to a formulation of the relationship between population and housing, one has to search for literature on this subject. All of the world countries have far-from-satisfactory housing situations. In the developing countries, the problem is worse because of low income levels of the people and the high rate of population growth. Even in

the United States the housing programs are inadequate. Charles Abrams, one of the leading American authorities on housing, recently observed:

There can be no sound debate in Congress on housing without a fresh study of current local situations. . . . It is essential that each city be profiled in the context of its own environment and its own current requirements, and HUD should authorize these profiles without delay . . . and courageous enough to re-examine the housing situation as it currently exists. . . . I believe when the facts are known, that Congress, too, may have the courage to ignore politics and rise to the occasion.¹

All this is true of Iran also. It is misleading to think in terms of the aggregate shortage of housing in Iran. We must know the housing situation in individual cities, towns, and subregions to arrive at any meaningful assessment of housing in the country as a whole. Our housing conditions and policies are still connected to the eighteenth century, whereas the new generation will live and work in the twenty-first century. This gap between the outlook of the eighteenth century and the requirements of the twenty-first have to be bridged.

The shortage of housing is not the main problem, but rather the poor quality and construction of housing. The other problem is the lack of electricity and piped water systems for housing throughout the country.

Slums problem.--Cities, as we know, are characterized by change, because they are dynamic and competitive. Whether the change is slow or fast, it is found that some urban areas grow with adequate facilities and some without. In this process of change a few avenues become quite clean and attractive, whereas others remain dirty and

¹Charles Abrams, Man's Struggle for Shelter in an Urbanizing World (Cambridge, Mass.: M.I.T. Press, 1964).

disordered. As opposed to attractive and healthy places, there are some areas of noise, confusion, dirt, ill health, tension, and congestion. These areas and their problems are negative in character; they are called slums. These kinds of areas are found in any country, but when a country has no policy for these places and there is no comprehensive plan for urban renewal, it is easy to find a slum area on each side of the inner city. Some of the resultant problems are: traffic congestion, slum housing, lack of open space, lack of standard housing, and lack of adequate public facilities. Health facilities in slum areas are also meager.

Ignorance and illiteracy on the one hand and poverty on the other have forced slum dwellers to depend for their existence on the rest of the community. They spend what little they earn on religious festivals and ceremonies, drinking, or gambling; hence they remain eternally impoverished. The youths in this area are problems; they are unemployed and irresponsible. Organizations must take steps to organize these young people, which could help them to become useful citizens.

A program of rehousing is also necessary for these people. This means, first, building houses at low and moderate cost on vacant land and also helping slum dwellers to move into existing houses outside the slums. Then, after a portion of this population has left the slums, the area must be cleared and rehabilitated. The best solution is to encourage slum dwellers to move outside of the city, beyond the city limits. This would allow them to be close to jobs and move in

groups, and it would probably attract the mother who wants to give her children a better chance in life.

Slum clearance can be aided by removing industries from overcrowded cities. Master plans for each town and city are expected to be a sound measure for the removal of slums (if the master plan were studied and if the goals of the plan adopted as a social need and social goal). Even the most advanced countries have discovered that slum clearance is a program of great complexity and at the same time a necessity.

There is a special reason for Iran to deal with the problem of slums without much delay. Even if every state is industrializing itself rapidly, if we do not wake up the whole country may become one vast slum. Slum clearance can be handled only on a national basis and not as so many unconnected local problems.

For many years now the only source of new housing for slum dwellers and their only hope of escaping the slums has been public housing. But this is no longer a practical alternative. The slum dwellers cannot accept this in practice as they can neither own such low-cost houses nor could they pay a higher rental fee. Moreover, they are unwilling to move since they would be deprived of their own neighborhood.

Experience has also shown that for many slum dwellers there are more urgent needs than good housing, i.e., money. There is no quick or sudden solution for the problems. The remedies have to be carefully planned and they require close coordination among several

departments of government, city municipalities, and voluntary organizations.

The coordination and implementation of new approaches to problems of housing urban migrants lie to a large extent in the hands of architects, urban planners, building engineers, and sociologists who have to begin to assume a crucial role in man's quest for shelter in urban and rural areas in Iran. They are part of the national building process and can together build adequate houses and plan whole neighborhoods and cities. Their building should be a form of the environment in which future generations will grow to maturity. What shall be the unique characteristic of Iranian cities a century from now? Because the character of architecture in Iran is not the continuation of past and evolution of new, how can Iranian cities grow and develop, and still avoid the ills of western industrialized urban sprawl and squalor? Modernization of Iranian cities must preserve its special character, maintaining the unity with the whole city of the market place and some walking link between the open space, school, and market place.

Recommendation of housing, slum problems, and urban renewal at the national level.--The lack of enterprise on urbanization is a huge obstacle to urban development. There is hardly any university in Iran that gives a course in urban economics or some other courses related to urban national planning or urban planning. There are few studies on the economics of urban housing, rent control, and land speculation. The related subjects of urban water supply, electricity,

transport, and so forth have yet to appeal to the imagination of our economists.

There is a great need for a high-powered, independent national institution of urban affairs, charged with the task of analyzing urban problems such as housing, transportation, and so on.

I believe now in Iran, where some social and economic changes have taken place, we need to have some changes in administration and change in most of the institutions. In housing each industry should house its own workers or pay a fixed tariff per worker to form a municipal workers' housing fund.

In terms of low-cost housing, the solution we would offer is low-cost urbanization through low-cost communication. The solution to urban housing problems lies to a great extent in cheap transport and not cheap housing in the crowded cities. People should be encouraged to stay in the rural areas; rapid mass transport systems, based on buses and railroads, and also subsidiary housing for the low-income group would facilitate this solution. Poor people must live near their place of work, regardless of land values.

In general, it is unfortunate that Iran's housing and urban development plans have benefited the rich more than the poor. The result is the rich will be richer and the poor will be the poorest.

In general, in terms of housing, we submit the following proposals:

1. There should be a strong ministry at the center of each state.

2. There should be a standing committee on urban affairs, especially in Parliament.
3. There should be a national institution on urban affairs, based on a continuous study of these problems.
4. Housing should be developed in a big way as in industry, in public and private sectors.
5. There should be good links between development of rapid mass transportation systems and housing.
6. Housing should be built by young men for their generation, not by old men for future generations.
7. The housing boards should subsidize income--tax-free loans for housing bonds and the upper limit on the exemption of interest for tax purposes should be raised.
8. The Rent Control Act should be scrapped, and more realistic measures adopted.

Road transport recommendations.--It is regrettable that most of the roads available at the present time are not adequate to cope with the present needs of the country. The inadequacy stems from the fact that the roads are few in number and ill planned. As a result, it is common knowledge today that most of the important centers are still not being linked by good roads. Even in some of the cities concerned, the roads cannot cope with the volume of traffic and there is always an endless traffic hold up. This problem of traffic hold up causes unnecessary delay in business transactions and at the same time wastes part of the resources that can be gainfully employed. It is, therefore, imperative that the construction of first-class roads be

given priority. This problem should not be treated in isolation, but should be handled in the general context of overall development. In the case of cities and towns the roads may be left in the hands of the local authorities under the supervision of government representatives, but roads to link important cities and towns and urban centers must be handled by the government.

Recommendations on planning for urban renewal.--The city can be defined in many ways. It can be defined simply as the people; a city cannot exist without people. On a more abstract level, it can be defined as an interrelated system of systems. The basic systems of the city--social, political and economic--mesh to create a system of systems called the city. Both of these definitions have merit, and decisions about the future of the city should be made with these definitions in mind. However, from a public administration perspective, such definitions, although necessary, do not form a sufficient, pragmatic foundation from which to make on-going decisions. Within the administrative context it is necessary to view the city as a public corporation. In essence, the city has the same institutional framework and needs as a private corporation.

Sadly, this essential conception of the city as a corporation has been either neglected or denied by the elected officials of almost all cities throughout the history of Iran. There are many who would argue that this contention is not true, that elected officials and city administrators have indeed viewed the city as a corporation. However, the actions of elected officials and city administrators tend to belie any arguments that might be made on their behalf in this regard. If

cities were run as private corporations, would the officials not consider and deal with all the needs of the city corporation? In viewing the universal costs of all institutions--initial costs, operating costs, expansion or contraction costs, and replacement or renewal costs--it becomes obvious that replacement costs have been universally ignored in Iran.

If one views the city as a corporate entity and remembers the universal costs of all institutions, it becomes obvious that the basic philosophy of urban renewal should be to integrate an on-going replacement and recycling function into the daily operations of the administrative structure. This function should be separate from and supplemental to the usual capital expansion programs. There should be a stated policy of replacement and recycling and there should be a programming plan that indicates to all in the city what areas will be next to receive replacement facilities and rehabilitation money. The funding process should not just be an extension of public borrowing, which creates an expanding inverted pyramid of public debt and increases taxes. Reserve funds should be created and kept intact for specific purposes.

The reasons for renewal are self-evident. It must be the charge of any governmental unit to protect and promote the health, safety, and general welfare of its citizens. This is the reason for the existence of government. Applying this ideal in the day-to-day decision-making process, however, is not easy. Through the application of good planning principles to the replacement and recycling program and the coordination of programs with other capital and operating

programs of the city, it should be possible to phase replacement and recycling in such a way that there are no areas that suffer long-term deterioration or major relocation and renewal shock after years of decay and relative inactivity.

A city is more than just a point in time. It is both a historical and future-oriented entity. To promote the livability of the city, this reality should not be ignored, but made manifest and appreciated. Man-made environments and structures of the past that helped promote an enjoyable living experience should be saved and meshed with buildings of the present, and room should be left for buildings of the future. The plan should discourage dead commercial and residential areas at off hours. Thus, the physical environment should promote a real identity within the city, but also promote the diversity of natural and man-made systems within these areas. The techniques employed should be appropriate to the needs. Rehabilitation should be promoted wherever possible. Large-scale clearance should be avoided. Spot clearance and in-fill should be the techniques of choice when clearance becomes necessary.

A discussion of the techniques of renewal cannot be divorced from a discussion of who should be involved. Actually, all replacement and recycling should be a cooperative public-private effort. The public effort should be directed toward replacement and rehabilitation of public facilities and systems that need attention.

National Goals of Urban Renewal

The concept of urban renewal was confined to the achievement of the physical renewal, but if we remodel a nation like Iran we

should set up an ideal for the life within it. We should not limit ourselves to physical renewal, but should aim at physical urban renewal. We should, therefore, consider urban renewal not as the ultimate goal, but as one among a number of goals, and at the same time as one of the means of achieving a better community life and a more vigorous economic development of the community. There is no model to present as an ideal city, nor any specific goals for the area of a complete settlement. It has not been decided what is the proper size of the typical urban renewal unit. If we want to proceed with urban renewal we have to determine the minimum size of a unit to be considered an urban renewal unit. Also, there is no proper estimate of the total size of the urban renewal program. So, urban renewal activities must be designed to affect the physical environment directly. However, experience has made apparent the intricate interrelationship between physical, social, and economic problems, and it has become increasingly obvious that the many problems facing the city can be solved only through a careful coordination and integration of a variety of efforts, including urban renewal, designed to improve the physical, social, and economic environment of the city.

Bringing the city to the quality level in which its residents, businesses, and industries are adequately housed will require expenditures and investments by public and private sectors, both in the physical plant itself, to increase its economic potential, and in the human resources of the city, to develop the economic potential and earning capacity of the occupants of substandard housing, shops, businesses, and industrial plants.

Recommended Goals

In the following discussion some goals are classified according to the area and concern to which they belong. Such concerns are artifactual, social, and biological goals.

Artifactual goals.--

Housing: The main goal here is to improve bad housing that creates slum conditions and social illnesses by clearing the blighted housing, repairing substandard housing by rehabilitation, and providing new housing for low- and moderate-income groups. The idea is to improve and provide better neighborhoods and remove slums and blight. We should avoid overcrowding, which is a major cause of deterioration.

Open space: Urban renewal should be aimed at providing the community with adequate open spaces for the people to enjoy recreation and playgrounds. Also, it is important to link open spaces together and to create new areas with the needs of the community in mind.

Street layout: Hazardous conditions which lead to more blight should be removed. We have to concern ourselves with such things as redesigning street layouts, eliminating conflicting intersections, reducing the number of streets where they are not needed, and designing parking or open spaces such as sidewalks for pedestrians.

Housing and community meetings: These meetings are new ideas that have to be provided because of the satisfaction of living and getting along with each other the same as a family group.

Commercial area: Urban renewal should provide the necessary communities with efficient, centralized shopping facilities, with good

access. Urban renewal can improve shopping facilities by eliminating commercial strips, enhancing existing facilities, establishing new central shopping, and possibly joining them with commercial and residential areas. By doing this people who work in commercial areas will have more space and convenience.

Industries: In urban renewal programs we should aim to include the separation of industries from residential areas. Industrial parks should be provided and adequately designed to meet health, safety, wealth, and social welfare standards. We have to have a buffer between residential and commercial areas in order to avoid noise, smoke, and odor.

Institutions: Colleges, schools, and churches have to be sufficient to meet community desires. Location of these institutions is important, as they can function as social centers and could be communication centers for neighborhood meetings. We have to be careful about the distance between educational and residential areas. In some cases elementary schools and churches, and also parks and playgrounds, should be accessible by foot. All of the educational areas should be used more than eight hours a day. People should use them for continuing education, political meetings, etc.; a special building is not needed to fulfill such functions. Medical areas should be provided and be well located to reduce health problems in slums and blighted areas.

Social goals.--

Social interactions: Urban renewal programs should be oriented toward creating strong ties between family and group members. This can be done by special housing design techniques and close relations

between families and schools. This permits parents to interact with their children through special programs designed for the afternoon period. This could increase social interaction among the residential groups of the community. Urban renewal programs have to be established with a framework in mind for the use of renewal funds for social programs and citizen participation.

Special social programs should be designed to counterattack the problems of poverty, lack of education, crime, and sex. The only way to solve these problems is education through social goals.

Political: In the urban renewal process we should try to establish citizen political involvement. Citizen groups should be consulted in deciding goals, policies, and desired ends in the program.

Economic: Urban renewal should give new life to large users of urban land such as hospitals, colleges, and other big businesses. Efforts should be directed toward making urban renewal programs a big business for the local community and increasing their salaries. Urban renewal funds should mean that extra rials are in circulation, and that new jobs can be created for people.

Urban renewal should aim for increased tax rates, which can be made through clearance of blighted structures and areas and their development.

Some funds should be set aside for training in technical skills to assist residents of slum areas in getting over their economic inabilities.

Biological goals.--Biological goals concern the environment and ecology of deteriorating areas--goals related to human beings' health, convenience, and comfort. The provision of adequate greenery and beautification is very important. Also, well-maintained trees, grass, and other plants are alternatives to the hard urban edge and texture.

Clean water: Clean water is another important element in man's attempts to reduce the hardness of urban life. Water should be free of pollution for biological reasons and should be tied into a community-wide system. Water fountains should be pleasingly designed, well maintained, and devoted to public use.

Sanitation control: In urban renewal areas sewage systems should be checked and designed to meet the standards of newly established structures and built-up areas. Sewage treatment should be developed to avoid the polluting of underground water supplies. Also, adequate and modern garbage and waste disposal facilities should be provided. By achieving these goals, a major cause of deterioration and blight can be eliminated.

Human comfort: The people who have lived in unpleasant conditions deserve a decent environment. Housing, open space, and good circulation designs and planning should be oriented toward making life easier and more comfortable. Overcrowdedness, noise pollution, and excessive utilization of land should be avoided as being considered causes for discomfort and deterioration.

National Benefits of Urban Renewal

Increased Tax Revenues

A major objective of urban renewal is "to enhance the efficiency of land use." It is argued that existing patterns of land use in a city are economically inefficient--that the land could be put to a more profitable use. This would arise when several adjacent small parcels or blocks of land could be combined into one large parcel, which would then be redeveloped. So, it can be stated that any estimates of increased land value through urban renewal will be understood. The land is subject to local property taxes; thus the taxes will increase as the value of the land increases.

Urban renewal, by improving the stock of housing, helps to improve social conditions and thereby reduces the costs of government (in this case social illness and fires). Also, the value of the land in the project area will rise to reflect the value the residents place on the improvement of social conditions; the result will be more tax benefits.

The new buildings erected on the land cleared by the project create a benefit to the nation, which should be included in any evaluation of urban renewal.

Better Housing

The primary way an urban renewal project affects the well-being of individuals outside the project area is through the change in the existing poor housing and the price of housing. In each case it is difficult to measure precisely the effects of urban renewal on the prices of different kinds of housing or on the welfare of rich and poor.

In Iran the housing for low- and moderate-income groups can be considered a major benefit for those people who are affected by urban renewal, especially after revealing that most of these people are from subcultural groups.

Improved Environment Quality

When we talk about environmental quality we can see, in the case of urban renewal, such goals as convenience, comfort, tranquility, welfare, and most of all design quality. These goals could be accomplished by examining all the segments of the manmade and natural environments and employing positive solutions to their problems through good design of the dwelling units. Iranian architects and engineering in the past have not uniformly served the public's interests. But the main objective of architectural and engineering designs must be to create an environment in which the human being can reach a new and higher level of conduct and achievement. No part of the urban environment in urban renewal programs must be deficient in meeting human needs, and it must be safe from manmade and natural forces. It must provide work opportunities and opportunities to learn skills. It must not obstruct man, but integrate him into the influence of natural forces. Modern man must see that his area grows with him.

Removal of Slums

Slums are created in part by a combination of slum landlords and careless tenants. The two may come together in any area to create conditions of blight and the need for further redevelopment by the urban renewal program.

One of the persistent problems from the urban renewal program point of view is that the movement of slum landlords from one area to another and the movement of low-income earners out of one project area to another may mean that the deficit pattern of redevelopment and slum clearance results merely in the shifting of deficit areas and in adding another blighted neighborhood to the community burdens.

This cycle ultimately could prove to be endless and prohibitive financially for the government and the urban renewal program. But it would continue to enrich the slum landlord, who habitually turns property into wreckage to extract a maximum return.

Better Circulation

Naturally, in the design of renewal projects the circulation system gets a lot of attention and is one of the renewal goals. Most of the slum areas in Iran have a lot of traffic problems: lack of systematic street patterns, lack of standard sizes of streets, lack of parking in the transit streets, and lack of good design.

Walking

Walking is the main means that could be used to get to the shops, to school, and to the mosque, and also for pleasure. Walking can be made more pleasant and refreshing in a number of ways, ranging from simple ones like cleaning the streets and sidewalks to more ambitious tasks such as linking open spaces together, removing through traffic from many residential blocks, and devoting certain shopping streets to strolling and related activities.

Streets, parks, open space, recreation, and paths for walking might be made especially enjoyable. A variety of means can be used to define the paths and attract people to them: the sight of other people walking, playing or sitting, shops and places where people gather, and also architectural improvement.

Funds for Social Programs

Social programs, as a part of the whole urban renewal program, are considered to be beneficial and very important. As we all know, dealing with the physical causes of deterioration does not solve the problem, as long as poverty, lack of education, and poor health conditions exist. Social programs should be designed to educate the people about their health programs, to open centers for job training in the community, and to encourage the people to get better education through the literacy and adult education programs. By doing so, we can eliminate the real causes of blight, and stop deterioration from spreading all over the cities and destroying their urban structure.

Regional Planning Problems

Problems of Rural Settlements

The whole structure of rural settlements has been upset under the influences of industrialization and the migration of the population from villages to towns. Consequently, the question of the future of rural settlements has been raised. The traditional structure of these settlements has been undermined, particularly by the migration of labor force to cities. The population is declining rapidly in the majority of the rural settlements from which people are migrating. Some

very small settlements in regions with poor natural conditions are on the verge of disappearing. The amenities of urban life attract the young. Peasant girls come to the cities to marry and live there. The deterioration of the structure of the rural population by age has become a general phenomenon in all countries. This is indicative of the distortion of the traditional structure of settlement brought into being under different historical conditions. The growing lack of a young labor force in villages indicates that the structure has been distorted more than might be inferred from the numbers of the rural population.

While general economic, social, and political conditions may explain migration as a mass phenomenon with a specific geographic and historical content, motivating factors in migration may be explained as a reaction to what is conceived of as unfavorable existing conditions in contrast with projections regarding potential rewards resulting from spatial mobility.

Emigration from the rural areas may also be seen as stemming from economic factors, specifically for given individuals and families. Rural poverty can often be attributed to insufficient land resources and lack of such basic facilities as schools, mosques, or general stores.

Recommendations.--The major urban areas or caravan regions are more active and more responsive to new ideas than the rural regions. Because of the rate of social and economic change in the rural regions they have not grown rapidly; the rural situation has long been synonymous with outdated thinking or with a static society. In the rural regions the aspects of change that seem most relevant to planning are:

1. Greater affluence, which is evidenced by the demand for new houses, shops, roads, and village life
2. The mass media of communications, seen as one of the main reasons for the increasing standardization of demand, and the disappearance of what little remains of regional differences
3. Higher standards of education, apparent in more and larger schools and new techniques of teaching.
4. Better services and facilities, especially electricity, rural water supply and sewage schemes, clinics, health centers and hospitals.
5. Demand for new industrial and residential building
6. Land for recreation, from playgrounds to country parks

Structure plans will need to have a framework for a variety of subjects. They will normally include: the settlement pattern and transportation, resources, recreation, and communications. The general content of these plans is described briefly as follows:

1. Settlement and transportation plans are likely to include, for each rural region, proposals and policies indicating:
 - a. Scale of industrial activity and growth, and location of industrial and employment centers, related to the type of manufacture, its resources of raw materials and its markets, and the routes used by its transport.
 - b. The anticipated future level of population and location of settlements.
 - c. The location and function of centers serving the resident population.

- d. Major routes, indicating their function, and distinguishing between those used primarily to link co-urban regions through the rural regions and those providing a distribution system primarily for the rural region. The primary function of the rural regional routes should be indicated, together with some scale of anticipated use.
 - e. Major public transport services routes, indicating the capacity and frequency of the intended services, and their functions; general interurban commuter, shopping, etc.
 - f. The location of areas for which local plans are to be prepared, indicating the subject of the plan.
2. Resources: Plans for resources in regions should provide for the effective integration of the many interests and agencies concerned with development, conservation, and management. In agriculture, forestry, power, physical infrastructure, etc. the structure plan should lay down the framework for this close cooperation between the planning and producing interests by indicating:
- a. The location, quantity, and quality of mineral deposits of known economic viability and the anticipated program of working.
 - b. The location of other mineral resources and a program of explorations.

- c. Areas where the policy will be to restrain development to safeguard agricultural production, forestry, and water supply.
 - d. Lines of primary communication related to the exploration of rural resources, including the routes by which primary products are exported from the region and the distribution centers for agriculture products.
 - e. Center intended to serve agriculture and other primary industries to provide specialized services, and to provide for the day-to-day needs of the farming population and other people living in dispersed locations.
 - f. The location of areas for which local plans are to be prepared, indicating the subject of the plan.
3. Recreation: The structure plan for recreation in the rural region should have policies and proposals relating to:
- a. The scale of provision of holiday accommodations, the form of accommodations and their appropriate location.
 - b. The restriction of other forms of development because priority is to be given to holiday and other recreational interests, and where specified recreation needs are likely to be met.
 - c. The policies to be followed in areas of high landscape value and natural beauty.
 - d. The location of areas for which local plans are to be prepared, indicating the subject of the plans.

4. The communications structure plan should indicate the pattern and intended operation of the passenger and freight systems:
 - a. Sea services or air, indicating scheduled services by destination, frequency, and capacity, for freight and passengers.
 - b. Main-line rail services, indicating the intended frequency and destination of passenger services and goods facilities by the intended location of goods stations of varying types and the surrounding area within which regular delivery and collection are to be maintained.
 - c. Motorways and other main roads linking co-urban and rural, regional and subregional centers.
 - d. Main distribution system, indicating the function of roads and where seasonal traffic flows are anticipated.
 - e. The location of major traffic generators, including settlements, industries, resources, and recreational areas, and indicating where the plans anticipate new or increased traffic generation, and in what way.

These four basic regional and subregional rural structure plans represent the main physically identifiable parts of the system of social and economic activity. The plan will need to be based on an analysis of the operation of existing social and economic activities.

It is clear that what is most needed in rural planning is the recognition of the fundamental difference between the co-urban and rural regions, between their problems and policies needed to solve them,

between the scale of economic and social activities in each, and between the probable levels of investment in their future development.

In planning the rural regions, a balance needs to be struck between the needs of the resident population and the exploitation of resources. The role of the rural regions should be to offer an alternative place of residence and work to the co-urbanizations, as well as to meet primary resources and recreational needs. A full life in the country should be a reasonable prospect for an increasing number of people.

Urban Problems

The major problems of the urban development program may be listed as follows:

1. Some problems arising from changes brought about in methods and procedures relating to urban development and also the transfer of functions from the Plan Organization to the Ministry of Developing and Housing.
2. The transfer of certain executive functions of the urban development program to technical bureaus in provinces and governments, which were inadequately prepared to assume such functions, and problems relating to the small and scattered nature of projects in various parts of the country which created various difficulties for consulting engineers and contractors themselves.
3. The weakness of local technical staff capable of administering, maintaining, and operating new urban facilities.
4. The lack of proper statistics and data concerning urban areas that will create a lot of problems for consulting planners and municipalities.

5. Lack of a complete comprehensive plan that was supported by real data.

6. The other major problem is lack of coordination among all government organizations; there has been no effective cooperation between the planning authorities and the independent ministries.

Recommendations.--To have an active municipality by means of:

1. Improving financial and administrative procedures in municipalities.

2. Establishing training centers to train existing and new administrative and technical staff of municipalities and providing training staff for the centers.

3. Improving the employment status of municipal workers, formulating new regulations for municipalities, and helping provide technical staff required by municipal technical bureaus in provincial and rural district centers.

To have an urban develop means:

1. Extending existing water supply systems where facilities are not yet available.

2. Providing sewage systems (all cities are lacking modern sewage systems; most of the cities have the primary system).

3. Implementing safety projects, flood control, fire fighting, facilities as required.

4. Strengthening the high council for city planning and the secretariat of the council so that it can propose and approve city planning regulations and exercise better supervision of projects in cooperation with the Ministry of Interior.

5. Strengthening higher education in the field of urban planning.

6. Formulating some policy to support the above-mentioned idea of strengthening the high council for city planning.

7. Establishing proper operational and financial standards for the administration and operation of municipal utilities, particularly the water sewage and power system, so that the revenue from these utilities can defray the expense of operating and developing them.

8. Establishing procedures for tax charges on buildings and plots of land located within city limits on the basis of their value, proper methods for fixing and collecting such charges, and methods for keeping and spending the proceeds therefrom in such a way that the income of municipalities is adequately increased and properly collected and spent.

9. Establishing well-equipped organizational units with the Ministry of Interior to study such matters as job classification in municipalities on a regular basis and to have a model and standardize employment procedures in all municipalities in the country.

In the case of new projects, the principles and procedures of the fund will be as follows:

1. The major function of urban development funds should be to extend long-term, low-interest loans to municipalities for the provision of urban facilities with due regard for the priority of certain projects as provided for the regulation of the funds.

2. The fund will act and will conduct the necessary feasibility surveys of urban development projects, allowing for amortization, servicing of loans, and other relevant matters.

3. The purpose of establishing facilities is that local resources should be mobilized as far as possible and the public should participate in the cost of basic urban facilities.

4. There is need for some recommendations on the preparation of master plans for other cities in Iran. (Only about sixteen cities of Iran have master plans and most of them do not seem very complete.)

CHAPTER VIII

SUMMARY AND CONCLUSIONS

The problems of urbanization in Iran do not result simply from the concentration of population in large urban centers. The problems are much more complex. They relate basically to the changing nature of Iran's technology and new industrial society. Men move to the cities because in a highly technical, industrial society it is the city that has the jobs and the rewards for economic enterprise. As technology and industry become more complex, the importance of the person with specialized skills and specialized training increases and there is greater and greater need for coordination of and communication among the specialists who are engaged in common enterprises.

The most obvious urban problems are those that relate to physical growth--traffic, congestion, parking, and mass transportation.

The population concentration produces problems of air and water pollution, maintaining an adequate water supply, and protecting that supply with effective waste disposal systems.

Space for recreational purposes is a need that Iran has not recognized. In fact, the entire matter of effective land utilization is an imperative concern--new homes, new buildings, new roads, new shopping centers, new factories demanding space, not just land to be

used in a helter-skelter fashion, but as part of a rational and systematic plan.

Perhaps our most serious problem is the lack of sufficient educational facilities. As we have seen, education, training, and retraining must be provided on a massive scale if the people of Iran are to acquire the knowledge and skills that our economy must have to progress and expand.

Inadequate housing remains a serious problem despite all the building that we have completed since World War II. We are still far behind in this area.

The physical and social problems confronting our cities are worries enough, but beyond these concerns are the further complexities of an inadequate fiscal and governmental structure. Our cities are growing older, and large numbers of residents are starting to move to the suburbs. As we accept the cities' dependence on the property tax, the increasing tax burden falls more and more on the older people who have remained in the city.

The problems we must solve are the problems of financing and the problem of our inadequate structure of local government. A possible solution could be a change in the structure of industry-municipality relationships. Rather than the fragmented, competing industries dominating local jurisdictions, a greater emphasis should be placed on cooperation and coordination.

There are no magical solutions to help our urban areas meet their problems caused by rapid urbanization. But we must face these problems. We must face the absolute necessity of large-scale planning,

the introduction of control mechanisms to improve the rationality of land use, and more active and effective management of Iran's cities, relating to traffic control and road construction. Sewage disposal, public health, public safety, zoning control, low-income housing, open space, urban renewal programs, and especially education are pressing concerns. Iran must do more than reshape its ancient cities; the country must broaden and deepen the knowledge and insight of the people. Iranians must be educated for life in the increasingly more complex urban development.

The key to Iran's future is its will and determination to meet rationally the new conditions of urban life so that Iran's old cities can gather new strength for the challenge of the urban industrial life with which we are now faced.

Finally, in general, changes are needed in the following areas:

1. Iran's public road system, in city and province, is greatly in need of improvement.
2. More and better public parks are needed in and near cities and along the highways and remote areas.
3. The substandard housing of millions of people, from south to north and from east to west, should be improved.
4. The problem of many of those who occupy this substandard housing and are unable to afford decent housing must be alleviated.

5. Iran needs to develop its natural resources in order to conserve them before they are gone forever.
6. Iran's educational system, welfare, old-age assistance programs, medical and health facilities, court systems, and administration need improvement.

It is hoped that we will see Iran as one of the best urbanized areas in the world, especially with its culture and traditions.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Abrams, Charles. Man's Struggle for Shelter in an Urbanizing World. Cambridge, Mass.: M.I.T. Press, 1964.
- Adams, Walter. Structure of American Industry. New York: MacMillan and Company, 1950.
- The Aims and Achievements of the Iranian Oil Industry. Tehran: National Iranian Oil Company, 1971.
- Alizadeh, N. Evaluation of Population Distribution by Age and Sex in 1956 and 1966 Censuses: Summary No. 17. Tehran: Tehran Institute of Social Studies and Research, University of Tehran, 1970.
- Amani, M. "Demographic Aspects of Evolution in the Morphology of the Family in Iran." Paper delivered at the Seventh World Conference of Sociology, Varna, Bulgaria, September, 1970.
- _____. Urbanization and Urbanism in Iran. Tehran: Tehran University Institute of Social Research, 1970.
- Arberry, A. J. The Legacy of Persia. Oxford, England: Oxford University Press, 1968.
- Avery, Peter. Modern Iran. New York: Frederick A. Praeger, Inc., 1967.
- Baldwin, George B. Planning and Development in Iran. Baltimore: Johns Hopkins Press, 1967.
- Banani, Amin. The Modernization of Iran. Palo Alto, California: Stanford University Press, 1967.
- Bank, Markazi. Iran Balance Sheet, as of March 20, 1970. Tehran: Bank Markazi, 1970.
- Behman, Jamshid, and Rasekh, Sh. Introduction to Sociology of Iran. Tehran: McGraw-Hill Book Company, 1965.
- Bennis, W.; Benne, K.; and Chin, K. The Planning of Change. New York: Holt, Rinehart and Winston, Inc., 1969.

- Berger, Peter L., and Luckmann, Thomas. The Social Construction of Reality. New York: Anchor Books, Inc., 1967.
- Bharier, Julian. Economic Development in Iran 1900-1970. London: Oxford University Press, 1971.
- Breese, Gerald. Urbanization in Newly Developing Countries. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966.
- Census on Medical Doctors and Dentists in Iran. Tehran: Medical Discipline Center, 1970.
- A Chronology of the Iranian Oil Industry. Tehran: National Iranian Oil Company, 1970.
- Collection of Family Laws. Tehran: Kayhan Record, 1967.
- Developmental Reports on the Fourth Plan. Tehran: Plan Organization, 1970.
- Dhalla, M. N. Zoroastrian Theology. New York: AMS Press, 1970.
- Durant, Will. The Story of Civilization. Vol. I. New York: Simon and Schuster, Inc., 1935.
- English, Paul Ward. City and Village in Iran: Settlement in the Kirman Basin. Milwaukee: The University of Wisconsin Press, 1966.
- Frye, Richard N. Iran. 2nd ed. 1960.
- Galbraith, John. Economic Development. Cambridge, Mass.: Harvard University Press, 1964.
- Ghirshman, Roman. Iran: From the Earliest Times to the Islamic Conquest. Baltimore: Penguin Books, Inc., 1951.
- Groseclose, Elgin. Money and Man: Introduction to Iran. New York: Ungar, 1967.
- Grunwald, Kurt, and Ronall, O. Joachim. Industrialization in the Middle East. New York: Council for Middle Eastern Affairs, Inc., 1960.
- Gulick, John. Urban Iranian Cultural Patterns With Emphasis on Behavior Related to the Population Problem and Population Control. Chapel Hill: The University of North Carolina Press, 1969.
- Haas, W. S. Iran. New York: Columbia University Press, 1946.
- Hall, Peter. The World Cities. New York: McGraw-Hill Book Co., 1966.

- Hill, Robert N. "Migration and Urbanization in Iran." Ph.D. dissertation, Princeton University, 1972. X
- "Industrial Development in Iran, Present and Future Prospects."
Tehran: Ministry of Economy, January, 1972.
- Iran Almanac and Book of Facts. 10th ed. Tehran: The Echo of Iran, 1971.
- Iran, 1971. Tehran: Ministry of Roads and Communication, 1971.
- Iran Statistical Center. Series on Iranian population, housing, agriculture, and industry. Tehran: Iran Statistical Center, n.d.
- Iranian State Railways. Tehran: Ministry of Roads, 1969.
- Jacobs, Norman. The Sociology of Development, Iran as Case Study. New York: Frederick A. Praeger, 1966.
- Keyhan, R. Family Planning: A World View and Its Significance for Iran. Tehran: Ministry of Health, Family Planning Division, 1968.
- Lambton, A. K. S. Landlord and Peasant in Persia. 1958.
- Lenczowski, George. Russia and the West in Iran 1918-1948. 1949.
- Lewis, Arthur. Development Planning. New York: Harper & Row, Publishers, 1966.
- Locklin, P. Economics of Transportation. Chicago: Richard D. Irwin, Inc., 1960.
- Longrigg, S. H. Oil in the Middle East, Its Discovery and Development. 2nd ed. 1961.
- Lowry, Iras. Migration and Metropolitan Growth: Two Analytical Models. San Francisco: Chandler Publishing Company, 1966.
- Mansour, Sadri. "Economic Planning in Iran." Unpublished paper, University of Pennsylvania, 1961.
- Matheson, Sybird. Persia: An Archaeology Guide. London: Faber & Faber, 1972.
- Meier, Richard L. Science and Economic Development: New Patterns of Living. New York: John Wiley and Sons, Inc., 1956.
- Mofidi, C. M. H. "Development, Migration and Medical Manpower: The Situation in Iran." Paper delivered at the Second Conference on Medical Education, Tehran, 1970.

Moore, Wilbert. Industrialization and Labor: Social Aspects of Economic Development. Ithaca, New York: Cornell University Press, 1951.

_____, and Hoselitz, Bert. Industrialization and Society. Paris: UNESCO and Mouton, 1963.

National and Province Statistics of the First Census of Iran: November, 1956. Tehran: June, 1962.

National Census of Population and Housing, November, 1966. CLXIIIX. Tehran: Plan Organization, March, 1968.

National Income of Iran, 1962-1967. Tehran: Central Bank of Iran, Office of Economic Research, 1969.

Oil and Economic Development of Iran. Tehran: National Iranian Oil Company, Public Relations Department, 1971.

Outline of the Third Plan, 1941-1946. Tehran: Planning Division, 1944.

Paydarfar, Ali. Modern and Traditional Iran: A Comparative Analysis of Social, Cultural and Demographic Characteristics of Tribal, Rural and Urban Population. Chapel Hill: The University of North Carolina Press, 1971.

Plan Organization. First to Fourth Five-Year National Development Plans. Fourth Plan, 1968-1973. Tehran: The Plan Organization, n.d.

_____. Fourth National Development Plan. The Imperial Government of Iran, 1968-1972. Tehran: Plan Organization, 1968.

Planning in Iran, A Brief Study. Tehran: Plan Organization, October, 1970.

Pope, A. U. The Masterpieces of Iranian Art. New York: Dryden Press, 1945.

_____. Survey of Persian Art. 13 vols. New York: Oxford University Press, 1965.

Pranger, Robert J. Political and Economic Balance in Iran. Washington, D.C.: A. M. Enterprise, 1960.

Principles and Objectives of the Country's Fourth Development Plan. Tehran: Plan Organization, 1968.

Reid, Margaret. Housing and Income. Chicago: The University of Chicago Press, 1962.

- Rushdeih, S. City Design and City Building in Iran. Tehran: Tehran Municipal Association, 1964.
- Sanghvi, Ramesh. Aryamehr, the Shah of Iran. London: MacMillan Press, 1968.
- Saxena, G. B. Future Estimates of Population in Iran: Second Report. Tehran: Ministry of Health, Family Planning Division, 1972.
- Schmidt, E. F. Persepolis. Chicago: University of Chicago Press, 1970.
- Shah of Iran. The Mission for My Country. Tehran: 1961.
- Shwadran, B. The Middle East--Oil and Great Power. 1955.
- Social Problems of City of Iran. Tehran: Institute for Studies of Social Research in the University of Tehran, 1964.
- Statistics on Iranian Mines. Tehran: 1969.
- Sykes, Percy. History of Persia. New York: MacMillan Co., 1966.
- Toffler, Alvin. Future Shock. New York: Random House, 1970.
- Toynbee, Arnold. Cities on the Move. Oxford: Oxford University Press, 1970.
- United Nations. Measures for the Development of Underdeveloped Countries. New York: United Nations, 1951.
- United Nations Fund for Population Activities. Project Agreement on Family Planning Between the Government of Iran and the UNFPA. Tehran: United Nations Development Program, November, 1971.
- United States Bureau of the Census, Population Division. Population Projections for Iran. Washington, D.C.: Government Printing Office, n.d.
- University of Tehran. Institute for Social Studies and Research, Demographic Division. Series of published and unpublished papers on the population of Iran, n.d.
- Watt, Montgomery. Islam and the Integration of Society. Evanston, Illinois: Northwestern University Press, 1961.
- White, A. Leslie. The Evolution of Culture. New York: McGraw-Hill Book Company, Inc., 1959.