Chapter IV

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STRUCTURE AND AREAS OF ECONOMIC CONCENTRATION

Iran keeps a broad physico-human unity at the macro-level but there are evidently a large number of diversities seen at the micro-level. The physical set up has provided a framework for the interplay of the various historical process imparting marked individualistic through the vast geographical extent of Iran. The spatial pattern of its regional structure have played significant role in creating regional imbalances, which inturn posed frequently severe stress and pulls on the polity of Iran. The regional structure as a result of the human response in the form of spatial pattern of population, economy and economic activities, has been very significant in deciding the political process and the balance between the centrifugal and centripetal forces affecting domestic political environment. Most of the spatial problems are the result of Iran's physiography and regional structure, which are further intensified by her cultural diversities.

4.1.1 Population distribution pattern:

The national average density of population is 20 persons per sq. kms. The high concentration of population is seen in those regions where there is sufficient water, fertile soil and a favourable climate, viz. the Caspian borderland, North-west Iran and the Zagros regions. The population density declines gradually towards the eastern
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Population per sq. Km.

40 & ABOVE
30 - 40
20 - 30

10 - 20

BELOW 10

Fig: 4.1
highland and the inner Persian basin where the rainfall is very low, the soil is unsuitable for agriculture and water resources are negligible (see fig. 4.1). The caspian lowland province named as Gilan has highest density of population (107 persons per sq. km.) followed by the central province (80 persons per sq. kms.) Mazandaran (48 persons per sq. kms) and East-Azerbaijan (50 persons per sq. kms.) (see fig. 4.1). Unlike the high density of population in the caspian lowland and the Alburz region, the density of population in the Zagros is comparatively low. The overall density of population is about 30-40 persons per sq. km., with the exception of Kermanshahan 41 persons per sq. km. The other provinces of this region have a moderate density of population, for example West Azerbaycan (31 persons per sq. km.), Khuzestan (33 persons per sq. km.), Kordestan 29 persons and Lorestan 20 persons per sq. km. (see fig. 4.1).

So the region covering the Caspian borderland, the north-west Iran and Zagros region may be considered as the core region, while the eastern highland and the central Iranian basins as negative region.

(a) Religion and religious groups:
The 'Shiism' become a state religion during the reign of Shah Abbas, the great king of Safavid dynasty. There are religious minorities like Kalmiiz, Zoroastrian, Christian
(Amani) Christian (Assari) though their percentage is quite low and constitute only 1.2% of the total population. The Shias and Sunnis continued together represents 98.8 per cent of total population.

(b) Ethnic group and language:

The language which is spoken in Iran is basically Persian which is of course the national language of Iran. But in the mountainious region people speaks different dialects. If one analyses the origin of these dialects it will be found that they have an element of Persian in them. So Persian became the mother of all dialects spoken by the people.

The present day population of Iran is an outcome of a very long process of peopling of the sub-continent. Human groups with different ethnic background have entered this region at different point of time. Their immigration and their settling in Iran and later on their movement with in the country have led to a high degree of intermingling between various ethnic and cultural streams. The ethnic and cultural diversities displayed by the Iranian population today have thus acquired their distinguishing traits through this process of intermixing.

Around the rim of Iran are found group after group of people which are organised into pastoral tribes. Many of
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them live near settled folk who speak their language and after having a tradition of having formerly been tribesmen themselves. Such an ethnic group is likely to be dominated by the tribesmen rather than the settled folk even though the latter are more numerous. The tribesmen are better organised for war and hence have more political influence. These ethnic groups are seen on this mountain foothills of Zagros and Alburn. The Bakhtiyary, the Kord, the Qashqai, the Baluchi, the Brahui, the Turkoman, the Azerbajejany, the Armenians, the Assyrians and Uzbeks. (For detail distribution please see Chapter III, Ecumene).

4.1.2 **Occupational Structure:**

The 1976 census of Iran records 44,75,700 workers in the country who are distributed among the agriculture, industry, construction, water, electricity, trade, transport, services and miscellaneous. The agricultural sector employs 32,31,400 workers accounting for (72.20%) of the total work force (see fig. 4.2).

4.1.2.1 **Agricultural Workers:** As stated above, 72.20% (32,31,400 workers) of the total work force of Iran are engaged in agricultural pursuits. There is distribution reveals a regional concentration of agricultural activities. The high concentration of agricultural workers are seen in the states of Azerbajejjan East 402,100 persons (75.68%).
Khuzestan 1,39,600 persons (78.91%), Mazandaran 3,58,900 persons (82.00%), Fars 2,77,400 (81.06%), Azerbeyjan West 2,23,900 persons (90.98%), Kermanshah 1,10,800 persons (80.64%), Kordestan 1,26,100 persons (88.31%). There are certain states where the agricultural workers are distributed differently like central Iran 2,47,700 persons (56.60%), Esfahan 3,56,800 persons (48.41%), Hamadan 1,01,100 persons (62.10%), Bushehr and Hormozgan 65,900 persons (56.09%) (See fig. 4.2 and Table 4.2). Another geographic region is that of central and south east Iran where agriculture prevails and people do agriculture work only.

The above analysis distinguishes three distinct geographical regions viz. (a) Caspian littoral and South-East of Iran, (b) The Esfahan, and central provinces, (c) The South East of Iran (see fig. 4.2).

(a) The Caspian Littoral and south-east Iran: The agricultural workers concentrate more here due to its geographical character with good soil and ideal climate for cultivation. Gilan, Mazandaran, on the north gets abundant rainfall throughout the year. Fertile soil and irrigation attracts the people to practise agriculture. On the south-east the availability of water for crops is the gift of the rivers Karun and other small streams from the Zagros. Terrace farming is also quite prominent.
(b) The Esfahan-Central Province: The very reason of lower participation of workers in primary activity is because of the expansion of industries in these regions. These are the areas where the maximum concentration of all kinds of industries are seen, metallic and non-metallics. Oil refineries are located in this region. But still the percentage distribution of workers in the primary activities is quite significant to start with but it has gradually changed because of growing petro-chemical industrial development in the recent times, as it is quite evident in the following section on industries in Iran.

(c) The south-east of Iran: This region has total dominance of agricultural workers. The reason is that it does not have infrastructural facilities for the opening of industries or other allied industries. Low level of rainfall and unconquered climatic conditions compels the people to depend on the most primitive type of agriculture, centred on Oasis farming. The whole region is dominated by Kavirs and sandunes and deserts.

4.1.2.2 Industrial Workers: The total number of industrial workers in Iran according to 1976 census is about 6,18,600 persons (13.82%) of the total working force. The high concentration of industrial workers are seen in the provinces
of central Iran, 1,22,600 persons (28.02%), Esfahan 85,600 persons (35.27%), Kerman 40,900 persons (23.05%), Hamadan 40,500 persons (24.98%), Yazd 22,600 persons (43.30%), Chaharmahal and Bakhtiary 19,100 persons (22.98%). The rest of Iran has moderate number of industrial workers except the South east of Iran (see fig. 4.2).

4.1.2.3 Construction Workers: The total number of construction workers in Iran according to 1976 census comes to 2,44500 persons or (5.46%) of the total working population. The workers in this category are distributed almost evenly in all the provinces of Iran except in few states where it is high like central, 27,600 persons (6.31%), Esfahan 20,300 persons (8.36%), Fars 22,700 persons (9.53%), Kerman 23,100 persons (12.71%), Bushehr and Hormozgan 28,200 persons (21.26%). Rest of Iran represents a moderate concentration of construction workers with the same exception of south east of Iran (see fig. 4.2).

4.1.2.4 Water and Electricity Workers: The total number of workers involved in water and electricity is about 10,000 persons accounting for (0.22%) of the total working force. The highest percentage of workers engaged in water and electricity is seen in Zanjan province (4.20%) which is much higher than the country average. Central Iran and Esfahan, have (0.34%) and (0.25%) of water and electricity workers.
respectively. The Caspian littoral states and the southwestern of Iran have a moderate concentration of water and electricity workers ranging from 0.11% to 0.6%.

4.1.2.5 Trading Workers: Iran has a substantially fair number of traders as compared to water and electricity workers. The total number of workers involved in this trading occupation is 1,27,700 persons according to the 1976 census of Iran, which is 2.85% of the total working force of Iran 44,75,700. The high concentration of trading workers are seen in the provinces of central Iran 14,400 persons (3.29%), Khorassan 16,300 persons (3.15%), Esfahan 8,300 persons (3.42%), Fars 8,700 persons (3.65%), Kermanshahan 5,800 persons (4.22%), Bushehr and Hormozgan 5,500 persons (4.68%), Hamadan 5,100 persons (3.13%), Yazd 1,100 persons (2.11%) and Chaharmahal and Bakhtiyari 2,800 persons (3.37%). The lowest concentration of trading workers are seen in the provinces of Sistan and Baluchestan (0.98%). The rest of Iran has moderate number of persons engaged in trade.

4.1.2.6 Workers engaged in Transport: Transport system is always linked with the growth and development of road and railway systems. The total number of workers involved in this sector is about 54,500 persons (1.22%). The high concentration of workers in this sector is seen in the
states of central Iran (1.81%) 7900 persons, Esfahan (1.48%), Khuzestan (3.28%), Bushehr and Hormozgan (4.85%) and Hamadan (1.66%). The very reason for the concentration of high percentage of transport workers in this region is due to the carrying of supply products, both from agricultural and industrial sectors. The harsh geographical regions in the form of hilly and desert dry terrain of south-east of Iran deter the growth and development of communication system which results in the lowest density of workers involve in this sector. In the rest of the provinces of Iran the density of workers engaged in transport is moderate ranging from 1.21% to 0.49% (see fig. 4.4).

4.1.2.7 Services: The number of workers engaged in the service sector is approximately 1,57,100 persons i.e. 3.51% of the total working population. The concentration of workers in services in different provinces are central Iran (3.36%) 14,700 persons, Khorassan (4.18%) 21,600 persons, Mazandaran (5.80%) 25,400 persons, Fars (4.66%) 11,100 persons, Gilan (4.88%) 16,700 persons, Bushehr and Hormozgan (4.85%) 5700 persons and Ilam (4.01%) 1400 persons. The medium density of workers engaged in services are seen in rest of Iran except Zanjan (0.48%) persons 1000.

4.1.2.8 Other Workers: The other workers account for 0.72% of total working population of Iran according to the census of Iran 1971. The high density of this category of
workers are seen in the provinces of Azerbeycan (2.03%) 10,800 persons, Khuzeslam (1.19%) 2100 persons, Fars (1.05%) 2500 persons, Azerbeycan (1.30%) 3200 persons, Bushehr and Hormozgan (1.70%) 2000 persons and Kordestan (2.24%) 3200 persons. The rest of Iran has a moderate distribution of workers in this category i.e. 0.25% to 1.01% of the total working population. Seistan and Baluchestan 200 persons, Lorestan, Chaharmahal and Bakhtayari, Ilam and Boyar Ahmad and Kohgilyeh have insignificant number of workers in remaining activity.

An analysis of the occupation of the working population of Iran presents four distinct core areas of concentration.

(a) Caspian Littoral and S.E. Iran: This is the region located on the southern shore of the Caspian Sea. The physiography, climate and abundant rainfall followed by irrigation provides work on agricultural field which increases the percentage of agricultural activities. The same is the case of south west of Iran. The Karun river water aids irrigation in innumerable valleys for cultivation of different crops which helps in increasing agricultural activities as in Khuzestan, Lorestan etc. This area has greater percentage of workers in Trade, Transport and Services also. Because the agricultural products needs immediate
transport and trade due to lack of cold storage facilities. (see fig. 4.2).

(b) Tehran region: The Tehran region not only abounds in industrial workers but also in agricultural workers. Due to the location of all kinds of industries, starting from petroleum to metallic to non-metallic, the percentage of industrial workers as 28.2% construction workers 6.31%, water and electricity 0.34%, trade 3.29%, transport 1.81% services 3.86% and remaining 0.32%. These figures are quite high in comparison to the national percentage.

(c) Tabriz region: Tabriz has a greater percentage (35.27%) of industrial workers as compared to Tehran. This heavy concentration of industrial workers is due to the opening of oil refineries and steel industries. Quite a few cement factories are also seen in this region, which increase not only the percentage of industrial workers but being followed by an increase of percentage of workers in construction (8.36%), water and electricity 0.25%, trade 3.42%, transport 1.46%, services 2.64% and remaining 0.16%. All these percentages are higher than national average.

(d) South-east Central Iran: This whole region remains as negative region of Iran. The percentage of industrial workers, construction workers, water and electricity, trade,
RURAL URBAN COMPOSITION OF POPULATION
1976

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Fig. 4.5
transport, services and remaining workers to total country’s percentages are far below. The agricultural and allied primary occupations are significant because no other category exist and also due to very low population concentration in the almost dry-desolate desertic regime of these areas.

4.1.3 Rural-urban Population Composition:

According to 1975 census of Iran the rural population is 186,86,000 (55.99%) and urban population of 146,87,000 (44.01%). Boyar Ahmad and Kohgiluyeh have least rural population 173,000 (63.98%) followed by Ilam 47,000 persons (81.20%), Bushehr 2,40,000 persons (72.29%), Zanjan 4,49,000 persons (77.19%), Lorestan 6,94,000 persons (74.46%), Hamadan 8,49,000 persons (74.16%), Kordestan 5,96,000 persons (80.16%), Seistan and Baluchestan 4,78,000 persons (78.49%), West Azerbaycan 9,60,000 persons (70.01%), Mazandaran 16,43,000 persons (70.09%) and Gilan 11,47,000 persons (73.06%).

Moderate density of rural population is found in the states like Khuzestan 9,43,000 persons (43.98%), Esfahan 9,24,000 persons (44.4%), Yazd 173,000 persons (53.89%) (see table 4.2 and fig. 4.3). Out of all these states the central province of Iran has highest urban population according to 1975 census 55,86,000 persons (76.23%).

From the available data one can derive three distinctive region of rural population density and they are:
(a) Areas of high density of rural population: In general the areas with a high density of rural population are comprised of those parts of the country which have always been the most attractive for agricultural. The high rural density is clearly a reflection of the availability of water. Water availability is linked to the broad physical and climatic regimes and the associated population distribution is closely related to the major mountain ranges of the country. The favourable climate of inter-mountain basins of Zagros and Alburz made the region agriculturally rich and high density of population. The north-western Azerbaycan provinces where rainfall is reliable constitutes some of the highest rural densities of population. High density of rural population are also found in areas along the Caspian littoral which are climatically and hydrologically suitable for the growth of a wide range of crops. These regions have high density of rural population due to favourable climate and good soil for cultivation. There is another geographical region where the density of rural population is quite high but not due to intensive agricultural activity or suitable geographic condition but due to negative effect of geographical forces. The unbearable heat, lowest rainfall and Kavirs have made this region unproductive. People depend totally on cereals and Oasis farming. The area of Dasht-e-Kavir and Dasht-e-lut virtually remains uninhabited.
(b) Area of low density of rural population: The central province of Iran and Khuzestan belongs to these low density of rural population. The percentage of rural population decreases because of establishment of all kind of industries in the central provinces. The rapid urbanisation here has reduced the quantum of rural population. The Khuzestan has also came up as an industrial area because of establishment of many oil industries and other allied industries.

(c) Moderate density area: These areas are seen on the two flanks of Iran i.e. north-western (Khorassan) where there is wide range of agricultural production; hence there is a marked variation in the rural population density. The climate is very varied and in the north and north east of the province a combination of temperature, crops, dry farming and irrigated agriculture occurs. In southern Khorassan, oasis type agriculture is most common with date cultivation being very high.

The concentration of rural population and its uneven distribution pattern has lend to many a significant regional impacts on the political processes in Iran.

4.2 Regional Structure:

The 20th century experience has shown that Iran has deeper roots in the country's regional structure than its politico-historical base or to put it differently, the
politico-historical base has evolved on the basis of several processes related to its complex regional structure of which the important components are discussed in the following pages, of course with in the limits of the nature of data available.

4.2.1 **Agriculture:**

Iran is still primarily an agricultural country and it is ironical that the least progress has been made so far in the branch of her economy. Agriculture employs some 40 per cent of the total labour force it accounts for only 13 per cent of G.N.P. and as a result income of farm workers remain low (North Africa and Middle East 1976-77). But since 1962-63, when Shah launched his white revolution\(^1\) programme.

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1. The objectives of the white revolution launched in 1962-63 by Shah were:

(i) The abolition of the peasant landlord tenure system, and the redistribution and sale to their former peasants of all landed estates in excess of one village on easy credit terms.

(ii) The public ownership of all forest lands of the nation for the purpose of conservation, proper management and utilisation of their resources.

(iii) The public sale of state owned industrial enterprises private corporation and individual to raise funds finance agrarian reconstruction and develop programmes creating profitable investment opportunities for former land lords in particular and for small savers in general.

(iv) Incentives for increased labor productivity by means of profit sharing arrangement between industrial workers and management to the extent of 20% of net corporate earnings.

(v) The amendment of the electoral law to grant voting and other related rights to women and extending equal and universal suffrage to all Iranian citizens regardless of sex.

contd..../-
per capita income has risen from $200 to $1274 in 1975. A large variety of crops are cultivated in diverse climatic region of Iran. Grains and wheat (the major staple) are grown in a large scale. Barley, cotton, tea, sugarbeet, almond, pistachios and dates are of commercial value and are grown widely. Rice is grown on the Caspian littorals and a variety of fruits and vegetable as well as tobacco are also grown here and there. The principal products of the nomad sector of Iranian economy (agriculture) are live stock product, dairy products. In 1976 there were about 7.6

cont...

(vi) The formation of educational crops from high school graduate conscripts to act as primary school teachers and multi-purpose village level workers in rural areas competing illiteracy superstition and ignorance.

(vii) The formation of the health corps for physician and dentists to bring free medical attention to rural areas and to improve sanitary condition and health standard.

(viii) The formation of the development and agriculture extension corps to modernise the physical structure of the village and help farmers acquire new skills necessary to raise farm productivity.

(ix) The establishment of village courts to hear minor local cases so that they may settled pragmatically equitably and speedingly bring the rule of enlightened modern law to the villages.

(x) Nationalisation of the country's water resources for the purpose of conversation of fresh water supplies through modern scientific practices assuring the judicious use of water in agriculture.

(xi) An extensive reconstruction programme in urban and rural areas to improve living standard for the whole nation.

(xii) A complete administration and educational reorganisation and revitalization of government agencies to meet the more exacting requirements of the same.

See Gregory Lima et.al, The revolutionaising Iran.
million heads of cattle 84 million sheep and 19 million goats. About 40 per cent of sheep and goats are raised by seminomadic tribal herdsmen.

The factors have provided the most serious obstacles: the lack of water and the system of land tenure. About two-third of the country is barren mountain and desert and remaining third little more than one-fifth is actually under cultivation. There are few rivers and little rain, and artificial irrigation is always required. The age-old ganat system (underground channel) could not fulfil the required water. The land tenure system, by giving the peasant little personal interest in the land he works, has discouraged the most effective exploitation of the soil. Absentee landlordism is still the general rule.

4.2.1.1 Land Use: Water and soil are two key factors of Iranian agriculture. Annual surplus of water is rare and is confined to the north-western mountains. In general, the 25 cm isohyet follows the inner foot hills of the Zagros and it provides the minimum limits where crops can be cultivated without irrigation.

About one third of the cultivated land is under irrigation, the rest depends upon meagre and variable rainfall resulting in low yields. Major sources of irrigation are river, wells and Ganat. Iran has mainly dryland soil which are usually high in their content of
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(AREA IN PERCENTAGE)

Fig: 44
unleached minerals and generally deficient in nitrogen and humus. Some parts of Iran have a sufficient cover of natural vegetation which helps in building up much of the organic content in the soil. Elsewhere steep slopes have been deprived of their entire soil cover. Further, lack of adequate surface drainage has resulted into an increase in the salinity of soil. Due to the shortage of water and poor quality of the soil more than half of Iran’s agricultural land lies fallow each year; often the figure is two third. Out of a total surface area of 165.6 million hectares, 19 million (11.5%) is under cultivation and over half is classified as cultivable non agricultural land. About 5.3 million hectares of agricultural land is fed by perennial irrigation in the form of water supplies from model water storage system. Rainfed agriculture is important in the western provinces of Kermanshah, Kordestan and Azerbayejan (see fig. 4.4).

4.2.1.2 Area-wise distribution of food crops:

(I) Wheat - the important food crops which are grown in Iran (during the year 1976) are wheat, barley, rice and cereals. Wheat covers about 59,73,272 hectares (3.62%) of the total area of Iran. Wheat is grown widely in the provinces of Kordestan 5,82,456 hectares (23.3%), Hamadan, 3,68,926 hectares (18.28%), Zanjan 2,97,172 hectares (13.60%), Kermanshahan 3,12,015 hectares (12.71%), Lorestan
2,92,440 hectares (3.31%), East Azerbaycan and West Azerbaycan 6,21,683 hectares (9.26%) and 5,51,714 (8.05%), respectively. Khuzestan has 59,41,100 hectares (9.18%) of the total area of state. The other states grow wheat but it is very marginal. The lowest production of wheat is seen in Yazd 5,605 hectares (0.09%) followed by Seistan and Baluchestan, 40,987 hectares. Hormozgan 13,402 hectares and Semnan 17,196 hectares having a percentage (0.22%), (0.20%) and (0.21%) respectively. Rest of Iran shows a moderate production of wheat (see fig. 4.4).

(II) Barley: Barley, though an important food crop of Iran and grown in all the provinces is not as widely cultivated as wheat. Barley covers an area of 14,03,930 hectares i.e. 0.85% of the total area of Iran. The largest barley producing states are Zanjan 62,930 hectares (2.88%), Hamadan 50,138 hectares (2.48%), Khuzestan 15,847 hectares (2.45%), East Azerbaycan 1,57,875 hectares (2.35%) and Lorestan 73,399 hectares (2.33%). There are a few states which produce a meagre amount of barley viz., Seistan and Baluchestan 3,255 hectares (0.01%), Semnan 3,982 hectares (0.04%), Fars 13,602 hectares (0.10%) and Hormozgan 7,920 hectares (0.11%). The remaining states have moderate production of barley in comparison to the total availability of land area (see Fig. 4.4).
(III) Rice: Rice producing area covers about 3,53,340 hectares (0.21%) of the total area. There are quite a few states which cultivate rice in large areas, i.e. Gilan 1,49,691 hectares (10.17%) and Mazandaran 1,16,391 hectares (2.45%). Rest of the Iranian states devote a meagre area for the production of rice, like central Iran 1,129 hectares (0.01%), Esfahan 2,449 hectares (0.02%), Seistan and Baluchestan 2,235 hectares (0.01%) and Yazd, Semnan and Khorassan almost negligible (see fig. 4.4).

(iv) Other cereals: Cereals are grown in almost all the states of Iran and more or less occupy a moderate position in the crop growing areas. Country as a whole covers an area of 47,67,571 (0.29%) of the total area according the Iranian census 1976. The Ostanas where it is widely grown are Kermanshahan 93,193 hectares (3.79%), West Aserbayjan 68,631 hectares (1.5%), Lorestan 40,950 hectares (1.30%). Rest of Iranian states area also produce cereals but in small area in compare to their availability of land i.e. Esfahan 6,100 hectares (0.06%), Kerman 5,091 hectares (0.02%), Seistan and Baluchistan 1,316 hectares (0.16%), Khoressan 50,286 hectares (0.16%) (see fig. 4.4).

(v) Other food grains: Other food grains cover an area of 27,750 hectares (0.01%) of the total area which is quite insignificant as compared to wheat 29,73,272 hectares (3.62%), barley, 14,03,830 hectares (0.85%), cereals 479751 hectares (0.29%) and rice, 3,53,340 hectares (0.21%) respectively.
The largest area of other food grain has been occupied by East Azerbeycan 80,799 hectares (0.12%) and Mazardaran 6,378 hectares (0.13%) respectively. The other food grains occupied a smaller area in Shahar Mahal and Bakhtiyari 291 hectares (0.01%), Yazd almost nil followed by Seistan and Baluchestan, Kerman and Khorassan (see fig. 4.4).

From the above account, three distinctive agricultural regions may be delineated as follows:

(a) Caspian Sea littoral:

The northern part of the country is an extremely fertile and productive region of Iran. The abundant rainfall, adequate irrigation and the fertile soil makes this region the grainary of Iran (see fig. 4.4). It grows a variety of crops like wheat, rice, barley and other cereals. Here 85% of the total population depends on agriculture. Rice is the most important crop grown here. This region is also very famous for the growing of fruits, like melon, orange, vines, plum, hope, apple, pear, cherry, fig, pistachio and apricot. This area is agriculturally the most developed. Vegetables are grown in large quantity and poultry farming is common in the littoral region. Crop combination is shown in fig. 4.4.

(b) The Alburz and Zagros region:

These two mountains cover half of Iran or the north-
west and south east of Iran. Here the cultivation is
generally seen on the slope of mountains and the valleys
which are also rich in natural manure. The water for
cultivation is available in the form of surface stream,
wells and canals. The most important crop of this region is
wheat, rice is grown in the valleys. Cereals are grown in
the provinces of Esfahan, East and West Azerbayejan, Kerman
and Kermanshahan. The agriculturally most developed state
of this region is Khuzestan. It is due to abundant water
supply provided by the Karun river. Vegetables fruits and
nuts are grown on suburban lands. The cold water, absence of
pests and the hot sun makes it possible to dry the fruits
without taking recourse to artificial methods which is very
beneficial for the large production of dry fruits. Important
fruits include orange, melon, apricots, mulberry and citrus
fruits (see fig. 4.4).

c) The Eastern and Central Iran:

This region is essentially a big desert, 300 kms. wide
and 1200 kms. long with Kavirs and sand dunes. Agriculture
is almost negligible. The near absence of rainfall and snow-
fed rivers does not allow the development of agriculture in
this region. It produces barely a small amount of wheat
(see fig. 4.4).
LOCATION OF MINERALS IN IRAN
1972-73

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FIG. 45.
4.3. **Mineral Resources**

Although minerals have been important in the economy of Iran but recently they have become of paramount importance in deciding the destiny of Iran and her people. The case of oil is well known. There are about 37 different types of minerals available in Iran but the important ones are oil and natural gas. The other important minerals include coal, iron, copper, lead, zinc, chromite, bouxite, gold, cobalt, antimony and managanese (see fig. 4.5).

The regional concentration of minerals has left many basic problems of a spatial nature and has resulted in an uneven economic development. Iran appears to be second to Turkey with regard to coal and iron reserves. Building stones, limestone and clay are wide spread. Iran has all the sources of energy viz. petroleum and natural gas, coal and hydel power.

(a) Coal: The rich variety of coal (giving upto 50% coke) is found to the north west and north east of Tehran at Tirah and Sirsak. The coal-fields are also scattered through the Caspian littorals i.e. Anul, Shahi Sahrud and Damghan. Some deposits are also found in the central desert, such as Kasan, suh, Natang etc. On the south-east some coal fields
Table 4.6  *Mineral & other Sources 1973-1977*  
(mineral production .000 m. tons)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>1050</td>
<td>1200</td>
<td>10000</td>
<td>900</td>
<td>900</td>
</tr>
<tr>
<td>Iron ore</td>
<td>294</td>
<td>610</td>
<td>610</td>
<td>670</td>
<td>670</td>
</tr>
<tr>
<td>Copper</td>
<td>1.0</td>
<td>1.8</td>
<td>1.8</td>
<td>1.5</td>
<td>6.0</td>
</tr>
<tr>
<td>Lead</td>
<td>37.5</td>
<td>47.5</td>
<td>53</td>
<td>48.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Zink</td>
<td>71.5</td>
<td>82.5</td>
<td>66.0</td>
<td>66.0</td>
<td>61.5</td>
</tr>
<tr>
<td>Manganese</td>
<td>8.4</td>
<td>11.4</td>
<td>13.7</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Chromite</td>
<td>86.4</td>
<td>84.0</td>
<td>84.0</td>
<td>75.0</td>
<td>80.0</td>
</tr>
</tbody>
</table>

occurs at Kerman.² The coal as a source of energy is not yet exploited properly because oil is available cheaply. But at the distant places of north and north west, coal is consumed as domestic fuel as well as for small industrial units. In 1977 Iran produced approximately 200,000 m. tons (see fig. 4.5).

Iron: The largest deposits of iron-ore is located in the Alburz range. However, iron is not well endowed with the iron ore and has to import a large quantity of ore. The latest example is that of the Kudremukh project a bilateral arrangement between Iran and India aimed at enhancing iron ore supplies. However, there are difficulties and setbacks due to the current political condition. Ores with 50% - 60% of iron content are found in the provinces of Mazandaran near Chamdar, Malu, Zarigan, Buknabad, Narigan, and Masileh. Proper estimates about the reserves of iron ore are not available. It may be noted here that iron has not helped in establishing a sizeable industry in Iran (see fig. 4.3). In the year 1976, Iran had a production capacity of 670,000 m. tons of Iron ore (see table 4.7).

Lead and zinc: Lead and zinc are found in almost every province. The most accessible surface deposits have,

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however, been totally exhausted and what remains is only the underground deposits. These fields are found at Atrek, Tehran, Azerbaycjan, East Khorassan and Jalaliyeh. The total production of zinc in 1976 was approximately 615,000 m. tons and lead 40,000 m. tons (see table 4.7).

(d) Chromite: The search for chromite in Iran started extensively during the period of Second World War and a strip was discovered at Subzevar. Later it was found to the south of Mashed on the road to Turbal-i-safid and an extensive deposit at Rubat-i-safid. The latest chromite field was discovered at Esfahan and Ageh, about 150 kms. south of Kerman (see fig. 4.3). Iran produced around 80,000 m. tons of chromite in 1976 (see table 4.3).

(e) Manganese: Manganese ore is rare in Iran. It is found near some of the iron ore deposits like Semnan and Fars. A vein with pyrobisite has been prospected near Ribat Karim which extends for nearly a quarter of a mile in length. It is upto 25 feet wide (see fig. 4.5). This vein contains ore with an average of about 45% manganese content. Another reserve at Sarguz is confined to a vein of six feet wide which contains 35% managanese. In 1976 Iran produced approximately 15,000 m. tons (see table 4.7).

(f) Bauxite: Extensive deposits of bauxite were discovered in the areas between Kerman and Saughand with a
<table>
<thead>
<tr>
<th>Year</th>
<th>Total Production (million, Cubic mt.)</th>
<th>Export (1000 Cu. mt.)</th>
<th>Oil Revenue (Million Rials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>195,847</td>
<td>165,237</td>
<td>84,810</td>
</tr>
<tr>
<td>1970</td>
<td>222,181</td>
<td>192,043</td>
<td>98,492</td>
</tr>
<tr>
<td>1971</td>
<td>263,438</td>
<td>230,905</td>
<td>163,563</td>
</tr>
<tr>
<td>1972</td>
<td>295,054</td>
<td>281,100</td>
<td>201,145</td>
</tr>
<tr>
<td>1973</td>
<td>340,067</td>
<td>325,300</td>
<td>297,913</td>
</tr>
</tbody>
</table>

thickness of two meters. Low rainfall helps in digging the mines.

(g) Gold : Gold is one of the most precious metals found in Iran though in a small quantity. It occurs in several places. It is found at the foothills of Zagros and Alburz and Jiruf of Southern Iran. Zireh Shuran, Kawand Damghan, Khuni are the important gold mining pockets of Iran (see fig. 4.5).

(h) Cobalt : Cobalt and nickel are found together at a few localities in Iran. The cobalt has been sought and worked for many years as it provides the source of the blue glaze so familiar on tiles in Iran. It is found in Birinji, Miskani, Kamsar, and Imamsudehland (see fig. 4.5).

(i) Antimony : Antimony is found in a small quantity in three mines in Iran. Two of these mines Patyak and Turkmani are situated respectively with an 11 kms. east and 40 kms. east of Ararak. The third is located further east about 150 kms. north west of Birjand (see fig. 4.5). These ores are found on the veins of lime stone deposits.

(j) Mineral (oil) : One of the four sacred elements of the Zoroastrians was fire. This was the symbol of the forces of god under Ahuz Ahura Mazda against the power of evil and darkness under Ahirman. Some of the scholar believe that
the antipriial terrace of Masjid-Suleiman in the province of Khuzestan where oil was first found in early in the 20th century was one of the Zoroastrian first temple whose altar fires were fed by natural gas. Fire still lights up the night sky in the hills of Khuzestan but today they are no longer a product of accident but a necessary part of the operation of the oil industry. The petro-dollars economy of Iran totally thrives on extensive exports of the precious natural resources (see table 4.6). The whole of south-west Iran is rich with petroleum. Eighty percent of the Iranian oil wells are located in this region. Oil is also found in the Gulf shore of Iran. Iran’s economic dependence on oil increased after the nationalisation of oil industry. The oil wells are connected with railway lines and pipes to the Caspian shores and the Persian Gulf mainly to help in exporting the crude oil. Iran's crude oil production in 1973 was 340,067 million cubic metres. The important oil fields are Masjed-Suleyman, Naft-ker, Guadsaran, Naft-Sapd, Naft-i-Shah, Lali, Aghazani, Ahvaz and Khara etc. (see map 4.5). The important refineries are, Abadan, Kerman-shah, Naft-e-Shah, Masjed-Suleyman, Tehran and Shiraz.

Oil revenue in Iran has played a dominant role in the economic development of the country. This financial aid to the central government out of oil revenue has helped in meeting its regular expenditures for traditional public services, defence, justice, health, education and welfare. The huge amount (see table 4.6) received out of oil revenue gave a special assistance to planning authorities in their development finance. The crude oil export raised to 325,300 thousand cubic meter in 1973 gave Iran an increase of oil revenue 297,913 million rials. Iran's fourth, five years plan fall into this period from 1968-1972 is the most comprehensive and most ambitious of all the development plans yet formulated. It calls for a total investment of Rls 810 billion ($10.8 billion). About 55 per cent (or Rls 443 billion) of this total was for public and remaining 45 per cent (or Rls 367 billion) was for private investment. The G.N.P. was raised by 9.3 per cent per annum.

In broad term, due to available of the required sum out of oil revenue, the government were able to fullfil the plan target of heavy industrialisation in a variety of field, including steel, aluminum, copper, lead, zinc, petro-chemicals and engineering industries, scientific water preservation and water resource development, rapid expansion of power supply (for both industry and agriculture) and the construction of
national grid system, utilisation of natural gas for domestic consumption as well as export; rural rehabilitation and urban development; decreasing dependence on foreign markets for food and raw materials; export diversification to reduce heavy dependence on oil income; and modernisation of production and management techniques, particularly in agriculture. The industrial output has increased sharply. The rate of growth of industries and mines in the first year of the plan was about 14 per cent and in the second year approximately 11 per cent. To sum up, oil revenue have so far been a sine qua non of Iran’s economic development, and instrument in obtaining her remarkable rate of growth in recent years. The rise of oil revenue by about 18 per cent a year between 1968 to 1973 has helped to bring the current level of real national savings to more than 20 per cent of the gross national product.

An analysis of the regional distribution of minerals brings forth, three distinct pockets (a) south-west Iran, (b) Central Iran, (c) North-west Iran.

(a) South-west Iran - This region is rich in oil wells like Masjed-Soleiman, Naft-Kel, Gachsaran, Naft-Sapd, Naft-i-Shah etc. The south west Iran is rich not only in oil but iron, copper and coal (see fig. 4.3).
CONCENTRATION OF INDUSTRIES
IN IRAN, 1976

INDEX

++ FOOD INDUSTRIES  TEXTILE AND CARPET INDUSTRIES
■ ■ LEATHER INDUSTRIES  CHEMICAL INDUSTRIES △ △
▲ ▲ OIL AND COAL  METALLIC INDUSTRIES ▽ ▽
▽ ▽ MACHINERY INDUSTRIES  ELECTRICAL INDUSTRIES □ □
■ ■ OTHER INDUSTRIES  PAPER INDUSTRIES ○ ○

Fig: 4.3
(b) Central Iran (Tehran) - This region is rich in iron ore together with gold, lead and zinc. Iron ore is found in abundance on the mountain valley of Alburz and Zagros. Alburz region has the highest deposit of iron ore (see fig. 4.3).

(c) The north-west Iran - The whole region is filled with salts i.e. sodium, potassium and natural salt. Gypsum is available in the Kerman region.

4.4. Concentration of industries:

The concentration of industries greatly affected by the geographical conditions, namely the locations of minerals, power resources, agricultural resource endowment as well as the net work of transportation and communications. However the most significant factor has been the oil and oil based manufacturing unit of the country. Iran's industrial landscape is dotted with oil and its allied industries. There are a few basic industries in Iran, like iron and steel etc. The surplus agricultural economy has attracted the agro-industries of small to medium size. There are few industries related to machine building and engineering and these are managed by multinational companies. The same holds good for the oil and oil based industries. The result is that sizeable industrial returns are siphoned out of the country.
The data for industry as a whole shows that 36.2% of employment, 63.3% of the value added and 21.7% of establishment are concentrated in the central provinces, primarily in Tehran metropolitan area. In 1976 the highest degree of concentration in terms of national value added in central Qasem was for paper (98.3%), tobacco (95.2%), Chemicals 87.2%, printing publishing 94.2%, petroleum 110% electrical equipment 64.2% and beverages 79.1%. In each case central Qasem accounts for more than 60% of national product (see fig. 4.6).

The textiles 34.1%, furniture and fixtures 31.3% and food 44.5% account for these as proportions. The data also indicates that the industrial concentration in Tehran dominated by the large size establishment than for craft manufacturing with more than 49.3% of the total employment and 46.1% congregated in that area. Data is available for size distribution of individual industries. It may be assumed from the analysis that the heavier concentration of industries in Tehran area is confined to the relatively modern heavy industries. The automobiles and light consumer goods industries are material oriented in nature are more evenly distributed among the various regions of the country (see fig. 4.6).
Esfahan, Yazd are the only other regions of significant concentration, particularly the textile industry which in 1976 generated 33% value added in the country (see table 4.9). The degree of regional concentration is even more striking when it is seen that cities like Tehran, Esfahan, Tabriz and Meshed account for 45% of urban establishment and 50% of the industrial employment of the country. Tehran alone accounts for 27% of the industrial establishments and 31% of the manufacturing work in the country.

In short, the central Čestan particularly metropolitan Tehran was able to grow rapidly during the last two decades because it was the seat of the government administration and the income generated was spent mainly in this region thus stimulating further growth. The social infrastructure (public and private capital), the increase of skill labour serving institutions have helped in the expansion of industries here (see fig. 4.6).

It is further significant to observe that the spatial distribution of the industrial landscape is highly unbalanced because the industries are located in the urban centres thus leaving a large countryside devoid of any industrial development (see fig. 4.6). The nodal industrial areas include (a) Tehran (b) Esfahan (c) South-west Iran and
TRANSPORT AND COMMUNICATION OF IRAN, 1976

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- INTERNATIONAL BOUNDARY
- MAIN ROAD
- OTHER ROAD
- RAILWAY LINE

Fig: 47
(d) Caspian littorals. The position of border areas, which is ethnically of tribal character and politically unstable is rather dismal and there is plenty of scope to excite any feeling of discontent and uprising among them due to the great negligence on the part of the central authorities in leaving these areas as backwaters.

4.5. Transport and communication:

With the expansion of industries and rapid accumulation of petro-dollars Iran could have developed its transport and communication to enhance inter and inter-regional linkages for maximization of economic return and even balanced developed and thus could have generated utmost interaction among different regions in strengthening national integration. Iran has lagged behind in its effort to develop a proper network. It may be partially not possible due to the configuration in the form of mountains and sands. However, the present transport network is better than what it was in 1921 (see fig. 4.7).

The principal road in 1921 was a Russian built metallised road from Hamadan to Enzehi through Qazvin and another route linking Hamadan with Kermanshah. There were also unmetalled roads from Qazvin to Tabriz and Tehran to Isfahan, Shiraz, Bushehr, Meshhad, Kerman, and Scotanabad (now name Irak). This makes a total of 3200 kms. useable
road. Now several roads run from Tehran to the points on the Caspian shore including a spectacular route through the Chalus pass (3895 meters above sea level), where tunnels are being constructed to prevent its blockade by snow in winter. Tehran-Esfahan-Bushehr route is now usable in all weather and it also connects the Persian Gulf through Esfahan, Yazd and Kerman, Bandar Abbas. Other good roads links Erak with Ahwaz, Mashhad with Zanjan, the terminus of Pakistan Railway from Quetta and Shiraz with Kerman. Tabriz is now connected with Mosul in Iraq and Trabzon in Turkey. Around Caspian littorals a 200 kms. road (having a width of 10 m.) from Shahrud joins Elburz to Gorgan, linking Caspian provinces with Khorassan (see map 4.7). Lorries and motors are the important vehicles used in Iran. In addition the these there are cross country roads totalling together over 38,400 kms. It is interesting to note that the central plateau region is rarely crossed by the roads. Besides this the peripheral regions are poorly connected with heart land region of Iran (see fig. 4.7).

Iran could have had railways at a much earlier date had it not been involved in rivalry between Great Britain and Russia. The Trans-Iranian railway connecting the Persian Gulf with the Caspian Sea and its far flung branch lines connect many cities of Iran. The Trans-Iranian railway system is the most impressive one because of the enormous
technical difficulties overcome by engineering skill. Its construction started in 1928 and was completed in 1938. The total length of the line is 1384 km.\(^4\) The northern section from Band-Shah on the Caspian to Tehran covering a distance of 464 km. The southern section ends at Bandarshahpur on the Persian Gulf joining Abadan and Khorramshahr (the port accessible to all sea going vessels from Bandar-Shapur). The Trans-Iranian line covers about 120 km through the desert with it crosses the Karun river on a steel bridge at the height of more than 2101 m. into Ahwaz. At Ahwaz, the Trans-Iranian railway is joined by another line 120 km. long which connects the part of Khorramshahr.\(^5\) Leaving Ahwaz the Trans-Iranian railway line runs for 160 km. through steepe country, passing the small village of Shush the residence of Archaemenian King. At Andimashk, the former Shababad, the railway line penetrated into the mountain of Puristan. Almost all the important towns of west, south-west and north are connected with rail roads. Besides the Trans-Iranian railway net work, there are few more branches like the 120 km. long line which joins Jaffar on the Russian frontier to Tabriz. There is another railway branch of 80

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kms. joining Zaheedan with Sharif Khans. Therefore there are three local lines (1) Tehran to the Shrine of Shah Abdul Azim (2) Rasht to Dare-Bazar (3) Dare Khazane to Masjid-e-Sulaiman6 (see fig. 4.7).

4.5.2: Other means of transport and communications:

Nevertheless before the construction of Trans-Iranian railways, the Persian Gulf was the Iran's only means of contact with the outside world through the parts of Khorramshehr, Bushehr, and Bandar Abbas. Later on Bandar Shapur was developed. The oil exporting port of Abadan also has the advantage of a deep channel. The only regular service in the Gulf are the fast and slow moving oil tankers and mail service. Bandar Shah is the terminus of the railway. Ports on the Caspian Sea which are generally used for trade with Russia include Bandar-Gaz, Pahlvi, Mashhadsar, Nashahr and Aslarze. These ports are also centres of the fishing industry.7

Previously, air transport in Iran was called as junior service. Now almost all international airports are connected with Tehran. The internal air transport has

improved and is quite common now. All the cities and administrative towns are connected by air flights. The important airport towns and metropolis are Tehran, Kermanshah, Abadan, Pahlvi, Tabriz, Mahhad, Zaeedan, Kerman, Esfahan, Hamadan, Ahwas, Bushehr, Shapur, Kharz and Jasket etc. 8

However, the transport and communication network is far from adequate. Although it has made remarkable development during the past decade, the system is highly urban based which serves the best in selected areas of Iran. Only the metropolis or the industrial nodes are well served by road and railways (see fig. 4.7). It leaves behind the major part of Iran without service. The peripheral regions are the most neglected. If the network of transport and communication as well as the accessibility is taken as the index than one could say that these peripheral regions are under-developed and there is a very weak socio-economic inter-connection between the well served and unserved areas. It further reflects obliquely the problem of the integration and regional overtones, specially confined to peripheral areas.

It is difficult to unify the nation, except through extensive and good means of communication. Transport is moreover inadequate (to minimise the need). The communication

IDENTIFICATION OF CORE AREAS OF IRAN
1976

Fig: 48
is such that each region is physically isolated from its neighbouring region.

4.6. **Identification of core areas**:

The preceding analysis of the geographical characteristics and their spatial pattern gives us the basis for an identification of core areas of Iran. These core areas, which are described further, have been significant geographical territorial complexes which have very often guided the destiny of the people in terms of political processes and structure of the domestic environment. The core areas are:

4.6.1. **Northern lowlands**: The northern lowlands being on the southern shore line of the Caspian Sea covering the approximate boundary of states Giland and Mazandaran is the most developed region, agriculturally. Around 81.06% of the total working force are engaged in agricultural work. The area occupied by agricultural crops like rice is 10% followed by 1.45% wheat, 0.31% barley and 0.31% other cereals (see fig. 4.4 and table 4.4). This is quite high in comparison to the surrounding regions of Iran. In Semnan wheat occupies 0.21% of areas, barley 0.04% and rice, cereals are nil. The pattern is followed in Khorassan and Yazd (see fig. 4.4 and table 4.4). This agricultural node is very prominent. The northern lowlands area is not only
rich in food grains but it produces cash crops like sugar-beet, tea, and vegetables (see map fig. 4.4).

The northern lowland is rich in coal, iron, lead and zinc and wood (see fig. 4.3) where as the areas show a scarcity of mineral resources though little salt in different compositions is seen in Semnan, Khorassan, Yazd and Kerman.

The analysis of the occupational structure shows that this region emerges as a core leaving a peripheral area consisting of people, who are engaged with subsistence primitive type of activities. Secondary and tertiary activities are quite insignificant (see fig. 4.2 and table 4.2). The people engaged in primary activity like agriculture are though high (4.3%) but number is quite low as compared to the total 22,700 only. The northern lowland has a rural population of 73.86% and 26.94% urban. It may also be said that the commercialisation of agriculture has helped in the growth of urban population, but on the other hand the peripheral areas have very high concentration of rural population (see table 4.2 and fig. 4.3). Where the lack of commercialisation and urbanization has given a peripheral significance. The industries are the good indicators of an area's richness and prosperity. The industries which are established in the core areas include
mechanical, electrical, electronics and food processing industries (see fig. 4.6) but eastern periphery is devoid of such concentration. At Meshhed, however, one finds mechanical and cement industries (see fig. 4.8) but whole of Semnan remains a blank so far industry goes.

The pattern of transport network and communication may be seen best with the help of fig. 4.7. In the above discussion, the core region has a dense network of road-rail centering over the ports of Caspian Sea (see fig. 4.7). All the ports are well connected with transport lines i.e. Rasht is connect with Bandar-e-Pahlavi (Ezzeli), Qazvin with Ramsar, Amul with Mahmudabad, Babolulij, Babulsap and Sari with Bardar Shah. On the other hand, the Semnan and Yazd being the peripheral are followed with a single track joining Semnan with Jandad.

4.6.2 The Tehran region: Tehran is one of the most developed core areas of Iran. It is situated in between the Zagros in the west and the Alburz mountain in the north. Industries are the most developed economic units of this region. The region consists of Markazi (Tehran) and western part of Semnan. The agricultural area covers about 7.24% of total area (see fig. 4.4 and table 4.4). The eastern zone of Iran where 25% of the total area is engaged in agriculture where cash crops occupy an important place but regarding the food crops, the core region is dependent upon its periphery.
Besides agricultural crops, the minerals like iron, copper, lead and zinc, antimony and bauxite are important elements of its economy. An estimated 2,000,000 m. tons of iron ore on the foothills of Zagros (see fig. 4.4 table 4.7) is a rich resource here is sufficient to meet demand by the iron and steel industry of Tehran and the vicinity.

The core area has a high percentage of people in the industrial workers category 28.2% (see table 4.4), whereas its surrounding region (states) Kordistan 1.33%, West Azerbaycjan 1.63%. Not only this but other categories of workers like that in construction, water electricity, trade, transport services are in a high percentage as compared to the peripheral areas (see fig. 4.2 and table 4.2). It accounts for the strong industrial base of the region. The central (Tehran) has 76.23% of the urban population which is the highest in Iran (see fig. 4.5 and table 4.5). All its peripheral areas have 26% to 21% of urban population (see fig. 4.3 and table 4.3). The high urban percentage is matched with a heavy concentration of varied industries. The availability of power resources and proximity to mineral resources and good transport network help in concentration of all important metallic and non-metallic industries of Iran here, e.g., oil and gas refinaries, petro-chemicals, mechanical, electrical and electronic, glass and cement
industries etc (see fig. 4.6 and table 4.9). Beyond this
core, the industries disperse unevenly with almost no
density.

Tehran is well connected to all the sea ports and all
important trade centres of the country by railways, roads and
airways. Trans-Iranian railways centres on Tehran (see fig.
4.7). The very reason of connecting this region with the
rest of Iran is to efficiently connect the resource regions and
the markets. This region is not only well connected with the
rest of Iranian states head-quarters and ports but also with
Russia, Iraq and Turkey.

The physiographic features like Zagros and Alburz
played an important role for the development of this region
as the core. It is situated on the south of Alburz and East
of Zagros restricting the development of Tabriz region and
allowed it to develop as the separate region (see fig. 4.4
and table 4.4 to 4.9). Not only does the Zagros keeps the
Tehran region rich with mineral resources but its valleys
allow concentration of agriculture. Alburz mountain just
next to Tehran provides enormous supply of water for the
industries and domestic consumption. Whereas the peripheral
region spread over the plateau like terrain which are
neither cultivable nor even suitable for grass growing, there
the people have still primitive form of agricultural practice
with much dependence upon dry subsistence farming.
4.6.3 Tabriz Axis: Tabriz axis is one of the most developed core areas on the extreme north west of Iran. It is situated at the converging point of Zagros and Alburz mountains. These two mountains separate Tabriz axis from the rest of the central Iran. It is also developed as an effective core of northern Iran. This region covers the states of eastern Azerbaycan, Zanjan and Hamadan. In the state of Azerbaycan 12.71% of area has been occupied by cultivation. In the state of Azerbaycan 12.71%, Zanjan 16.01% and Hamadan 21.81% (see table 4.4) of area has been occupied by the agriculture. In Azerbaycan 9.26% of area has been occupied by wheat cultivation whereas Hamadan states covers just the double of the area covered by Azerbaycan. Zanjan covers about 13.60% of its area under wheat cultivation. The main crop of this region is wheat followed by barley, rice, cereals and other grains (see fig. 4.4 and table 4.4). The wheat is grown widespread because of its climatic condition, availability of moisture during winter season and dry condition in early summer, when crop is ready for harvesting. The Zagros separates Tehran region from the Tabriz region (see fig. 3.1).

This region has about 122 mines out of a total of 1276 mines of Iran (see table 4.3). Copper (3), Kaolines (3) are the main mines of this region but chromite (1), salt (18) limestone (13), chalk (27) mines are also seen there.
Though there are six coal mines in this region but the nature of coal is of good quality anthracite. Many types of salt mines are seen (see table 4.7). It has 79.20% agricultural workers out of the total workers compared to 10.73% industrial structure (see fig. 4.2 and table 4.4). The percentage of agricultural workers in east Azerbaycan (75.66%), West Azerbaycan (80.98%), Hamadan (62.10%) and Zanjan (88.07%). When we compare this region with other regions in term of workers participation in primary, secondary and tertiary activities, than we have more agricultural workers (primary) in the region. Hence this is the only core area, where agricultural workers percentage is higher than national average and therefore it is entirely different from other core areas.

Tabriz Axis alone represents about 72.56% of rural population according to census 1975 and 27.36% urban population (table 4.5 and fig. 4.5), and is much more higher than the national ratio of 55.99% rural population (table 4.5). It varies, e.g., the east Azerbaycan (67.12%), West Azerbaycan (70.01%), Hamadan (75.16%) and Zanjan (77.95%). The region is predominantly rural and agricultural in character.

The non-availability of power resources and lack of transportation facilities make this region as an industrially
backward as compared to the other core areas of Iran. The very reason behind the low percentage of industries is its geographical character, which does not allow cheap transport facilities. There is only one asphalt road which joins straight Tabriz with Tehran. There is no straight link of this core region to the port. It has to go through the Tehran or Khuzestan region and a railway line connecting Tabriz region with Tehran and other core areas. The reason behind the connecting this region with other region is to carry out the finish products of this core area. Though this region is nodal point to join Iran with Turkey, USSR and Iraq but unfortunately no attempt has been made to construct asphalted road only branch roads are seen (see fig. 4.7). There is no specialised industry but based on local resources one gets some engineering and cement industry etc.

It is a potential area for industrial development because of several mineral found here and since agriculture is difficult to be developed, therefore, industries provides the only base for future economic development. Strategically it is important region and therefore, proper development is a must.

4.6.4 Esfahan axis: The core area covered by Esfahan is a very small as compared to other areas and its midway between the Tehran and Khuzestan industrial nodes. It could
gain much on the basis of these two areas. Further Esfahan is situated in the heart of the country surrounded by Yazd, Semnan, Chaharmahal and Bakhtiyari and Lorestan (see fig. 4.1). Wheat covers an area of 1,21,018 hectares (1.27%) whereas other crops are too limited. On the other hand the case of adjacent peripheral areas is still worse, e.g., Semnan has only 0.21% of total area devoted to wheat. This core has abundant lead, zinc, antimony, coal, gold and copper. This area alone produced around 300 m. tons of copper in 1977. The abundance of minerals have helped this region to distinguish itself from other regions (see fig. 4.5 and table 4.7). The core area (Esfahan area) has 35.27% of workers engaged in industrial pursuits which very correctly denotes the existence of various kinds of industries. In other sectors the percentage of workers involved in (construction, water and electricity, trade, transport, services and other remainings) are much higher than the total country's average. It denotes that the population is engaged in allied activities which is quite different from the surrounding areas, e.g., Semnan, Yazd, Chaharmahal and Bakhtiyari and Lorestan (see table 4.2 and fig. 4.4). There is low percentage of people involved in agricultural work (48.41%).

Esfahan has (55.53%) of urban population whereas the surrounding areas have a lesser proportion, e.g., Lorestan
25%, Ilam 18% and Chaharmahal & Bakhtiyari 34%. Esfahan region is rich in basic metal industry followed by cement and oil refineries (see fig. 4.6 table 4.9), whereas the peripheral area remains devoid of industry.

Esfahan is well connected with Qom on the north, Shanbad in west and Shiraz on south which later on is connected with Bushehr and Bandar Abbas (fig. 4.7). But the most unfortunate part is that the Esfahan region is not connected with its neighbouring states capital - Yasuj, by metalled road. The difficult geographical surroundings compel the people to denounce the hard and unpredictable agricultural practices and turn towards a definite source of income in industry. That is the one of the reason why we see rise of urban population every year.

4.6.5. The south west oil belt and Khuzestan : The core region occupies the most advantageous part of Iran. It stretches from Khuzestan from the Iraq boundary to Bushehr. Covering a wide area of south western Iran surrounded by Ilam, Lorestan, Boyar Ahmed and Kohgiluyeh Kerman and Harmezen. This region can be called an agro-industrial core regions. It occupied about 1/6 of the total area of Iran. This core region is a combination of the agriculturally richest area of Iran and industrially developed area also. The river Karun which flows through Khuzestan has made this region the most
fertile one. The people engaged in agricultural activities are 78.96%, which is higher than the nation’s percentage. The total area covered by food crops is 14.21% and the dominating crop is wheat. It very clearly devotes that agriculture has a greater role to play in the formation of the core and helps in identifying in peripheral regions (see fig. no. 4.4 and table 4.4).

The south western part of Iran is well endowed with minerals, specially petroleum, iron, bouxite and coal too are found. This region alone contributes 3/4 of the total production of mineral oil (see table 4.6). In contrast to the core region the peripheral regions do not have any industrial minerals but salt of different varieties are seen in open pits in different Kavirs - Dasht-i-Kavir, Dasht-i-Lut etc. In the core area the oil wells are Masjid-i-Sulaiman, Naft-Kel, Guah Saran, Naft-Safid, Naft-i-Shah etc. (see fig. 4.5).

In Khuzestan the agricultural workers represent 78.91% of the total working force of Iran. Of course in Bushehr, Boyar Ahmad and Kohgiluyeh, the percentage of non-agricultural workers is quite high precisely mostly in oil industries: On the other hand, in the peripheral regions like Seistan and Baluchestan, Kerman and Yazd people do only
farming because of more or less non existence of construction water and electricity, trade, transport, services and other occupations (see fig. 4.2 and table 4.2). The Khuzestan has 56.2% urban population, which clearly shows that though agriculturally the state is quite developed it does not lag behind industrially either. The peripheral population is pre-dominantly rural. Broadly, speaking the core area has many allied industries based on petroleum but some prominent industries like basic metallic industry, oil and gas industries, tyre manufacturing petro-chemical industry, ship building industry are quite prominent. These industries are seen in Shiraz, Bandar Abbas, Bandar Bushehr, Kharz, Bandar Shahpur, Ahwaz and other places. The rest of south east remains as isolated peripheral region to this core region (see fig. 4.8 and table 4.9).

The well knit transport and communication system is seen on the south east and Khuzestan core areas. The industrial cities like Ahwaz, Kazerian, Shiraz, Jahroms are well connected into the ports i.e. Abadan, Bandar Shahpur, Bushehr, Kangam, Bandar-e-Lengeh. But the northern sector of the core area is not connected with well defined railway or road system. It shows clearly that the transport system is export oriented. The heart of the country is not connected to the Gulf. The south east and Yazd still remain as isolated and less developed in respect of transport and communication system (see fig. 4.7).
This core periphery development has resulted in wider inter and intra-regional disparities. The core areas seem to have much wider and stronger political force as compared to the peripheral regions of Iran. These core areas have vast concentration of economic wealth and most of the social transformation has taken place here and therefore the socio-economic forces leading to the political processes have some times endangered the unity of this nation. Coupled with ethnicity, these socio-economic disparities have thrown long shadows on the polity of Iran. No body would deny this fact and set aside the role of these divergent areas in creating centrifugal forces capable of shattering the nation's unity.