
UNIT 16 SOCIAL IMPLICATIONS OF DEVELOPMENTAL PROJECTS

Structure

- 16.1 Introduction
 - Objectives
- 16.2 Developmental Projects
 - Production of Energy
 - Production of Goods
 - Employment Opportunities
- 16.3 Consequences of Developmental Activities
 - Changes in Employment Pattern
 - Changes in Economy
 - Changes in Living Styles
 - Displacement of Population and Migration
 - Formation of Slums
 - Rehabilitation of Displaced Persons
- 16.4 Summary
- 16.5 Terminal Questions
- 16.6 Answers

16.1 INTRODUCTION

In the previous units on "Health and Environment", we have discussed the health implications of developmental activities. In this unit, we will tell you about the social implications of developmental activities.

Planning for large-scale development is necessary for allround development of a country. Since Independence, India has completed seven Five Year Plans which were aimed at increasing total production, national and per capita income, and employment opportunities and providing basic minimum needs to all its citizens. The plans included projects for increasing the production of food, energy and industrial goods. Many of the projects have been completed, some are in progress, and quite a few new ones are being planned. Undoubtedly, the country has greatly benefited from such developmental projects. However, it is unfortunate that while planning them, their negative effects on physical and social environment were not envisaged.

Generally, whenever a developmental project is initiated some agricultural or forest land is requisitioned for it. The population living there is displaced. The affected persons have to leave their homes and profession and look for new jobs and a place to live. This brings vast changes in living conditions, employment pattern and social organisation of a large population.

In this unit, we will describe the sequence of events and circumstances that bring about such changes. You will also learn how human settlements have increased tremendously in the cities leading to the formation of slums. In Unit 9, you have learnt that slums represent worst type of environmental degradation.

This unit is organised into two main sections. In the first section we describe major developmental projects of our country and the progress made through them since Independence. In the second section, we highlight the positive and negative changes that have been brought about in our living as a result of these projects.

Objectives

After studying this unit you should be able to:

- tell the importance of developmental projects,
- list the various inputs necessary for increasing agricultural production,
- describe the progress achieved in agriculture, energy and industrial production,
- enumerate employment opportunities for surplus labour,

discuss the positive and negative impact of developmental activities and their effect on social environment.

16.2 DEVELOPMENTAL PROJECTS

You must be familiar with the names of big river-valley projects in our country. Some of the important ones are Bhakra-Nangal, Beas-Sutlej link canal, Damodar, Tungabhadra, Kosi and Chambal. Probably you have visited the site of the ones in your region. River-valley projects provide water for irrigation to a very large area, and generate electricity which can meet the demand of many industries and households. There are also nuclear, thermal and coal-operated power generation plants in our country. We are sure that you also know that plants for large-scale production of chemical fertilisers are set up at Sindri, Nangal, Rourkela, Navelli and Trombay. You may recall the names of many factories that make heavy machinery, engineering goods, automobiles, textiles, chemicals, railway engines and coaches, ships and aeroplanes. There are also factories which make steel, cement and sugar. All the projects like hydroelectric, thermal and nuclear power plants, irrigation, industry, etc. that bring about growth accompanied by change are called developmental projects.

In a country like India, which is extremely poor, a mere increase in Gross National Product (GNP) is no longer considered an accurate index of development. Increase in the production of wealth must be accompanied by elimination of general poverty, reduction of economic inequalities and generation of employment. We are aware that so far the backbone of India's economy has been agriculture. Increase in agricultural production is possible only if we have better irrigation facilities, better quality seed, fertilisers, pest control and widespread use of tractors, threshers, etc. The success of the "Green Revolution" in India has been possible due to the availability of these inputs to the farmers of Punjab, U.P., Tamil Nadu, Andhra Pradesh and Haryana. In other words, development of agriculture demands industrial growth. Sound industrial base is also required for technological development and self-reliance. Agriculture and industrial activities require inputs as human labour, raw materials and energy.

SAQ 1

a) What are the criteria for development?

.....

.....

.....

b) Why does India need developmental projects?

.....

.....

.....

c) Why is it necessary to have a strong industrial base for agriculture?

.....

.....

.....

16.2.1 Production of Energy

We use energy in our day-to-day life, in industry, and in agriculture. The prosperity of a country has come to be measured by the amount of energy it consumes. Table 16.1 shows the average energy growth rate and energy consumption per capita in some selected countries.

railway engines and for household use. Table 16.3 shows the demand of coal for the year 1989-90. From the table we find that the largest demand of coal is for power generation followed by steel, brick and other industries.

Table 16.3 : Demand of Coal in Various Sectors During 1989-90

| Sector | Demand (million tonnes) |
|------------------------|----------------------------|
| Power (utility) | 118.0 |
| Steel and Coke ovens | 33.0 |
| Brick and others | 27.0 |
| Captive power plants | 12.7 |
| Cement | 11.5 |
| Railway | 6.5 |
| Fertiliser | 5.5 |
| For colliery | 4.0 |
| Low tar coke/soft coke | 3.5 |
| Export | 0.3 |
| Total | 222.0 |

Now let us go through Table 16.4 showing coal production in India. We find that there is a marked increase. In 1973-74, the production was about 78 million tonnes. In 1989-90, it has exceeded 200 million tonnes. By the year 2000, it is expected to increase beyond 400 million tonnes.

Table 16.4 : Coal Production in India

| Year | Production (million tonnes) |
|------------|--------------------------------|
| 1973-74 | 78.17 |
| 1989-90 | 211.20 |
| 1994-95* | 307.41 |
| 1999-2000* | 417.00 |

*Planned production

At present, more than 60% of electricity in India is being generated by thermal power plants which are dependent on coal. When the first Five Year Plan was started, there were only 3000 villages with electricity. On March 31, 1989 the number of villages with electricity was 4.5 lakh, and 78 lakh pump sets were working with electricity. Higher coal production leads to more electricity generation, and of course, industrial goods whose production is coal dependent. Since 1973-74 government has sanctioned 453 coal projects which require an investment of Rs.10,000 crore.

Indian Coal has low sulphur content, generally less than one per cent, but a high ash content, in the range of 25 to 40 per cent.

Petroleum Production

Other major sources of energy are petroleum products such as petrol, kerosene, diesel, LPG, naphtha, etc. Let us look at Table 16.5 showing the consumption of petroleum products since 1970.

Table 16.5 : Consumption of Petroleum Products

| Year | Total Consumption (million tonnes) |
|---------|---------------------------------------|
| 1970-71 | 17.9 |
| 1975-76 | 22.4 |
| 1980-81 | 30.9 |
| 1985-86 | 40.0 |
| 1986-87 | 43.7 |
| 1987-88 | 46.4 |
| 1988-89 | 49.9 |

We find that consumption of petroleum products has increased almost three times since 1970-71. There has also been an increase in the production capacity. Consumption of petroleum is taken as an index of developmental activities because it indirectly suggests an increase in production capacity. In India, import of most of the country's petroleum requirement in the form of crude oil and its products has remained high. Table 16.6 shows the import of crude petroleum and petroleum

Effects of Changed Environment on Man

In India oil deposits are in Assam, Gujarat and in offshore areas of West Bombay (Bombay High), in deltas of Godavari and Cauvery, Bombay high produces about 22 million tonnes annually which is a little less than half of our total requirement.

products. The import of crude oil was increased to about one and a half times and of petroleum product of about 6 times since 1970. India is taking effective steps to produce more crude oil, e.g. from Bombay High. In 1984-85, we produced about 29 million tonnes of crude oil. Production of crude oil is estimated to increase to 38.5 million tonnes by 1994-95 and to about 45 million tonnes by the year 2000. Petroleum products are used in innumerable ways—in industries, transportation, generation of electricity, agriculture etc. The consistent increase in consumption means that we are developing on these fronts.

Table 16.6 : Imports of Petroleum Crude and Petroleum Products

| Year | Crude | Petroleum Products (million tonnes) | Total |
|---------|-------|--|-------|
| 1970-71 | 11.7 | 1.1 | 12.8 |
| 1980-81 | 16.2 | 7.3 | 23.5 |
| 1982-83 | 16.9 | 5.0 | 21.9 |
| 1985-86 | 15.1 | 3.9 | 19.0 |
| 1986-87 | 15.5 | 3.1 | 18.6 |
| 1987-88 | 16.0 | 3.9 | 19.9 |
| 1988-89 | 17.3 | 6.4 | 23.7 |

So far we have discussed the progress made in our country in energy production. In the following section you will learn about the progress made in the production of fertilisers, seeds, and the resulting increase in agricultural production. You will also learn about the developments in industrial and consumer goods.

SAQ 2

- a) Describe in about five lines the progress made in our country in the commercial production of energy.

.....

.....

.....

.....

.....

- b) Which among the following statements are true? Indicate T for true and F for false.

- i) Increase in Gross National Product of a country is a measure of development.
- ii) Development in agriculture demands industrial growth.
- iii) Amount to energy consumption indicates the prosperity of a country.
- iv) More than 40% of the energy in India is used for household purpose.

☐

☐

☐

☐

16.2.2 Production of Goods

We will now tell you about the industrial progress made in our country. Before Independence, India's industrial structure was shaped to suit the British rulers and big landlords. After Independence things started changing. Zamindari was abolished and land ceilings were imposed. This resulted in better distribution of land. Now, it was in the interest of the tiller to grow more. Government also brought various measures to favour the farmers. For example, irrigation facilities were developed. In 1951, only 22.6 million hectare of land had irrigation facilities. By the end of the Sixth Plan, (1980-85) the irrigation facilities had grown to cover 68 million hectare. Since Independence, about 2000 dams of more than 30 metre height have been constructed and a large number of dams are under construction. These dams have increased irrigation potential and a large number of them are used for generating electricity.

For increasing agricultural production it is essential to take other measures apart from irrigation. These measures are mainly production and application of fertilisers,

improvement in fertility of the soil, production and use of quality seeds, crop protection measures, etc. During the past few years substantial achievement has been made on all these fronts. Table 16.7, which shows the consumption of chemical fertiliser since 1970, is suggestive of improvement in crop production. Similarly, distribution of quality seeds (Table 16.8) has been increasing consistently during these years.

Table 16.7 : Consumption of Chemical Fertilisers in India

| Year | Fertiliser Consumption (million Tonnes) |
|------------------------|--|
| 1970-71 | 2.18 |
| 1975-76 | 2.89 |
| 1978-79 | 5.12 |
| 1981-82 | 6.06 |
| 1984-85 | 8.21 |
| 1987-88 | 9.01 |
| 1988-89 (tentative) | 11.33 |

Table 16.8 : Increase in the Distribution of Quality Seeds in India

| Year | Seeds (Lakh Quintals) |
|--------------------------|--------------------------|
| 1980-81 | 25.01 |
| 1982-83 | 42.06 |
| 1984-85 | 48.46 |
| 1986-87 | 55.83 |
| 1987-1988 (tentative) | 56.30 |

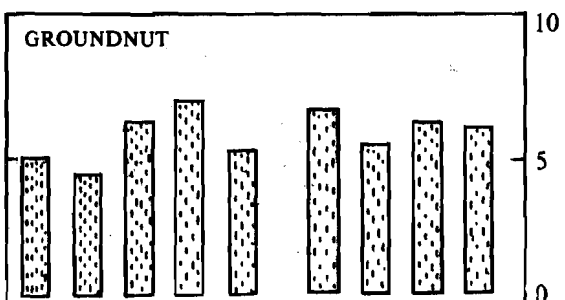
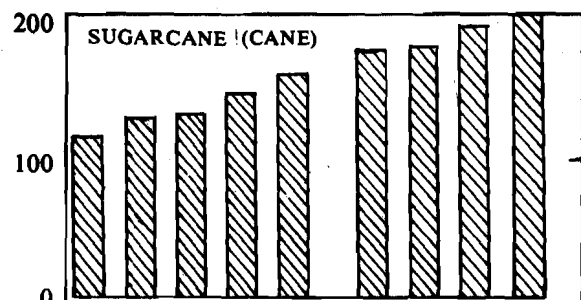
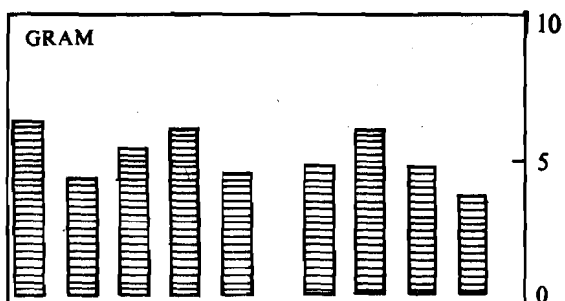
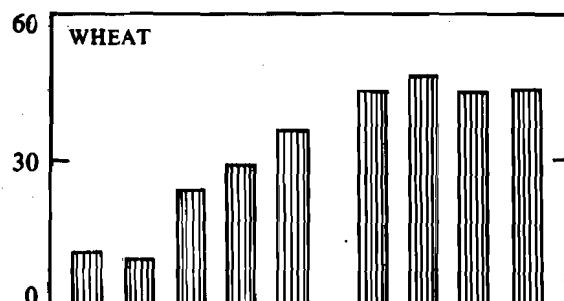
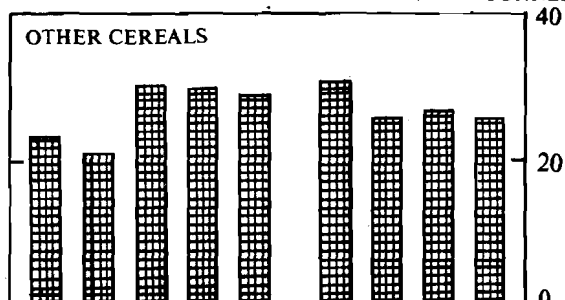
Results of such efforts are consistent with general increase in the production of crops such as rice, wheat, sugarcane, cotton, groundnut, jute, gram, etc. as shown in Fig.16.1. The production of rice was about 53.5 million tonnes in 1978-79. By 1987-88, it had grown to about 56.5 million tonnes. The production of wheat in 1978-79 was 35.5 million tonnes. In 1987-88, it was more than 45 million tonnes, a rise of approximately 10 million tonnes. Sugarcane production increased from 151.6 million tonnes in 1978-79 to more than 196.5 million tonnes in 1987-88. In case of other crops like gram, cotton, groundnut, and raw jute, there have been ups and downs in production, still the overall picture today is appreciably better than what it was 30 years back.

With agricultural production it is essential that other items of need also be produced. After Independence, India has attached importance to projects related to industry. Today, there are industries and other manufacturing units in the country, even in the areas which were totally neglected earlier. If we see the trend in the recent past, the picture that emerges is not so unsatisfactory. Table 16.9 shows the figures for industrial production from 1980-81 to 1987-88. You can easily make out that there has been remarkable progress in some sector. This has become possible only because of a large number of projects which were established and which are working successfully. As an example, let us look at public sector enterprises only (Table 16.10). In 1980-81, there were 163 units. By 1987-88, the number had grown to 221. In 1980-81, the capital employed in these units was about 18,200 crore rupees, by 1987-88, the figure had gone up to more than 58,000 crore rupees. Turnover of these units in 1980-81 was only about 28,600 crore rupees. In 1987-88, the turnover was more than 80,000 crore rupees. All these developmental projects have by and large contributed to better production and improved availability of goods in the country and yet some other vital sectors of our economy have not given very satisfactory results.

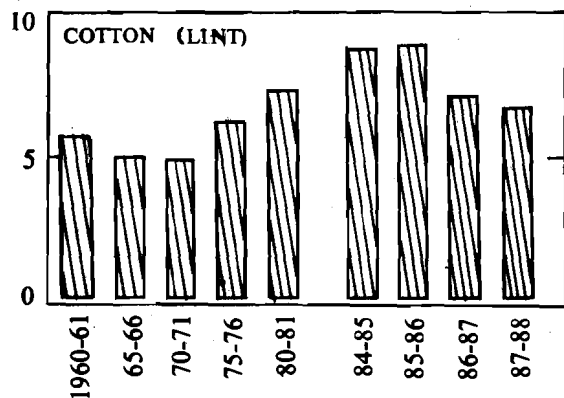
MILLION
TONNES



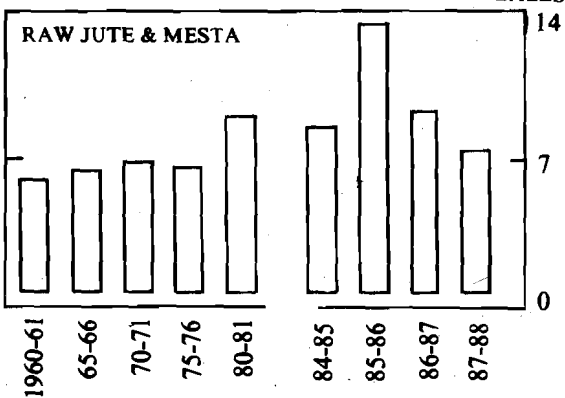
MILLION
TONNES



MILLION
BALES



MILLION
BALES



Source : Ministry of Finance, Economic Division

Table 16.9 : Industrial Production in India (Base 1980-81 = 100)

| Year | Basic Goods | Capital Goods | Consumer Goods | Intermediate Goods |
|---------|-------------|---------------|----------------|--------------------|
| 1981-82 | 110.9 | 106.7 | 113.8 | 103.7 |
| 1982-83 | 118.7 | 110.6 | 112.0 | 104.6 |
| 1983-84 | 125.7 | 123.5 | 113.8 | 114.9 |
| 1984-85 | 139.7 | 127.2 | 122.0 | 126.1 |
| 1985-86 | 149.2 | 140.7 | 137.3 | 135.5 |
| 1986-87 | 163.0 | 166.3 | 147.1 | 141.5 |
| 1987-88 | 172.2 | 192.9 | 158.0 | 148.1 |

Table 16.10 : Growth in Public Sector Only

| Year | No. of Units | Capital Used (crores Rs.) | Turnover (crores Rs.) |
|---------|--------------|---------------------------|-----------------------|
| 1980-81 | 163 | 18,200 | 28,600 |
| 1987-88 | 221 | 58,000 | 80,000 |

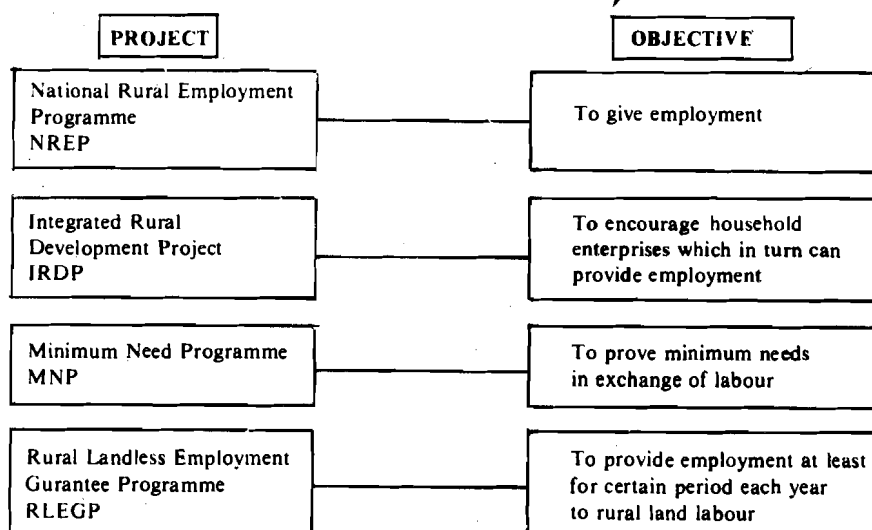
16.2.3 Employment Opportunities

An important aspect of development is the creation of jobs for surplus labour. With heavy industrialisation came other developmental activities : power generation, mining, railways, road and air transport, post and telegraph services, etc. The industries and other projects employ millions of people, who have, thus, an assured income.

To get an idea of the number of people employed in the industrial sector, consider the following figures. Coal mines, today, employ more than 8 lakh workers, an above-ground worker gets a minimum daily wage of Rs. 15.30, whereas a below-ground worker gets Rs. 18.45. The Railways give employment to no less than 18 lakh workers. The Steel Authority of India employs a total of 2,35,000 workers. Similarly, other organisations employ a large number of people.

In addition to people directly involved in industrial production, further employment is created in sale, distribution and in many cases for the repairs also. In spite of such progress, poverty is still rampant in India. Economists like to use a rather precise definition of poverty. An annual income of Rs. 6,400 for an entire household is defined as **the poverty line**. A family earning less than this figure, which you can see is already quite small, is said to be below the poverty line. Most of the poor people, in India, are in rural and tribal areas.

The government is running specific projects for poverty alleviation by providing jobs to rural people. These projects are as follows:



Effects of Changed Environment on Man

In the Seventh Five Year Plan (1985-90) more than 9,000 crores were earmarked for Rural Development Programmes. Out of this amount programmes capable of generating employment like NREP, SEP, RLEGS were given 5,000 crores.

You may also look at Table 16.11 showing the employment generated through NREP during 1980-85 (Sixth Plan). The employment created long range benefits for the rural people.

Table 16.11 : Employment Generated Through NREP

| Year | Employment Generated (million man-days) |
|---------|--|
| 1980-81 | 413.6 |
| 1981-82 | 354.5 |
| 1982-83 | 351.2 |
| 1983-84 | 302.8 |
| 1984-85 | 352.3 |

SAQ 3

a) How do developmental projects help in removing poverty?

.....

.....

.....

.....

.....

.....

b) Why did government start specific poverty alleviation projects?

.....

.....

.....

.....

16.3 CONSEQUENCES OF DEVELOPMENTAL ACTIVITIES

Progress means change, development creates wealth and employment at various levels. This means more money in the hands of an increasing number of people. Development thus brings improvement in the life style of people. In the following subsection we will tell you how the employment pattern has been changing because of developmental activities.

16.3.1 Changes in Employment Pattern

Let us first of all distinguish between two sectors of production—agricultural and industrial. Industrial sector is made up of two sectors, public and private. Public sector consists of industries and undertakings owned by the government, whereas the private sector is privately owned. India has a very prominent public sector which employs a very large number of people.

In March 1986, the organised sector employed 250 lakh people. By March 1988, this number had gone upto 257 lakh. Thus seven lakhs new jobs were created in two years' time. A large fraction of these seven lakh was certainly fully or partially employed in agricultural sector earlier. An increase in developmental activity means transfer of people from agriculture to the organised sector. This is as it should be. Our agriculture is overloaded with manpower. Farmers are seasonally employed. On an average, half of the year they remain unemployed. The present level of agricultural production can be achieved with a much reduced work force, and the surplus manpower utilised on other productive fields like agro-based industries, cottage and home industries, forest-based produce etc.

It is instructive to contrast the situation in India with that in the industrialised countries as given in Table 16.12. In these countries agriculture employs only about 2 to 12% of the work force and the remaining 90% work in other areas. Whereas in India, 69% of the population is engaged in agriculture.

Table 16.12 : Per Capita Income and Distribution of Labour Force in Selected Countries

| Country | Year | Per capita income in US \$ | Percentage of labour force in | | |
|------------|------|----------------------------|-------------------------------|----------|----------|
| | | | Agriculture | Industry | Services |
| U.S.A. | 1960 | 2,500 | 7 | 36 | 57 |
| | 1980 | 11,360 | 2 | 32 | 66 |
| U.K. | 1960 | 1,200 | 4 | 48 | 48 |
| | 1980 | 7,920 | 2 | 42 | 56 |
| W. Germany | 1960 | 1,220 | 14 | 48 | 38 |
| | 1980 | 11,730 | 4 | 46 | 50 |
| Japan | 1960 | 420 | 33 | 30 | 37 |
| | 1980 | 9,890 | 12 | 39 | 49 |
| India | 1960 | 70 | 74 | 11 | 15 |
| | 1980 | 240 | 69 | 13 | 18 |

Source : United Nations Statistical Yearbook 1977 and World Development Report 1982 and 1987.

Unfortunately, India is not yet industrialised enough to be able to remove surplus work force from agriculture and employ it in production of industrial wealth. Marginal farmers have to leave agricultural sector but they, generally, do not find suitable employment elsewhere.

The problem of finding appropriate jobs is also faced by another class of workers. For example, when artisans and skilled workers are forced to leave their profession on account of adverse market forces, they do not find any alternative productive employment. In desperation, they take up whatever job comes their way and their skills go in vain. To illustrate this point let us take the example of weaving. In earlier times, most of the spinning and weaving was done on a small scale spread all over the country. When mills were set up two things happened. First, the number of people who got jobs in the mills was much smaller than that of the people thrown out of work. Secondly, it was not the traditional weavers who joined the mills, but a different set of people. In order to survive, the weavers had to look for some alternative profession. Most of them failed to find work in their locality and migrated to towns and cities. Similarly, in coal fields when mines were started, a large number of such people left their profession and homeland and migrated to the cities. The problem of migration is discussed in the later part of this unit.

Developmental projects have, on the one hand, created jobs but, on the other, have made traditional workers unemployed and forced them to migrate to the cities. To take care of such anomalies the Government and other organisations are making efforts to provide employment to jobless people who have been rendered unemployed in their own areas. In section 16.2.3, we have already discussed various government programmes. For example, in the coal sector alone, since Independence, employment has been given to more than 18,000 persons who had lost their land. Similarly, efforts are being made in other sectors. Dams and irrigation projects displace large numbers of people from their land. The government is now giving adequate attention to their overall rehabilitation. During 1985 to 1990, more than 40 million **standard person year employment** was planned with an annual growth rate of about 4%. This was supposed to take care of people, among others, who become unemployed on account of developmental projects.

Standard person year employment means the situation when a man works daily for eight hours and gets employment for 273 days/year.

16.3.2 Changes in Economy

The developmental projects directly affect economy. First of all more income is generated by way of products and many people get involved in the economic process. Also, the traditional kind of activities are replaced by advanced activities and the resources are better utilised. For example with the completion of irrigation-cum-

power projects, more areas received irrigation and other agricultural facilities. These improvements led to Green Revolution. The net outcome was an increase in agricultural produce. The people who were having low income on account of uncertainties of rain and inaccessibility of other agricultural inputs started generating high income. Table 16.13 shows the annual percentage change in Gross National Product, agricultural production, industrial production and exports over the seven year period, 1980-87. You will find that in the agriculture sector some years show a decrease in production which was largely due to drought. This is so because our agriculture still is very much dependent on rain. Had the irrigation facilities been more assured for larger areas such decreases would not have occurred. Industrial production, electricity generation, and exports show an overall increase. This has become possible because new projects were taken up and they started functioning successfully. Consequently, the Gross National Product (GNP) as well as Monetary Resources also grew during these years.

Table 16.13 : Some Selected Indicators Showing Percentage Change over Previous Year

| | 1980-81 | '81-82 | '82-83 | '83-84 | '84-85 | '85-86 | '86-87 |
|-------------------------|---------|--------|--------|--------|--------|--------|--------|
| Gross National Product | 7.4 | 5.9 | 2.6 | 8.0 | 3.9 | 5.1 | 3.8 |
| Agricultural Production | 15.6 | 5.6 | -3.3 | 13.7 | 1.2 | 2.4 | -3.7 |
| Industrial Production | 4.0 | 9.3 | 3.2 | 6.7 | 8.6 | 8.7 | 9.1 |
| Exports | 4.6 | 16.3 | 12.8 | 11.0 | 20.2 | -7.2 | 14.3 |

Table 16.13 shows the growth for each year as compared to the previous year. If we calculate actual growth during these years, it would be very impressive. Similarly, the graphs of performance of infrastructure for coal and lignite production, electricity generation, crude oil and petroleum products given in Fig. 16.2 and 16.3 show regular growth till 1988. However, years 88-89 show a general decline in production in these sectors. The increase in production has been possible only on account of developmental projects taken up during these years.

When the GNP, Monetary Resources and production of infrastructure goods and materials grow, the whole economy grows.

16.3.3 Changes in Living Styles

When development takes place and economy is strengthened, there will be direct or indirect impact on all aspects of life. With the implementation of developmental projects, one positive change that takes place regularly is the change in life style. It is a common scene that wherever a development project starts new colonies appear even before the project is commissioned. First, the workers who have to erect the project need housing facilities at a convenient site, so that much of their time is not wasted in travel between their residence and place of work. Since the housing facilities are inadequate in every part of the country, it is not possible to make use of the existing housing facilities of that area.

So, new houses are constructed for the workers. When the project is commissioned, the workers engaged in erection of the project leave. Now the workers who will run the project need to be accommodated. Generally, their number is higher. So, further housing facilities are created. As you know, group housing for the workers close to the work place is always in the interest of a project. Most of the big developmental projects do take interest in this field. We often come across new workers' colonies. Examples are steel plants, petroleum refineries, thermal power plants, hydroelectric projects, railways and airlines. These colonies generally have a proper layout and provision for drinking water and sewage. In addition, they have parks, green areas, play fields, schools, roads, clubs, etc. Such colonies often appear as oasis in the desert of unplanned housing. During the Sixth Plan, public enterprises alone spent about Rs. 275 crore on housing. For example, when Coal India Ltd. was

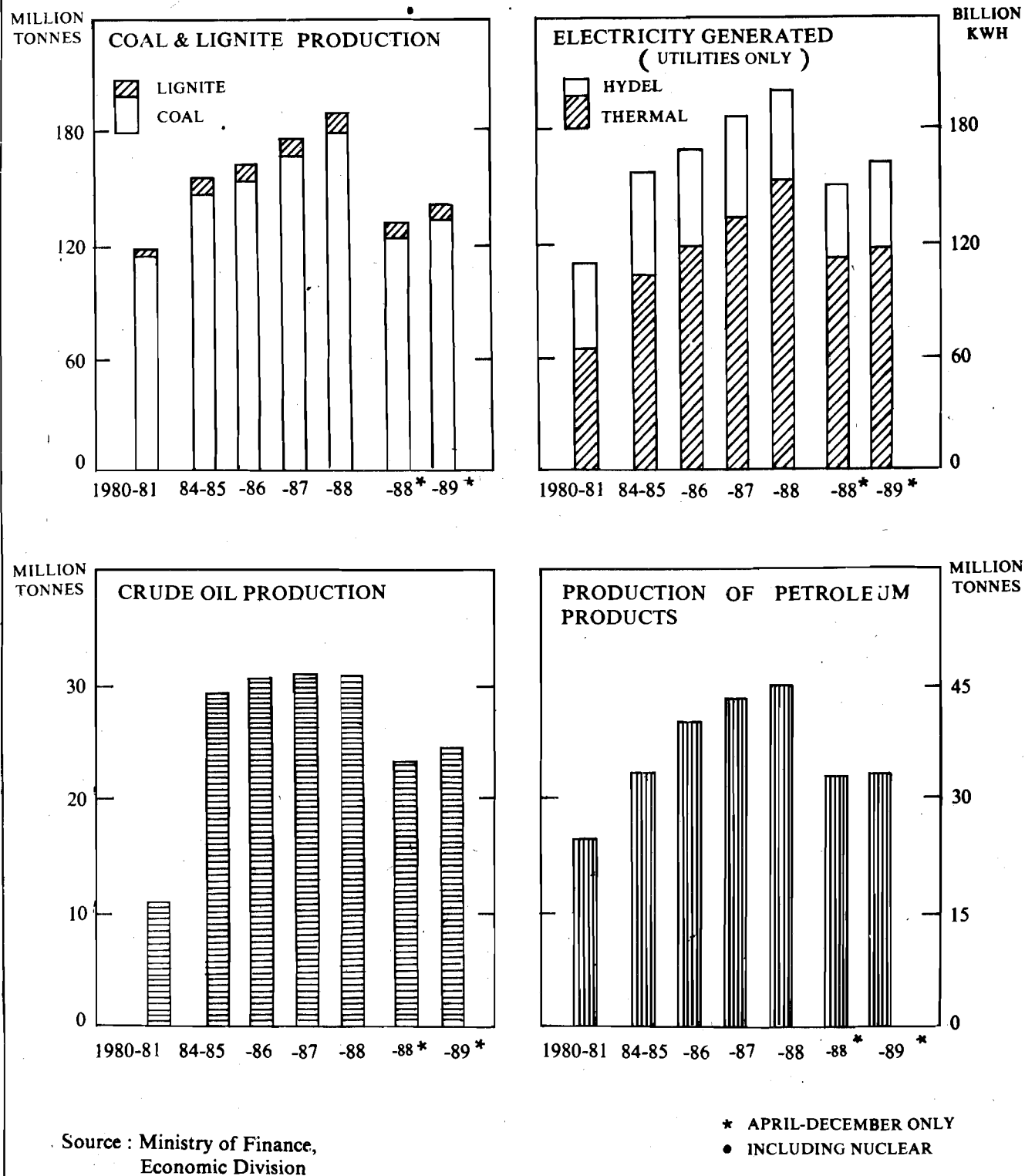
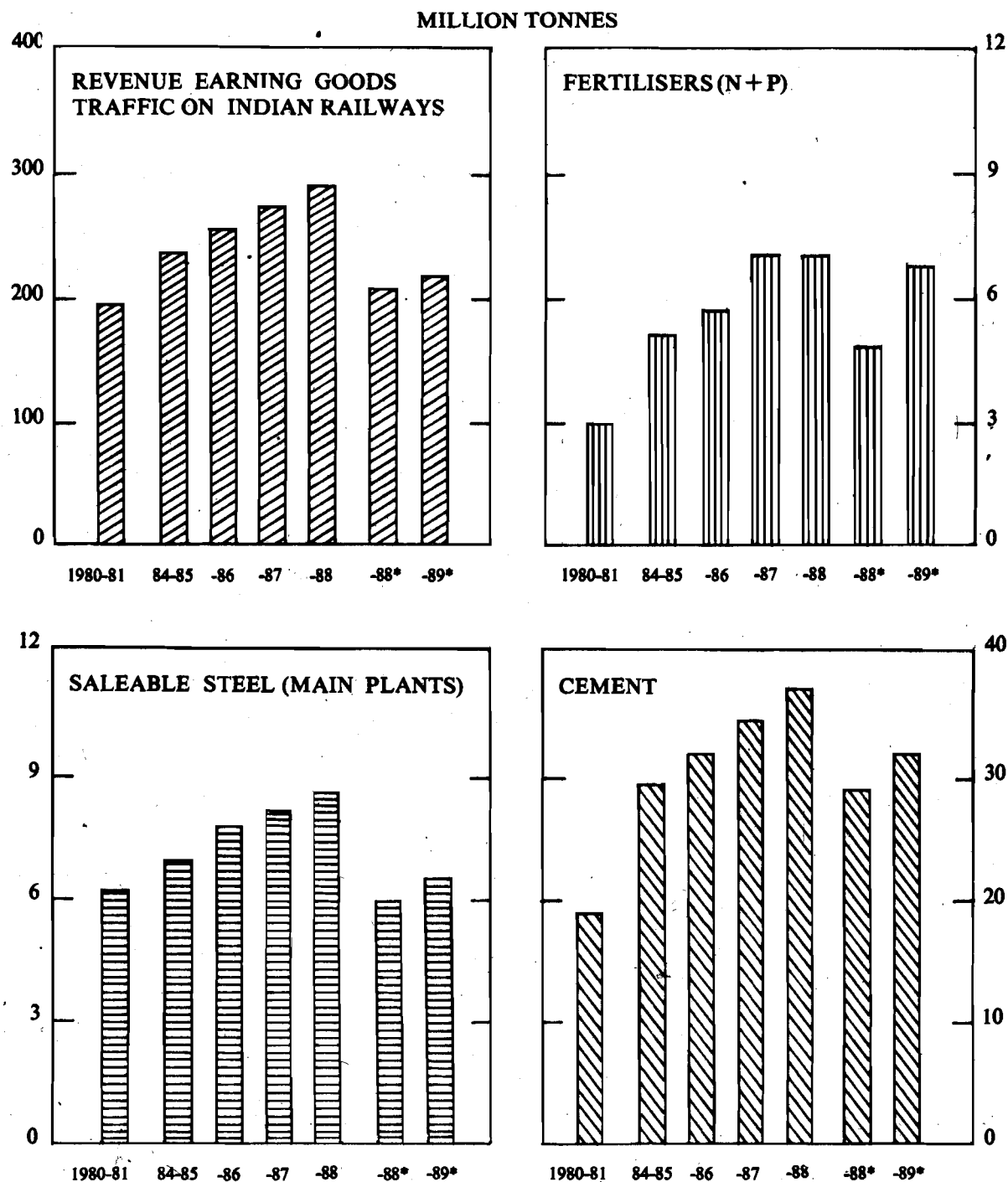


Fig. 16.2 : Performance in Coal, Electricity and Petroleum Production



Source : Ministry of Finance,
Economic Division

* APRIL-DECEMBER ONLY

nationalised it had only about 1,18,000 houses for its workers. Now there are 3 lakh houses available and the target is to provide houses to at least 70% of its workers. Similarly, other public and private enterprises are providing housing facilities to their employees.

When residential colonies are fully equipped with facilities for education, health and extra-curricular activities, they bring substantial changes for better living. So from this brief account we can conclude that improvement in the standard of living is an indirect outcome of developmental projects.

16.3.4 Displacement of Population and Migration

Land is the first requirement for any developmental project whether it is industrial, hydroelectric, thermal power generation, railways or any other. In an overpopulated country like ours it is difficult to find land that is not already inhabited or under cultivation. The first step in any project is clearing it of human population.

Unfortunately, the resettlement of these uprooted persons is generally not a part of the project. Left to themselves, the displaced persons find it impossible to start their life afresh.

Migration

Migration of human population is a common phenomenon. People have always migrated from one place to another in search of better avenues of livelihood. Here we will talk about migration due to developmental projects. Whenever, a project is implemented it occupies land and other resources. People of the area have to leave their home, professions and migrate to other places in search of new homes. Large scale migration occurs wherever dams reservoirs are constructed.

The construction of dams, like the Srisaillam dam in Andhra Pradesh, the Kalihydroelectric project in Karnataka, the Pong dam in Himachal Pradesh and some others have uprooted many people making them refugees in their own land. Most of the affected people are marginal farmers, agricultural labourer, and others who are economically backward. It seems unlikely that they have received their share of money in compensation or alternative non-agricultural occupation.

In Unit 7, you have already learnt about Tehri Power Project. It is estimated that about 4,600 hectare of forest land will be submerged and 3,500 odd families will be displaced. The gigantic Srisaillam dam planned across the Krishna river will submerge over 100,000 acres of land displacing about 100,000 persons.

Some of these people manage to get absorbed in the nearby area while other move out in search of alternative jobs. Most of them migrate to already crowded cities and larger towns, where they can earn to sustain themselves. The main drawback of developmental activities is inadequate provision for rehabilitation of affected population. Till recently, it was considered that cash compensation to people who lost their land and livelihood can take care of the problem. However, it has been observed that cash payment created different types of problems including bungling and corruption. Even if the amount was given to the affected people, it was not feasible for them to start any profitable venture which could compensate for their earlier profession. For example, a farmer cannot easily buy land at another place and start farming. In fact, while in search of a job, all their cash is spent for the daily needs in a short time. Eventually, in the absence of cash and land they end up living below the poverty line. For instance, it has been observed that almost all the farmers in the vicinity of Koyna reservoir live in scattered bastis, below the poverty line because the employment potential in the area is negligible. Similar is the state of people uprooted by industrial or other projects. As a consequence, most often the affected population is drawn to the cities and that is one of the reasons the population in urban areas is increasing rapidly.

During 1971 to 1981, the urban population growth was faster than the total population growth. In the urban areas the increase was 46% while the overall increase in national population was 26%. This was due to migration of people from villages to cities. Table 16.14 shows the rapid increase in the population of major Indian cities.

Table : 16.14 : Increase in Population in Major Indian Cities (in thousands)

| City | 1901 | 1951 | 1961 | 1971 | 1981 |
|----------------|------|------|------|------|------|
| Calcutta | 1488 | 4589 | 5737 | 7031 | 9166 |
| Greater Bombay | 813 | 2967 | 4152 | 5971 | 8203 |
| Delhi | 214 | 1437 | 2359 | 3647 | 5752 |
| Madras | 594 | 1542 | 1945 | 3170 | 4277 |
| Hyderabad | 448 | 1128 | 1249 | 1796 | 2566 |
| Ahmedabad | 186 | 877 | 1206 | 1742 | 2515 |
| Bangalore | 159 | 779 | 1200 | 1654 | 2914 |
| Kanpur | 203 | 705 | 971 | 1275 | 1685 |
| Pune | 164 | 606 | 791 | 1135 | 1685 |
| Nagpur | 128 | 449 | 644 | 930 | 1298 |

But it would be erroneous to conclude that all the increase is due to forced migration. Because a large number of people migrate without compulsion. Though they can get some employment in their own place, they prefer to migrate, because they find cities a better place to live and work.

16.3.5 Formation of Slums

You have already learnt in Unit 9 that slums have become an integral part of city life in all developing countries. There is no large city in the world which does not have a big slum population. So the phenomenon is not confined to India alone. You know that slums represent the worst type of environmental degradation that has become concomitant to urbanisation and industrialization. Slums cause deterioration of surrounding region and are a threat to human health.

We have mentioned above that there has been a large-scale influx of people into cities from rural areas. The cities, however, have not been equipped to cope with this increase. Most of these new entrants to urban areas cannot afford proper living space and therefore, end up in slums. It is estimated that by the year 2000 A.D., the slum population in India will rise to about 78 millions. Now the question is: Are the developmental projects the cause of slum population? We have learnt that many rural people become homeless and unemployed when their land and houses are acquired for erecting developmental projects. But it must be emphasised that the people affected by developmental projects constitute a very small fraction of slum population. Not all these people migrate to the cities. In fact, the slum population of cities is mostly comprised people who had migrated to the cities due to lack of employment. Or because they found cities a better place to live.

Since the cities are developing rapidly there are many job opportunities. For example, construction in the cities has increased during the last few decades. Similarly, a large number of small and medium size industries have come up and the commercial activities have grown to a great extent. Due to rapid growth in cities the newcomers do find some employment to support themselves. The migrants are generally employed as labourers. They may be able to earn enough to make both ends meet somehow, but they cannot get housing facilities as these are limited and expensive. Some of the contributing factors causing the growth of slum are inadequacy or non-existence of civic amenities, failure to improve rules regarding house building and encroachment of public land, etc.

You have learned in Unit 9 about the existence of rich and poor residential areas in the cities. We often find that sites close to industries, thermal power stations dams, etc. are generally not used by affluent people for residential purpose. They know the deleterious effects and risks involved in such areas, and of course they have alternatives. These areas are occupied by slum dwellers because the danger of eviction is minimum. They may be aware of risks and sufferings in such areas but do they have any alternatives? That is why in Bhopal gas leak disaster most of the people affected were slum dwellers around the Union Carbide factory.

Now the government plans to improve facilities in slum areas. It is proposed to provide basic facilities like water supply, electricity, sewers, storm water drains, community baths and latrines and improved lanes in these areas. For the Seventh Five Year Plan, about 270 crore was allocated for this purpose. This is expected to benefit about 9 million slum dwellers. Between 1985 to 1988 about 71.5 lakh slum dwellers have received benefit under the slum improvement schemes. In addition, the

Government is making efforts to check the migration of people towards cities. New developmental projects with employment potential are being planned for rural areas.

16.3.6 Rehabilitation of the Displaced Persons

Different projects affect the population differently. The number of people who have moved out and need rehabilitation depends upon the size of the project and on the density of population in that area. For example, an irrigation project involves construction of a dam and a reservoir and therefore, affects a large area. Whereas an average size thermal plant affects a much smaller area.

Let us consider the specific case of Narmada Sagar Project and Sardar Sarovar Project. It is estimated that Narmada will submerge more than 40 thousand hectares each of forest and cultivated land. More than 250 villages will be affected including 89 which will be fully submerged. About 1.3 lakh people will be displaced and will need rehabilitation.

In **Sardar Sarovar Project** more than 12,000 hectare of cultivated land and about 25,000 hectare of forest and other lands will be submerged. More than 230 villages will be affected. **Trombay Thermal Power Station** in Chambur (Bombay) which is constructed on a reclaimed site is expected to affect more than 1 million people within a radius of about 10 km.

Another big project still at a planning stage, is the unified mining system in the areas of Jharia, Katras and Kirkend in Bihar. If this project by the public sector **Bharat Coking Coal Ltd.** is approved, it will affect the population in an area of about 480 sq km.

Clearly, the first step in any development project is the human angle, the welfare of population that has to be uprooted. The planning is needed on the following:

- a) cultural, religious and social survey to provide sociological and economic condition of the affected people.
- b) Survey of the rehabilitation site to establish the water and land availability and the steps needed to make the land fit for agriculture and a plan for implementation. Also, consent of oustees should be taken before rehabilitation.
- c) Necessary services should be made available so that the rehabilitated population may continue agriculture in the new areas.
- d) Providing vocational training and job opportunities.
- e) Modular house designs with local materials.
- f) Necessary help during shifting and reconstruction.
- g) Monetary aid.
- g) Post-resettlement service to overcome any unforeseen problems.

The master plan for rehabilitation has also to take care of total environment. Not only the oustees have to be rehabilitated but also the herbage. Even landless cultivators have to be provided for. Impact assessment which is now essential for every large project help to assess the effect of developmental activities. The aim is to save people and environment from adverse impacts of developmental projects.

SAQ 4

- a) Illustrate with an example how developmental projects have caused social degradation of our environment.

.....

.....

.....

.....

- b) List some of the steps taken by our government to check migration of rural people towards cities.

.....

- c) Our agriculture system is overloaded with man power. Can it be reduced ?

16.4 SUMMARY

In this unit you have learnt that :

- Developmental projects are necessary for the progress of a country because they are meant for the production of energy, irrigation facilities, fertilisers, machinery and industrial goods.
- Since Independence India has made some progress in energy production from coal, electricity and petroleum, however, it is still far below our country's requirement.
- Developmental projects have resulted in considerable increase in agricultural and industrial production and Gross National Product. The projects have generated income, created new jobs, raised the standard of living and changed the pattern of employment.
- Benefits of developmental projects have not gone to the poor and needy. Due to mismanaged planning of irrigation projects lakhs of people have been displaced and they have become refugees in their own homeland.
- Due to lack of alternate employment and planned rehabilitation programmes they migrate to cities and are forced to live in slums. This has resulted in social degradation of environment and deterioration in quality of life.

16.5 TERMINAL QUESTIONS

- 1) Why it was felt necessary by the government to start specific poverty alleviation projects ?

- 2) Suppose you were asked to examine a plan of a developmental project to be implemented in your area. How would you assess its environmental impact and what major points would you check in your plan?

- 3) Why are developmental projects becoming a major subject of public controversy over the last few years ?

.....

.....

.....

.....

.....

- 4) You may be aware of the changes in employment pattern in your area. You should ask your elders about the type of jobs available forty years ago and compare it with the situation today. Find out what gradual changes have occurred during this period and why ?

.....

.....

.....

.....

.....

16.6 ANSWERS

Self Assessment Questions

- 1) a) i) Increase in production of wealth
ii) Elimination of poverty
iii) Reduction of economic inequalities
iv) Generation of employment
b) Broadly developmental projects are aimed to increase food production, industrial goods, energy production and other facilities which are necessary for survival. Since India has a very large population it is not possible to provide basic amenities to people without developmental projects.
c) Irrigation facilities, fertilisers, energy, machinery and pesticides are necessary for increasing agricultural production. These can be fulfilled by developmental projects.
- 2) a) Comparison of the present production of energy from coal, electricity and petroleum products with the production at the time independence show a remarkable progress in this fronts.

Fill in data from the text.

| | 1947 | Present |
|--------------------|-------|---------|
| Electricity | | |
| Coal | | |
| Petroleum products | | |

- b) i) F, ii) T, iii) T, iv) T
- 3) a) Elaborate the positive features of developmental projects on the following lines :

increase in employment, people have assured income, increase in agricultural inputs and industrial goods, release of goods in the market, further employment etc. All together remove poverty and bring prosperity.

- b) Discuss the following issues.

Fruits of overall development does not reach rural people. Such projects can rectify the situation and benefit rural people.

- 4) a) Narmada Sagar project is one. It will submerge large area and affect a large number of people. If the resettlement of people is not taken seriously, they will have to migrate and live substandard life.
- b) The steps taken by government are :
 - 1) Rehabilitation of oustees from developmental projects
 - 2) NREP, MNP, RLEGP, etc.
 - 3) Encouraging growth centres in rural areas
 - 4) Industrialisation of rural areas
 - 5) Creation of facilities in rural areas
- c) No. At present we do not have infrastructure for relieving people from agriculture and providing them alternate non-agricultural occupation.

Terminal Questions

- 1) Majority of our population is below the poverty line. Increase in Gross National Product cannot guarantee equitable distribution. Therefore, specific poverty removal projects, mainly for the employment of poor people need to be initiated so that people have assured income and can obtain basic amenities like food, shelter, clothing etc.
- 2) The main points to consider are :
 - i) impact on environment—pollution etc
 - ii) impact on health of human beings
 - iii) benefit to local people in terms of employment opportunities and product utilisation.
 - iv) if it involves displacement of people, a rehabilitation plan need to be formulated.
- 3) Elaborate up to a page and half along the following issues which are the reasons of controversy.

Degradation of environment—deforestation, pollution, deterioration of quality of soil and water. Climatic changes (flash flood), displacement of people, migration to cities and formation of slums.