

A MODEL FOR ACCELERATED BASIC HEALTH CARE AND MEDICAL SERVICES
PROGRAM FOR RURAL AREAS OF IRAN

With Particular Reference to Some of Shiraz's
Rural Areas and Villages

by

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"No individual should be deprived of medical care because of inability to pay, just as no individual should go hungry or lack adequate housing because of low income."¹

¹Feldstein, Martin, "The Health Care Muddle: II-A New Approach to National Health Insurance", The Public Interest, No. 23, Spring, 1971, p. 93.

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In the name of Allah, the most merciful, the most beneficent

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Chapter 1

THE PROBLEMS OF HEALTH CARE AND MEDICAL SERVICES

RURAL AREAS OF THE WORLD

A great number of the people of the world are living in rural areas. These areas, generally, lack many public facilities and services that can be found in urban areas. Rural people provide most of any nation's food and in some countries they provide fiber and wood and account for most of the nation's domestic mineral and energy supply. They play an increasingly important role in the nation's manufacturing, trade, and service economy.

Ironically, rural people generally endure the inequitable human and social conditions resulting from isolation, and this is typical all over the world.¹

"Two-thirds of all the seriously poor (with income of \$100 a year) live in rural areas of the world. This is approximately 140 million in Africa, 30 million in Latin America, and 525 million in Asia."¹

The rural people of developed countries, generally, have less problems than those of less developed countries in all areas. In developed countries the majority of rural people do have at least a satisfactory shelter, transportation facilities, and have access to the health care and medical services facilities, etc., while in less developed countries the situation is not so. They don't have a satisfactory type of transportation facilities and they have to go to the cities for any type of medical services, etc.

¹A new strategy for Development, the Tripartite World Conference on Employment, Income Distribution and Social Progress and the International Division of Labor, Geneva, June, 1976.

In 1973 in England only 1.2 percent of the rural people did not have running water in their homes, while this figure was 83 percent in Iran; 74 percent in New Guinea; 85 percent in Turkey and 88 percent in the Philippines.¹

The number of rural people served by one doctor in 1973 was 1,100 in England; 60,000 in Brundi; 57,000 in Iran; 22,000 in the Philippines, and 18,000 in New Guinea.²

RURAL AREAS OF IRAN

In Iran, the rural areas have similar problems to the rural areas of other less technologically developed countries (LTDC). Almost all of its 60,000 settlements, small and large villages scattered all over the country, are in dire need of the basic health and sanitary services.

Health

Until the twentieth century there were almost no western health services in the country. Between 1900-1950 health conditions though better than in some neighboring countries, were at best poor and at worst gruesome by western standards. For example, in almost all of the villages and small communities and even some small towns, families lived in a one or two-room house, often sharing with animals. Drinking water was usually polluted and the public baths were unhygienic. In these areas the birth rates are high and the productivity is low. By all prevailing international standards their diet and clothing are below the minimum level of subsistence. Low caloric and protein-poor food results in low energy, malnutrition, sus-

¹UNICEF/WHO Joint Committee on Health Policy (1975). Report of the twentieth session, off. rec. WHO, 228, Annex 2, Geneva, p. 23.

²Ibid, p. 25.

ceptibility to disease, high infant mortality and short-life expectancy. These deficiencies appear in urban areas of the country as well, but they are not as severe and frequent as in the rural areas.

Life expectancy was 35 to 40 years, with only about 20 percent of the population living more than 40 years and only 4 percent reaching old age. The rate of still births and death in childbirth was very high. In Tehran (the capitol city) in 1955, infant mortality was estimated at 71 per 1000 live births; and in villages near Tehran, infant mortality was 217 per 1000.

Gastrointestinal diseases were prevalent, and tuberculosis, venereal diseases and trachoma were common. Until 1950, malaria was Iran's most serious disease, with an estimated 5 million cases annually. After that the principal of total eradication was adopted as a national policy. Through extensive DDT spraying carried out by W.H.O., malaria was almost wiped out.

In the past, opium addiction also was a major health problem. In 1956 it was estimated that about 1.5 million addicts, mainly between 15 and 40 years of age, were consuming about 2 million grams of opium daily. Since then the cultivation of opium poppies was forbidden by the government and the number of addicts reduced gradually.

In 1952, public health was introduced as a function of the Ministry of Health, and at the same time, a program of construction for hospitals, clinics and health facilities was initiated. A few years later, two large charitable organizations, supported to some degree by the government, were established to provide more health services. One of them was the Red Lion and Sun Society (equivalent to the Red Cross) which began its activities primarily to combat disaster, but very soon spread a wide variety of charitable and health fields, including the operation of hospitals, clinics and nursing schools. Another organization was The Mothers' and Childrens'

Protection Association, a semi-autonomous government organization, assisted and yet assists, needy expectant mothers and conducts maternity wards and prenatal centers.

The tradition of the Ministry of Health has been medical care (curative medicine) since its establishment. For the remote areas of the country, there are units ready to attend at emergency outbreaks. They can rush to any spot in the country and immunize the population. School children are protected against smallpox, typhoid fever, and diphtheria and are given instructions in dental care and personal hygiene. But this does not show that the general health condition of the country is satisfactory. There still exist many deficiencies.

Lack of adequate personnel for health services in the rural areas and villages is still one of the most important problems of the country. In Iran about 98% of the physicians work in the cities and small towns; and almost all of the hospitals (well-equipped ones) are located in the cities.

There are at present 12,000 physicians in the country, 50 percent of them living in the city of Tehran and almost all of the remainder scattered in other large towns and cities. Consequently, rural areas, which contain much more than half the population, suffer a serious shortage of doctors and other medical personnel, while various diseases such as diarrhea, trachoma, typhoid and paratyphoid fever, poliomyelitis, venereal diseases, parasitic infestations, dysentery, influenza and many other diseases are still very common in the rural areas and account for nearly half the causes of death in the country.

So the rural people, in spite of the poor conditions of roads and absence of transportation facilities, have to travel rather long distances to have access to health centers to receive needed services. This problem

of access to, and availability of, health care, is one of the most important problems of the villagers of the country, so much so that most of them have preferred to leave their villages and farms and live on the fringe of the cities, which creates slum areas, unemployment, and many other related problems for the country.

Table 1 - Health Facilities and Personnel (1972)

Service	Number Available	Per/1000 Pop. ¹
Hospitals	520	0.017
Maternity Hospitals	490	0.016
Sanitoriums	20	0.0006
Dispensaries	2,100	0.070
Laboratories	190	0.006
Pharmacies	1,490	0.049
Family Health and Planning Clinics	1,378	0.045
Physicians	10,053	0.335
Dentists	1,750	0.058
Pharmacists	3,478	0.115
Nurses	12,949	0.431
Midwives	1,677	0.056
Beds	42,000	1.4

¹1972 Population was approximately 30 million

Source: Demographic Year Book, United Nations, 1977, p. 208

Chapter 2

IRAN-GENERAL DESCRIPTION

ITS GEOGRAPHY

Iran or Persia is a vast table-land mounting from the shores of the low-lying Caspian Sea to flat elevations of 3,000 to 5,000 feet and descending again to the Persian Gulf coast. The country, ribbed by mountain ranges in almost all directions, covers two-thirds of the great Iranian plateau stretching from the Indus River to the valley of the Tigris and the steppes of Russia to the Persia Gulf. The fourth largest country in Asia, with 1,645,000 square kilometers (628,000 square miles), Iran is equal to the combined area of England, France, Germany, Italy, Belgium, Holland and Denmark, extending approximately 2,300 kilometers (1,400 miles) from northwest to southeast, and 1,450 kilometers (875 miles) from north to south. Iran is bordered on the north by the Soviet Union; on the south by the Persian Gulf and the Gulf of Oman; on the west by Afganistan and Pakistan, and on the east by Turkey and Iraq.

Although the whole country lies in the north temperature zone, Iran's climate offers extremes of temperature, humidity, rainfall and frequency of high winds. Compared to the average for the latitude, the Iranian temperature is much colder in winter -- reaching -18°F in certain parts of the northwest, and hotter in summer -- reaching as high as 130°F in parts of the central deserts and sometimes in the Persia Gulf ports. Heavy snowfalls and frost occur all over the country between November and early March except for southern Khuzestan and the Persian Gulf region. Steady summer winds and persistent high pressure systems creating winter winds are also a climatic feature in many parts of Iran. Prolonged high winds -- reaching 70 miles per hour -- occur in southeastern parts of the

country between May and September, shifting the desert sand and eroding the fertile soil.

On the whole Iran's natural climate may be characterized as semi-arid and continental, punctuated with marked contrasts. The overall average precipitation is about 10-12 inches (25-30 centimeters) a year. Four distinct climatic regions may be easily identified:

1. The Caspian littoral which has mild, mediteranian-like weather and abundant rainfall -- average 40 inches a year but varying from 60-100 inches in the west to hardly more than 15 inches in its eastern corner. Temperatures register 25-32^oF in winter and 90-95^oF in summer. Humidity is usually in the range of 75-90 percent.
2. The country's northern tier (flanking the Caspian Sea on both east and west, and comprising the northwestern and northeastern provinces) has a moderately cool climate, but experiences some high summer temperature in the valleys (e.g. Khorasan) and severe winters; at high elevations. The coldest spots in the country all year round are usually found in the west (Hamadan and Kordestan).
3. The central plateau comprising the desert areas in central and eastern Iran is generally dry, with sharp variations in temperature between summer and winter, as well as between daytime and night. With the exception of outlying fringes and basins, protected by isolated mountains, most of the Dasht-e-Lut and Kavir-e-Lut plateau has a dry desert climate -- with no more than two inches of rainfall a year and humidity hardly exceeding 20 percent. It is unsuited for large scale habitation. In some of the outlying cities around the Lut the annual rainfall is between 10-15 inches. Temperature reaches 90-110^oF in summer and 25^oF to a minus 5^oF in winter.
4. The southern coastal region, characterized by a desert-like climate, with scorching summers, mild winters and a high degree of humidity for coastal towns generally has scant rainfall which reaches only 10 inches a year in certain parts of the region. The temperature varies between 104^oF to 130^oF in summer and 32^oF to 46^oF in winter. Day and night differences reach 30^oF to 40^oF. The hottest spots in the country all year round are located in this region.

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ITS GEOLOGY AND TOPOGRAPHY

Iran displays all systems from the Pre-Cambrian to the Quaternary, while from the beginning of the Palaeozoic era onwards fossils are rather abundant. In summary, after a turbulent start in the Pre-Cambrian there was a long lull until the Jurassic when the coal beds of the Alborz and the Kerman region were laid down. Geologic movements began in central Iran in the Jurassic and reached a climax in the Upper Cretaceous, when some folding took place with volcanic activity, northeast of the Zagros mountains. Volcanoes remained active throughout much of the Eocene. With some breakdown due to faulting, folding increased to a maximum in the Pliocene or Mio-Pliocene.

The Zagros and Alborz ranges, formed by the Mio-Pliocene, attain attitudes of over 11,000 feet. In several regions of the country the prominent cones of formerly active volcanoes are a dominant feature of the landscape. The principal volcanic peaks are Demavand, the highest peak in Iran, rising to 18,600 feet in the north; the other peaks are Sabalan (14,000 feet); Sahand (12,138 feet); Ararat in the northwest; and Bazman and Kuh-i-Taftan (13,262 feet) in the extreme southeast. Two of these cones still show some traces of activity; these two are Demavand and Taftan, which occasionally spew forth sulphur gases and for Taftan both gases and mud.

ITS DEMOGRAPHY

Iran's total population was estimated at nearly 19 million in the 1956 census¹, and at more than 25.7 million in 1966 -- the second census.

¹Prior to 1956 the only available population data on Iran consisted of a number of estimates by official and private sources. The first official estimate in 1935 put the total population of Iran at slightly more than 15 million.

The latest estimate of the country's population as of late 1976 stood at 33.5 million persons divided between 17 million males and 16.5 million females. The population growth between the two ten-year censuses represented an annual average rate of increase of 2.86 percent. According to the third national census carried out in November 1976, the average annual growth rate of population had dropped to 2.7 percent. At this rate the population will double in about 23 years. Given that percentage increase annually in the country's population, there will be about 60.7 million¹ Iranians in 2000 A.D. Other assumptions concerning birthrates and fertility rates yield a high of 68.4 million and a low of 56.2 million people in 2000.

"The population of Iran is comparatively young; the proportion of those under 15 years of age increased from 42 percent in 1956 to about 47 percent in 1972. This young age structure, together with a mortality rate that is expected to maintain its decline, will tend to sustain the high natural growth rate for at least 10 to 15 years, despite a possible reduction in fertility"² (Tables 1 and 2).

"The average distribution of the population per square kilometer was 11.5 in 1956; 15.6 in 1966, and over 20 in 1976. The highest concentration of population per square kilometer continues to be in the central Province (Tehran), followed by the northern and northwestern provinces of Gilan, East Azarbaijan, Kermanshahan and West Azarbaijan. Lowest concentration is in Baluchestan - Sistan, with Kerman and Khorasan appearing as the next lowest."

¹These forecasts are roughly in line with other projections, see for example, *Past Population Trends and Future Forecast of Iran Population up to 1991* (Tehran: Iranian Statistical Center, 1971), mimeo. For 1991 the Center has a high forecast of 54.4 million and a low forecast of 46.2 million. Population and Manpower Bureau, Planning Division, *Iran's Population - Past, Present and Future* (Tehran: Plan and Budget Organization, 1973). For 1991 this study has a high forecast of 55.8 million and a low of 50.1 million people.

²Looney, Robert E., *Iran at the End of the Century*, Lexington Books D.C. Heath and Company, Lexington, Massachusetts, Toronto, 1977, p. 83.

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"Beginning in 1972 rural population was 17.3865 million or 52% of the total population of the country. This population were living in about 60,000 villages and small communities."¹

Table 2 - Population of Iran by Age and Sex

	Total	Male	Female
All ages	30,159,000	15,570,000	14,589,000
-1	5,568,000	2,854,000	2,714,000
1-4			
5-9	4,763,000	2,448,000	2,315,000
10-14	3,889,000	2,009,000	1,880,000
15-19	3,028,000	1,569,000	1,459,000
20-24	2,454,000	1,272,000	1,182,000
25-29	2,005,000	1,039,000	966,000
30-34	1,700,000	879,000	821,000
35-39	1,507,000	779,000	728,000
40-44	1,285,000	662,000	623,000
45-49	1,030,000	534,000	496,000
50-54	796,000	412,000	384,000
55-59	664,000	346,000	318,000
60-64	530,000	278,000	252,000
65 & over	940,000	489,000	451,000

Source: Demographic Year Book, United Nations, 1977, p. 206.

¹Amuzegar, Jahangir, Iran: An Economic Profile, The Middle East Institute, Washington, D. C., 1977, p. 11.

Table 3 - Population Change in Iran, 1966-1974¹

	1966	1967	1968	1969	1970	1971	1972	1973	1974
Mid year population	25.54	26.30	27.08	27.89	28.66	29.78	30.55	31.30	32.14
Annual crude rates of:									
Live births	42.0	40.1	38.7	39.0	39.6	42.4	36.7	45.3	38.9
Deaths	7.0	6.8	6.5	6.1	5.7	5.1	5.0	5.1	4.8
Crude Marriage rate	6.0	5.4	5.6	5.6	5.9	5.7	5.7	6.7	6.6
Crude Divorce rate	0.96	9.77	0.57	0.57	0.58	0.55	0.60	0.63	0.64

The general fertility of women (15-44 years old), was 6.12/1000 in 1975. In 1976, the live births by urban residence was 557,000 and by rural residence was 845,000. The crude birth rates in 1976 were higher in rural residences, 47.3% while they were 35.4% in urban residences.

Table 4 - Death Rates Specific for Age & Sex, 1973-1979¹

	Male	Female
All ages	12.8	12.3
-1	96.4	107.9
1-4	19.1	20.4
5-9	3.2	3.6
10-14	1.5	1.5
15-24	1.8	1.9
25-34	2.7	2.5
35-44	4.2	6.3
45-54	11.1	8.4
55-64	29.2	21.1
65-74	43.9	45.2
75-84	83.1	99.3
85 & over	206.6	137.3

¹Demographic Year Book, United Nations, 1977, p. 207

The infant mortality rate during the period 1974-76 was 61.3 in the urban areas of Iran and in its rural areas the rate was 127.1. The crude death rates during 1976 were 4.9 in urban areas for a total number of 77,000 deaths and in rural areas it was 4.4 and 78,000.

ITS SOCIO-ECONOMIC ASPECTS

The Industrial Sector

Industrial activities, defined as manufacturing and mining, construction and electric power, accounted for over 19 percent of the current domestic product in 1975-76; it absorbed some 35 percent of total employment. The real growth of the industrial sector was 22.6 percent in 1975-76, after rising steadily and averaging about 13 percent in the 1971-76 period. During 1960-76, industrial activity provided more than one-fifth of the increase in GNP. In the same period, the annual average growth rate of manufacturing and mining was 13 percent and that of power was 25 percent. Within the industrial sector in 1975-76, manufacturing and mining accounted for 63 percent of industrial value added, construction for 32 percent, and water and power for 5 percent.

Handcraft Industries

In 1968, 120,000 carpet stands in Iran weaves 4,000,000 square meters of carpet of different qualities. The price of each square meter ranges from between \$100 to \$5,000 or more, depending on its quality.

"Some 300 other crafts have been identified such as hand-blocked cottons, mosaic and tile-work in various mediums; silver work, jewelry-making, copper work, miniature paintings on paper, bone, ceramic, etc. Excellence in such crafts is promoted by special schools in Tehran and Isfahan."¹

¹Area Handbook For Iran, American University, Washington, D.C. May, 1963, p. 218.

Farming, Forestry & Fisheries

Farming, forestry and fisheries have been Iran's largest traditional sector. Until 1963 Iran was traditionally self-sufficient, but regretfully on the wrong assumptions of the government's plans that Iran's national comparative advantage was not in agriculture and cheap food could always be bought from the world's surplus countries against exports of higher value industrial wares. This weakened the agricultural sector very rapidly, so that during 1962 to 1972, the share of agriculture in the GNP fell from about 32 percent to 16 percent. The decline in the agricultural share of GNP continued, reaching 13 percent in 1973-74 and 9.8 percent in 1974-75. However, in 1974-75 agriculture still accounted for the highest proportion of the employed population -- 3.5 million persons, or about 35 percent of the economically active population.

The total value added in agriculture in current prices in 1975-76 was about \$5 billion. About 64 percent of this originated in farming and 33 percent in livestock production, while forestry and fisheries accounted for the remaining 3 percent.

Petroleum

Oil has been a "deus ex machina" for Iran's economic prosperity and growth. By providing an assured and steady inflow of foreign exchange, the oil sector has supplied the lifeblood and driving force of the economy.

In 1976, Iran was the second largest oil producer in the Middle East, and fourth in the world, accounting for about 27 percent of the Middle East and more than 10 percent of global production. It was also the second largest world oil exporter after Saudi Arabia.

In 1975-76, oil accounted for 36.9 percent of the GNP, 76.7 percent of government revenues and 87.3 percent of current foreign exchange receipts. In 1976-77 the export level reached to 5.4 million b/d.