

## **DETAILED SYLLABUS**

**Course No. ECO-415**

**Credits : 6**

**Title : Indian Agriculture**

**Maximum Marks : 100**

**a) Semester Examination : 80**

**b) Sessional Assessment : 20**

**Duration of Major Examination : 3:00 hrs**

### **INDIAN AGRICULTURE**

**Syllabus for the Examination to be held in May 2020 to May 2022**

**Preamble :** The contents of the course are structured to make students aware about role and function of agriculture in the economic development of Indian economy. It covers trends in production and productivity, land utilization, pattern of land reforms in India, cooperative movement in India, the extend of agriculture unemployment and credit facilities in agriculture, impact and growth of agriculture in international context.

#### **Unit : I – Role, Problem and Development of Agriculture in India**

Contribution of agriculture in national economy, Trends in agricultural production and productivity; Causes of its backwardness, and measures for agriculture development, Land utilization-classification of land, change in land utilization pattern, optimal land use pattern; Cropping pattern, determinants of cropping patterns, land under food and non-food crops, future cropping pattern; Agriculture in Five Year Plans : Rural industrialization : Challenges and Proposition.

#### **Unit : II – Agriculture Reforms and Cooperation in India**

Land reforms in India-land tenure systems, objectives, measures and abolition of intermediaries, reorganization of agriculture and progress of land reforms; Technological change and New Agricultural Strategy-Green revolution, Ingredients of green revolution, impact of green revolution on agricultural production, employment, income distribution, economic disparity and inter-regional disparities, Future rationale of green revolution; Development of organic farming in India; scope and challenges : Doubling of farmers' income by 2022 : Rationale and Strategy. De Cooperative movement in India : Problems and prospects of cooperative institution.

#### **Unit : III – Agricultural Labour and Agriculture Finance**

Nature and extent of agricultural labour in India; agricultural wages in India, male-female

wage differences; factors responsible for marginalization of rural labour, Programmes for improving the conditions of agricultural labour; Rural labour unemployment-estimates and magnitude, state policy towards rural employment-lates; Magnitude of rural-urban migration in India, factors responsible for migration, Extent of rural indebtedness' in India after independence, causes of indebtedness and impact of legislation measures; characteristics and sources of rural credit - institutional and non-institutional, Reorganization of rural-cooperatives, commercial banks, Regional Rural Banks, Role of NABARD.

#### **Univ: IV – Agricultural Growth in India and External Sector**

Recent trends in agricultural growth in India; Inter-regional variations in growth of output and productivity, Supply of inputs–irrigation, power, seed and fertilizers; Food Security in India–Public Distribution System, Targeted Public Distribution System, status of ICDS and mid day meals; Impact of subsidies on agriculture inputs; Capital Formation in Indian agriculture, Foreign Trade in Indian agricultural development - Globalization of Indian economy and problems and prospects of India agriculture under WTO regime.

#### **NOTE FOR PAPER SETTING :**

There shall be two types of questions in each Unit - four short answer type (each of 250 words) and two medium answer type (each of 500 words). The candidate will have to attempt two short answer type questions and one medium answer type question from each Unit. Each short answer type question shall carry 4 marks and each medium answer type question shall carry 12 marks.

#### **Basic Reading List :**

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## **AGRICULTURE IN INDIA-CONTRIBUTION AND TRENDS**

### **STRUCTURE**

- 1.1 Introduction
- 1.2. Objectives
- 1.3 Contribution of Agriculture in Indian Economy.
- 1.4 Trends in Agriculture : Production and Productivity
  - 1.4.1 Trends in Production
  - 1.4.2 Trends in Productivity
- 1.5 International Comparison of India's Agricultural Productivity
- 1.6 Let us Sum Up.
- 1.7 Lesson End Questions

### **1.1 INTRODUCTION**

This lesson deals with the contribution made by agriculture sector to the Indian economy in the form of GDP, employment, capital formation. Foreign exchange, food security, backward and forward linkages to the industry. This lesson also provides information to the students regarding the trends in the foodgrains and non-foodgrains over the years. And it also provides information on the productivity of land and labour in India and a comparison of it with the world as whole and to other countries of the world.

## 1.2 OBJECTIVES

After going through this lesson, the student will :

1. be able to know about the position and contribution of agriculture in Indian economy.
2. shall know about trends in Agricultural production and productivity.
3. be able to make a International comparison of India's Agricultural productivity.

## 1.3 CONTRIBUTION OF AGRICULTURE IN INDIAN ECONOMY :

Agriculture is the backbone of Indian economy. Agriculture is the most important occupation for most of the Indian families.

In India, agriculture contributes about 16% of total GDP and 10% of total exports.

That is the reason India secured second position worldwide in terms of farm output. About 75% people are living in rural areas and are still depended on agriculture. About 43% of India's geographical area is used for agricultural activity.

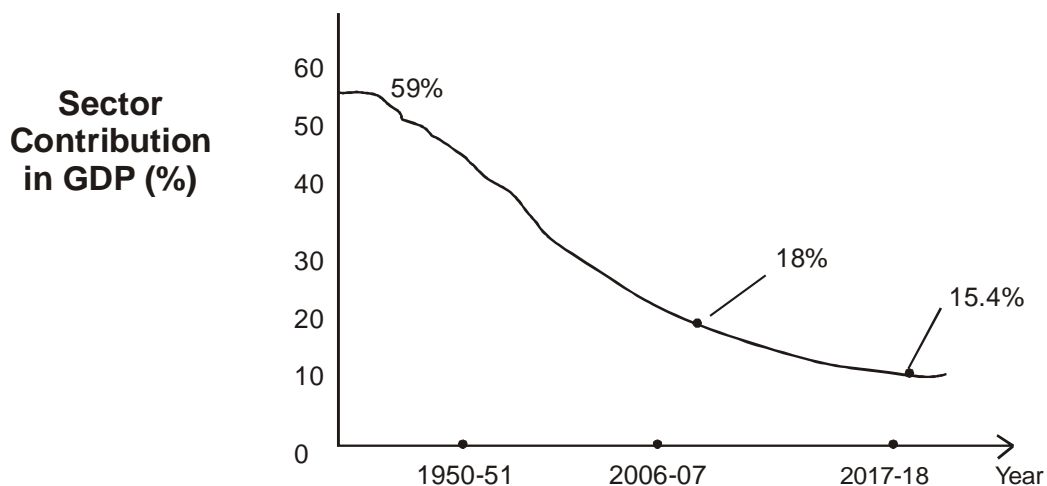
- **AGRICULTURE IN INDIA :**

- Total geographical area - 328 million hectares.
- Net area sown - 142 million hectares.
- Net irrigated area - 56.9 million hectares.
- Provides food to more than 1 billion people
- Products 51 major crops.
- Contributes to 1/6th of the export earnings.
- India in world of Agriculture :
- Largest producer of Milk, Cashew Nuts, Coconuts, Tea, Ginger, Turmeric and Black Pepper

- Largest Cattle Population - 281 million
- Second Largest producer of Wheat, Rice, Sugar and Groundnut and pulses.
- Third largest population of Tobacco
- Third largest in implementation of Mechanization

## ROLE OF AGRICULTURE IN INDIAN ECONOMY

1. **Share in National Income :** Although the share of agriculture in the total national income has been gradually decreasing on account of the development of secondary and tertiary sectors, it still contributed 59% in 1950-51, 18% in 2006-07 and 15.4% in 2016-17



Explanation 3 times  
Source : statisticstimes.com

2. **Source of Employment :** In India agriculture is the main source of employment. Even in 2018, 41.61% of the total labour force in India is engaged in agriculture and depend on it for their livelihood. In 1950-51, 69.5% of the total labour force of India is engaged in agriculture which was declined over a period of time.



It becomes evident from this fact that other sectors of the economy could not generate enough employment for the growing population. Source : data.worldbank.com

- 3. Provision of Food Grains :** Agriculture in India has played an important role in meeting the almost the entire food needs of the people.

The production of food grains in India has increased from 51 million tonnes in 1950-51 to 208.3 million tonnes in 2005-06 and to 275.7 million tonnes in 2016-17

This has enabled the country to overcome the production of food grain shortages. The country almost self - sufficient in food grains and no longer depends on import of food grains

- 4. Supply on Raw materials to Industrial sector :-** Many industries like cotton industry, sugar industries, jute industries etc. depends on agriculture for their requirements.

Moreover, workers engaged in various industries depend on agriculture for the food requirement.

- 5. Market For Industrial Product :** Agriculture provides markets for large number of industrial products. Since about two thirds of India lives in rural areas, there is a large rural purchasing power which has created a large demand for all type of industrial product.

Green revolution has considerably increase the purchasing power of the large farmers in the recent years.

- 6. Earner of Foreign Exchange :** Though exports of agricultural commodities like tea, coffee, jute, fruits, vegetables, spices, sugar, oil etc. in the past export of agricultural products products accounted for about 70% of the export earnings of the country.

### **Top 10 Agricultural exports and imports**

1	Exports	Imports
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2	Milled Rice	Leguminous Vegetables	Imported from
3	Coffee	Raw Silk	China, USA, Europe,
4	Wheat	Dried Peas	Argentina, Asean, Brazil
5	Tea	Cotton	
6	Cotton	Cashew Nuts	
7	Castor Oil	Soya Bean Oil	Exported to : Asean,
8	Frozen Beef	Palm Oil	China, Europe, S. Arabia
9	Soya Bean Meal	Vegetable Fats and Oil	UAE, USA
10	Milicilages from	Raw a sugar cane	
	Locust beans		

**7. Significance for trade and transport :** Various means of transport like roadways and railways get bulk of their business from the movement of agriculture commodities and raw materials.

**8. Source of Reverse for the Government :** Through the direct contribution of agricultural taxes to the central and state governments is not significant, they get a significant part of their total reverse in terms of land revenue, irrigation charges, taxes imposed on the commodities purchased by the cultivators etc. Central government also earns revenue from exports duties.

**9. Development of Industries :** Agriculture has an important contribution to the growth of Industrial sector in a variety of ways :-

- i) Increased Agro based industries get raw materials like Jute, Rubber, Cotton, Sugar, Coffee, Tobacco etc. from agricultural sector.
- ii) Direct increase in the demand of specific industries : Tractors, Agricultural tools and implements, fertilizers and pesticides industries as directly dependent on agriculture as they supply their products to their particular sector.

**10. Creation of Infrastructure :-** The development of agriculture requires roads,

market yards, storage, transportation railways, postal services and many others for an infrastructure creating demand for industrial products and the development of the commercial sector.

**11. Helpful to reduce Inequality :** In a country which is predominately agricultural and over populated, there is greater inequality of income between the rural and urban areas of the country. To reduce this inequality of income, it is necessary to accord higher priority to agriculture. The prosperity of agriculture would raise the income of the majority of the rural population and thus the disparity in income may be reduced to a certain extent.

**12. Helpful in phasing out economic Depression :** During depression, industrial production can be stopped or reduced but agricultural production continues as it produces basic necessities of life. Thus it continues to create effective demand even during adverse conditions of the economy.

**13. Improving Rural Welfare :** It is the time that rural economy depends on agriculture and allied occupations in an underdeveloped country. The rising agricultural surplus caused by increasing agricultural production and productivity tends to improve social welfare in rural masses rises and they start consuming nutritious diet including eggs, milk, ghee and fruits.

**14. Source of Capital Formation :** Large part of Indian Capital is invested in agriculture. From the point of view of fixed assets, farm - lands occupy the highest place.

- a) Capital worth million of rupees is lying invested in the form of means of irrigation, cattle agricultural implements, tractors, canals etc.
- b) There is a much disguised labour in agriculture. If these persons are engaged in construction projects like construction of roads, building etc.

#### **1.4. TRENDS IN AGRICULTURE PRODUCTION AND PRODUCTIVITY.**

The agriculture production refers to the total production or output produced of two crops viz. food crops and non-food crops. Food crops consist of cereals such as rice, wheat, jowar, bajra etc. and pulses such as gram, moong etc. The non-food crops

consist of oilseeds, sugarcane, cotton, jute etc. In India food crops are grown over nearly three-fourths of gross sown area.

#### **1.4.1 Trends in Agriculture Production**

In the earlier years of economic planning, food availability was the serious problem in India. The total food grain production was hardly 51 million tones in 1950-51. Which increased to 259.29 million tonnes in 2011-12. The trends in growth rate of total production clearly indicate that the total food grain production witnessed a tremendous spurt in the post green revolution period i.e. from mid 1960's to 1990. During the period 1964-65 to 1980-81, the growth rate remained subdued. It may be noted however that the area expansion having slowed down considerably the output growth during this period was achieved through tremendous improvement in the yield growth. During this period. Acharya (1998) explains that the policy package for this period was substantial and consisted of i) introduction of high-yielding varieties of wheat and rice by strengthening agricultural research and extension services, ii) measures to increase the supply of agricultural inputs such as chemical fertilizers and pesticides, iii) expansion of major and minor irrigation facilities iv) announcement of Minimum support prices for major crops, government procurement of cereals for building buffer stocks and to meet public distribution needs, and v) the provision of agricultural one dit on a priority basis. The physical and institutional infrastructure relating to marketing of agriculture output was also created. Further, the growth in net area cultivation also contributed to the agriculture growth.

The period since the early 1990s i.e. when the economic reforms were initiated in 1991 is much worse as compared to any other period since Independence and this comparison is quite stark when compared to the preceding decade of 1980s. In the eighties, the rate of growth of agricultural output was 3.19 percent which declined to 2.29 percent in the nineties. In 2000-01 to 2006-07 the rate of growth of agricultural output was 2.61 percent and in 2007-08 to 2012-13 it was 3.7 percent. The rate of growth of food grains production decelerated from to 2.85 per cent during the period 1980-81 to 1989-90 to 2.02 percent in the period. 1990-91 to 1999-2000. In the period 2000-01 to 2006-07. the rate of growth of food grains was 1.19 percent which increased

to 3.1 percent during the period 2007-08 to 2012-13. In case of non-food grains the rate of growth was 3.74 percent during the pre-green revolution period. This growth rate was 2.26 percent in the post green revolution period i.e. 1967-68 to 1980-81. In the period. 1980-81 to 1989-90. The growth rate of non-food grains was 3.77 percent. The reason for this fluctuation are i) Introduction of green revolution puts the area under foodgrains which was earlier under non-foodgrains and ii) Introduction of HYV of seeds for non-foodgrains in the 1980's. The growth rate during the period 1990-91 to 1999-2000 was 2.29 percent which increased slightly to 2.61 percent and 4.5 per cent during the period 2000-01 to 2006-07 and 2007-08 to 2012-13 respectively.

As far as foodgrain output is concerned, the total production increased from 50.8 million tonnes in 1950-51 to 108.42 million tonnes in 1970-71 and 176.39 million tonnes in 1990-91. In 2000-01, the total foodgain production was 196.81 million tonnes which increased to 244.49 and 259.29 million tonnes in 2010-11 and 2011-12 respectively. Under foodgrains, rapid strides is marked in wheat, jowar, bajra and maize. Excepting set backs in some years, rice shows a steady upward trend. The production of wheat was just 6.46 million tonnes in 1950-51. But with the introduction of HYVs in 1960s, the production of wheat has increased. In 1970-71 the production of wheat was 23.83 million tonnes which increased to 55.14 and 69.68 million tonnes in 1990-91 and 2000-01 respectively in 2010-11, the production of wheat was 86.87 million tonnes and in 2011-12 it was 94.88 million tonnes. The production of rice in 1950-51 was 20.58 million tonnes and it increased to 74.29 million tonnes in 1990-91. In 2010-11, the rice production was 95.98 million tonnes which increased to 105.30 million tonnes in 2011-12. The production of coarse cereals was 15.38 million tonnes in 1950-51 which increased to 30.55 and 32.70 million tonnes in 1970-71 and 1990-91 respectively showing a slow growth rate. Its production increased to 43.40 million tonnes in 2010-11 but fall down in the next year i.e. 2011-12 to 42.01 million tonnes. The production of pulses was 8.41 million tonnes in 1950-51 which increased in 1960-61 i.e. 12.70 million tonnes but fell down in the next decade i.e. 1970-71 (11.82 MT) and 1980-81 (10.63) MT. The production of pulses rice in the next decade 1990-91 i.e. 14.26 million tonnes but again decline in 2000-01 to 11.08 million tonnes. In 2010-11 it was 18.24 million tonnes and in 2011-12 it stood at 17.09 million tonnes.

In the non-foodgrains group, jute and cotton show slow and halting progress. However, the production of oilseeds rose considerably in the later half of the 1980s and in certain years of 1990s. The production of oilseeds was 5.16 and 9.63 million tonnes in 1950-51 and 1970-71 respectively. In 1990-91, the production of oilseeds rose to 18.61 million tonnes and in 2010-11 it was 32.48 million tonnes. In 2011-12, the production of oilseeds fell to 29.80 million tonnes. The production of cotton was 3.04 Million tonnes in 1950-51 which rose to 9.84 and 33 million tonnes in 1990-91 and 2010-11 respectively. It rose to 35.2 million tonnes in 2011-12. The production of Jute and Mesta was 3.31 and 9.23 million tonnes in 1950-51 and 1990-91 respectively. In 2010-11 and 2011-12 it rose to 10.62 and 11.40 million tonnes respectively. The production of sugarcane in 1950-51 was 57.05 million tonnes which increased to 126.37 million tonnes in 1970-71. It was 241.05 million tonnes in 1990-91 which rose to 295.96 million tonnes. In 2010-11, the sugarcane production was 342.38 million tonnes which rose to 361.04 million tonnes in 2011-12.

#### **1.4.2 Trends in Agricultural Productivity**

Productivity shows the production or output per unit of input. Agricultural productivity is generally study from two view points.

##### ***(A) Productivity of Land.***

It is given as output per hectare of land. In the early period of independence the yield per hectare of land was extremely low in case of all crops. In case of food crops, two major food crops that is wheat and rice have shown substantial increase in productivity during early 70's. The productivity in coarse cereals like maize improved largely after 1980-81. This is mainly due to widespread use of high yielding varieties of seeds (HYVs), development of irrigation facilities and use of fertilizers. In case of other crops like pulses and oilseeds productivity gains have been negligible. But for other food crops the increase in productivity has been very slow. In case of non-food crops the significant increase in productivity occurs in will be cotton. The productivity growth in oilseeds has not been very encouraging. This is reflected from the data discussed below. In case of total food grains, the productivity was 5.22 quintal per hectare in 1950-51 which increased to 13.8 quintal per hectare in 1990-91. In 2000-01 the productivity of food

grains was 16.26 quintal per hectare which stood at 20.59 quintal per hectare in 2011-12. Among the food crops, two crops, rice and wheat show remarkable increase in the productivity. The productivity of rice in 1950-51 was 6.68 quintal per hectare which was 19.01 quintal per hectare in 2000-01. In 2011-12 the productivity of rice increased to 23.72 quintal per hectare. The productivity of wheat shows more impressive performance due to the introduction of HYVs in the mid 1960s. The productivity of wheat was 6.63 quintal per hectare and it increased to 27.08 quintal per hectare in 2000-01. In 2011-12, the productivity of wheat was 31.4 quintal per hectare. The productivity of coarse cereal was 4.08 quintal per hectare in 1950-51 which increased to 9 quintal per hectare in 1990-91. In 2000-01, it was 10.27 quintal per hectare and it increased to 15.93 quintal per hectare in 2010-11.

The productivity of total pulses was 4.41 quintal per hectare in 1950-51 which increased to 5.78 quintal per hectare in 1990-91 but it declined to 5.44 quintal per hectare in 2000-01. In 2010-11, the productivity of total pulses increased to 6.91 quintal per hectare and again marginally increased to 6.94 quintal per hectare in

2011-12. In case of non-food crops, the productivity of sugarcane was 334.22 quintal per hectare in 1950-51 which doubled to 653.95 quintal per hectare in 1990-91. In 2000-01, the productivity of sugarcane was 685.78 quintal per hectare which increased to 703.17 quintal per hectare in 2011-12. On the other hand, the productivity of oilseeds was not very impressive. In 1950-51, the productivity of total oilseeds was 4.81 quintal per hectare in 1950-51 which was 7.71 and 8.1 quintal per hectare in 1990-91 and 2000-01 respectively. In 2010-11, the productivity of total oilseeds was 11.93 quintal per hectare which declined to 11.35 quintal per hectare in 2011-12. The performance of cotton was encouraging. In 1950-51, the productivity of cotton was 0.88 quintal per hectare and in 1990-91 it increased to 2.25 quintal per hectare. It declined to 1.9 quintal per hectare in 2000-01 but in 2010-11 it increased to 4.99 quintal per hectare. In 2011-12, it stood at 4.91 quintal per hectare.

### ***(B) Productivity of labour Engaged in Agriculture***

It is given as output per person working in agriculture. The per capita output of Indian cultivator is very poor as compared to cultivators in the developed countries. It can be

seen from the fact that 52 percent of work force engaged in agriculture contributes only 13.5 percent of National Income in 2012-13. The remaining 48 percent engaged in non agro sector contributes more than 85 percent of national income. In developed nations like USA, U.K. the contribution of agriculture accounts for about 5 percent to 7 percent of national Income with only 5 percent to 25 percent of workforce engaged in agriculture. This clearly indicates the low level of productivity of work force engaged in Indian agriculture.

### **1.5 INTERNATIONAL COMPARISONS OF INDIA'S AGRICULTURAL PRODUCTIVITY.**

Despite the substantial improvements in the productivity in case of major crops, the productivity trends in India is far below those obtained in many developed nations. The productivity of rice was less than 40 percent of the yield in the USA and Japan and about one-third of Egypt. In case of other crops also India stands extremely poor in comparison to other countries. The yield of paddy was 4.39 tonnes per hectare in the world whereas in India it was 3.59 tonnes per hectare in 2012. In China, the productivity of paddy was 6.74 tonnes per hectare and in Indonesia it was 5.14 tonnes per hectare. In Bangladesh and Vietnam it was 2.92 and 5.63 tonnes per hectare in 2012 respectively. The productivity of wheat in India was 3.17 tonnes per hectare in 2012 and in the world it stands at 3.12 tonnes per hectare. In China, the productivity of wheat was 5 tonnes per hectares in 2012. In USA and Russian federation, the productivity of wheat was 3.11 and 1.77 tonnes per hectare in 2012 respectively. On the other hand, the productivity of Maize in India was 2.51 tonnes per hectare which was below the world. Average of 4.94 tonnes per hectare in 2012 and also below the yield of other countries. The productivity of Maize was 7.74 tonnes per hectare in 2012 whereas in China it was 5.96 tonnes per hectare. In Mexico, the productivity of Maize was 3.19 tonnes per hectare and in Indonesia it was 4.89 tonnes per hectare in 2012. The productivity of sugarcane in India was 68.34 tonnes per hectare which was near to world's productivity of sugarcane i.e. 68.85 tonnes per hectare in 2012. In Thailand the productivity of sugarcane was 71.30 tonnes per hectare. In China it was also near to world's productivity of sugarcane whereas in Pakistan it was 55.49 tonnes per hectare in 2012. The productivity of Groundnut in 2012 was 1.68 tonnes per hectare in the world. In China and USA



it was above the world's productivity of Groundnut i.e. 3.57 and 4.70 tonnes per hectare in 2012 In India it stood at 1.18 tonnes per hectare in 2012.

To conclude we can say that there is much scope for India to increase productivity of both land and labour because India has not utilised its potential to the fullest extent. Moreover the productivity in India was far below the world's Average of productivity and as compared to other countries of USA and China.

### **1.6 LET US SUM UP**

In this lesson, we come to know that the agriculture is the largest source of employment in India. It is a major contributor of foreign exchange; and a contributor to National Income. The changing trends in production and productivity enable India to become a food-sufficient economy and have food surplus for the expanding population. At the time of Independence, India was a food-deficit country but now due to increasing productivity, production increases and India was a food surplus economy.

### **1.7 LESSON END QUESTIONS**

- Q.1. Explain the contribution of agriculture sector to the Indian economy.
- Q.2 Discuss the production and productivity trends in the agriculture sector.
- Q.3 Compare the productivity trends in India to other countries of the world.

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**CAUSES OF LOW PRODUCTIVITY IN AGRICULTURE  
AND GOVT. MEASURES**

**STRUCTURE**

- 2.1 Introduction
- 2.2 Objectives
- 2.3 Causes of Low Productivity in agriculture
  - 2.3.1 General causes
  - 2.3.2 Institutional causes
  - 2.3.3 Technical causes
- 2.4 Scope and Measures
- 2.5 Govt. Measures
- 2.6 Let Sum Up
- 2.7 Lesson End Questions

**2.1 INTRODUCTION**

Agricultural Productivity of both land and labour is low in India. There are variations in productivity within the country and it is also low if compared to other countries of the world. This lesson highlights the causes or factors responsible for this low productivity of output in India. It also provides that what measures should be adopted to improve the productivity of food and non-food crops and what measures are being adopted by the govt. to improve the productivity.

## 2.2 OBJECTIVES

After going through the lesson the student will

- i) be able to figure out the causes of low productivity.
- ii) come to know about the measures that should be adopted
- iii) get familiarize with different government policies for Agricultural productivity.

## 2.3 CAUSES OF LOW PRODUCTIVITY IN AGRICULTURE

No doubt, agricultural productivity has considerably increased in the recent past, but if we compare the yield per acre with international standard it will certainly prove to be very low. The low yield of crops is the main cause of poverty of masses. Millions of people still suffer from malnutrition and under nutrition which leads to starvation. There is no single reason for low productivity in agriculture in India. The causes of low productivity are as follows :

### 2.3.1 (A) General Causes

1. **Excessive Pressure of population on land.** The heavy pressure of population on land is caused by the limited growth of employment opportunities in the non-agricultural sector for rural people and rapid growth of rural population. In 2011, about 52 percent of the population were employed in the agriculture-sector. The increasing population is largely responsible for subdivision, fragmentation of land holdings that results into low productivity in agriculture.
2. **Social Environment.** The social environment in terms of illiteracy, superstitious attitude and unresponsive behaviour towards the new technology is also a major limiting factor to the improvement in the agricultural productivity. As such, farmers are against the use of bone manure and chemical fertilizers. Besides, they are prejudiced against killing of monkeys and rats at the farm. Further, the human factor engaged in the agriculture sector is most unsatisfactory due to poor health and hygiene conditions.

3. **Land Degradation.** The natural resource degradation in rural areas has occurred due to two major problems. One is the increasing population pressure that has resulted into decline in forest cover and second is the erosion and loss of top-soil which is very difficult to reverse. The increased land degradation is mainly due to the increased use of chemical fertilizers and low quantity of canal water. This has resulted into loss of nutrients in the land and fall in the productivity levels.
4. **Lack of General infrastructural facilities.** The economic rural infrastructural facilities are inadequate in terms of availability of road, transportation facilities, electricity and power. The Government's expenditure on total rural development has declined tremendously. There is a marked slowdown in capital formation in the agriculture sector.
5. **Inadequate Agricultural Capital Formation.** Agriculture sector cannot make substantial contribution to the economic development of the country. The capital formation in the agriculture sector particularly the public capital formation in the agriculture sector is declining. The investment in agriculture as a proportion of GDP has fallen from 1.92 percent in 1990 to 1.31 percent in 2000. After 2000, it has increased. The depressed capital formation has resulted into low agriculture productivity.

#### 2.3.2 (B) Institutional Causes

1. **Defective land Tenure System.** The exploitative character of land tenure system in the form of Zamindari System has reduced the capacity, incentive and motivation of the cultivators to improve productivity. The exploitative practices in terms of excessive rent, insecurity of land tenure and no land ownership rights causes cultivators to share large portion of output with land owners. This has resulted in lack of resources and interest of farmers to introduce technological improvements and thus increase productivity.
2. **Uneconomic Land Holdings.** The average land-holding in India is not only small in size but split into pieces and scattered due to sub-division and

fragmentation of land. The average land holding is just 1.16 hectares in 2010-11 agriculture census in India. In USA the average size of holding is 122 hectares. This has resulted into the uneconomic land holding making investments in improved technology and inputs unavailable. This has caused reduction in land productivity.

3. **Inadequate Credit facilities.** There has been a drastic reduction of institutional credit for agriculture. It is evident from the fact that the percentage share of agriculture credit, in the total credit of all scheduled commercial banks since the early 1990s has fallen compared to the levels, reached in the 1980s. Banks and financial institution are reluctant to provide financial assistance at fair rate of interest to farmers. Since 2003, however, there is an increase in absolute amount of credit to agriculture sector of all banks. However, the most disturbing trend of institutional financing in the recent financing of farmers has declined tremendously. Thus, a large section of farmers has to depend upon non-institutional credit system like moneylenders, and traders that charge exorbitant rate of interest. The investment for improved seeds, irrigation facilities and other improved technological requirements to increase land productivity is adversely affected due to paucity of funds.
4. **Inadequate Marketing facilities.** The defective marketing system also poses difficulties to the farmers. The farmers do not get a due reward from the sale of his produce. The middle man takes away portion of their profits. Unless farmers are guaranteed fair and remunerative prices there is little inducement for agricultural output to increase. Indian marketing has no facilities of godowns and warehousing where the cultivators may keep their produce for a better price. Moreover, they lack transportation facilities. This results in low price of the produce.

### 2.3.3 (C) Technical Causes

1. **Technological Backwardness.** Most of farmers use traditional agriculture methods mainly due to paucity of finance. The use of high-yielding variety seeds and fertilizers is very limited. Since the early 1990s, there has been the

weakening of scientific research and extension services by the government. By all accounts, the agricultural universities, which has played a critical role in the development and dissemination of better quality seeds, other inputs and improvement in agricultural practices, have been starved of funds with adverse consequences. Government has withdrawn from provisioning of HYV seeds developed in laboratory to the farms. Farmers have to pay exorbitant prices to the private suppliers for the low quality seed variety which has adverse consequences on the agricultural productivity.

2. **Increasing Input Cost.** The increase in the input cost due to reduction in subsidies for fertilizers and better seeds and increase in cost of power are responsible for the deceleration in the agriculture growth in the recent years.
3. **Inadequate Irrigation facilities.** The vast proportion of cultivable land in India is rain-fed. Further, the infrastructure for irrigation is highly underdeveloped due to defective management as revealed by the fact that only 44.91% of the total gross cropped area was irrigated in the year 2010-11. A good monsoon results in a robust growth for the economy as a whole, while a poor monsoon leads to a sluggish growth. As rainfall is often insufficient, uncertain and irregular, it leads to low productivity. Further, the Government's expenditure on irrigation coverage and flood control has witnessed a declining trend during the reform period. The constant and regular supply of water is required to use chemical fertilizers and other technological resources to boost up production.

To conclude, we can say that there are number of factors which are responsible for slow growth of agriculture and low productivity in Indian agriculture. Apart from above mentioned factors, there are other factors like Vicious circle of Poverty, Indebtedness of farmers, Natural calamities, poor livestock etc. which are responsible for low productivity in agriculture.

## **2.4 SCOPE AND MEASURES FOR AGRICULTURAL DEVELOPMENT.**

Government has initiated various measures to overcome the problem of low agriculture

productivity but the following measures are required to strengthen the agriculture development :

1. **Effective Implementation of Land Reforms.** The land reforms in terms of Zamindari Abolition, ceiling and redistribution of land tenurial relations, consolidation of small and scattered holdings, minimum wages of landless labour etc. needs to be effectively implemented. This will help to provide incentives and motivation to farmers to improve productivity and investment in agriculture sector. It will also have social implication by providing due share in the output. The strong political will and better administrative skills are required to operationalize these reforms at the grass root level.
2. **Greater Usage of Modern Technology.** The components of modern technology in terms of improved seeds, fertilizers and pesticides have to be made available easily to the farmers at fair prices. Farmers are required to be given training about the usage of these components especially fertilizers and chemical pesticides. The services of constant expertise, guidance and counselling about seeds sowing, time of sowing etc needs to be developed. In fact, a second green revolution is required to distribute these technological inputs including improved variety of seeds to the cultivators.
3. **Better Credit facilities.** The timely and sufficient financial assistance is the precondition to improve usage of better technology. Government had launched various schemes and institutions to improve agricultural credit such as establishment of cooperative banks, rural branches of nationalized banks, grameen banks etc. However, there is a lack of coordination under the multi-agency credit system. Further there is an absence of appropriate motivation and knowledge especially amongst commercial banks to provide agriculture credit in the rural areas. In fact, the rural credit system should be developed as comprehensive financial cum service constancy organization that provides financial and farm related help to the farmers.
4. **Restructuring Cropping Pattern.** The scientific Research has mainly focussed upon two major crops i.e. wheat and rice. The break through in terms of

improved varieties of seeds has to be explored for other crops. In Andhra Pradesh, Karnataka, Tamil nadu, Madhya Pradesh, Maharashtra, Gujarat and Rajasthan more than one crop is taken on less than 30 percent of area under cultivation. This shows that there is considerable scope to raise output through an expansion of area under double cropping.

5. **Development of Irrigation facilities.** The main obstacle in the exploitation and use of modern technology is the water shortage. The inter-linking of river projects needs to be implemented speedily to reduce the ill-effects of floods and droughts. The greater use of dry and commercial cropping that requires lesser use of water should be encouraged. The surface-irrigation and water-pumping arrangements should be increased.
6. **Development of Research Institutes.** The research labs and agricultural universities have to be established, upgraded and sustained. The problems such as lack of resources, equipments and experts in these institutes need to be addressed immediately. The weakening of link between laboratory research and application on farms has to be minimized.
7. **Betterment of Warehousing and Distribution Services.** The warehousing facilities are so under-developed that it renders the stored goods unsuitable for consumption. It is paradoxical that the country suffers from deficient food supplies in many regions and the food grains are rotten in warehouses. The modern warehousing facilities, transportation system and marketing methods need to be developed to increase the availability of food to the masses. This would provide incentives to marketable surplus among farmers and go a long way to improve productivity. The public-private partnership may be encouraged to increase investment in warehousing services.
8. **Population Control.** The continuous growth in the population especially in the rural areas is the major cause of uneconomic land holding which limits the usage of modern technology. Thus the family planning and population control remains national priority.



- 9. Introduction of Cooperative Farming and Marketing.** The cooperatives in India are suffering due to strict Government controls and legislations. The cooperative should be given greater operational freedom and allowed to enlarge their activities including banking and marketing of agro products.

## **2.5 GOVERNMENT MEASURES FOR AGRICULTURE DEVELOPMENT AGRICULTURE POLICY, 2000**

The Government on 28th July 2000 made public a National Agriculture Policy aimed at catapulting agricultural growth to over 4 percent per annum by 2005. The growth is to be achieved through a combination of measures including structural, institutional, agronomics and tax reforms discussed as follows :

- Price protection to farmers in the post-WTO regime when all the quantitative restrictions are removed.
- Private sector participation would be promoted through contract farming and land leasing arrangements to allow accelerated technology transfer, capital inflow, assured markets for crop production; especially of oilseeds, cotton and horticultural crops.
- Private sector Investment in agriculture would be encouraged, particularly in areas like agricultural research, human resources development, post harvest management and marketing.
- Government would enlarge coverage of future markets to minimise the wide fluctuations in commodity prices as also for hedging their risks. The policy hoped to achieve sustainable development of agriculture, create gainful employment and raise standards of living.
- The policy envisages evolving a “National Livestock Breeding Strategy” to meet the requirement of milk, meat, egg and livestock products and to enhance the role of draught animals as a source of energy for farming operations.
- Plant varieties would be protected through a legislation to encourage research and breeding of new varieties. Development of animal husbandry, poultry,

dairy and aquaculture would receive top priority.

- The restrictions on the movement of agricultural commodities throughout the country would be progressively dismantled. The structure of taxes on foodgrains and other commercial crops would be reviewed.
- The excise duty on materials such as farm machinery and implements and fertilisers used as inputs in agricultural production, post harvest storage and processing would be reviewed.
- Appropriate measures would be adopted to ensure that agriculturists, by and large remained outside the regulatory and tax collection system.
- Rural electrification would be given high priority as a prime mover for agricultural development.
- The use of new and renewable sources of energy for irrigation and other agricultural purposes would be encouraged.
- Progressive institutionalisation of rural and farm credit would be continued for providing timely and adequate credit to farmers.
- Endeavour would be made to provide a package insurance policy for the farmers, right from sowing of crops to post-harvest operations including market fluctuations in the prices of agricultural produce.

The agriculture policy, 2000 emphasized on the organizational and institutional changes to improve agriculture growth.

### ***National Policy for Farmers, 2007***

Government of India has approved the National Policy for farmers, 2007 taking into account the recommendations of the National Commission on farmers and after consulting the state Governments. The National Policy for Farmers, among other things, has provided for a holistic approach to development of the farm sector. The focus will be on the economic well being of the farmers in addition to improved production and productivity. The broad areas of its coverage include.

- i) **Asset Reforms.** To ensure that a farmer household in villages either possess or has access to a productive asset or marketable skill.
- ii) **Water Use Efficiency.** The stress on awareness and efficiency of water use will be given.
- iii) **New technologies** like biotechnology, information and communication technology (ICT), renewable energy technology space applications and nano-technology would be encouraged for improving productivity per unit of land and water on a sustainable basis.
- iv) **National Agricultural Bio-security system** would be established to organize a coordinated agricultural biosecurity programme.
- v) **Seeds and Soil Health.** Quality seeds, disease free planting material and soil health enhancement hold the key to raising small farm productivity. Every farmer is to be issued with a soil health passbook containing integrated information on farm soils with corresponding advisories.
- vi) **Support Services for Women.** Appropriate support services like creches, child care centres and adequate nutrition needed by women working in fields would be funded.
- vii) **Credit and Insurance.** The financial services would be galvanized for timely, adequate and easy reach to the farmers at reasonable interest rates.
- viii) Gyan Chaupals will promote learning of farmers thereby strengthening extension services.
- ix) Necessary steps would be taken to put in place an appropriate social security scheme for farmers.
- x) **Minimum/Support Price (MSP)** mechanism to be implemented effectively across the country so as to ensure remunerative prices for agricultural produce.
- xi) **Food Security basket is to be enlarged** to include nutritious millets such as bajra, jowar, ragi and millets, mostly grown in dry and farming areas.

## **2.6 LET SUM UP**

Though India has remarkable achievements in productivity of crops but still India is far below when compared to other countries of the world. This low productivity is attributable to number of factors or causes which include general causes, Institutional cause and Technical causes. This barrier should be removed in order to have world level standards and this could be done if measures like credit facilities, irrigation facilities, use of Modern Technology, population control etc. should be followed. Moreover, Govt. has also taken a number of steps in this direction which will also help to remove these obstacles.

## **2.7 LESSON END QUESTIONS**

- Q.1 Discuss the Institutional and Technical causes of low productivity.
  - Q.2 What measures should be adopted to improve the productivity?
  - Q.3 Discuss the measures adopted by Govt. to improve the productivity.
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## **LAND UTILIZATION AND CROPPING PATTERN**

### **Structure**

- 3.1 Introduction
- 3.2. Objectives
- 3.3 Land Utilization : Classification and Pattern
  - 3.3.1 Classification of Land
  - 3.3.2 Changes in Land Utilization Pattern
  - 3.3.3 Optimal Land use Pattern
- 3.4 Cropping pattern. Land under different crops and determinants.
  - 3.4.1 Concept of Cropping Pattern
  - 3.4.2 Area under Food and Non-Food Crops
  - 3.4.3 Future Cropping Pattern
  - 3.4.4 Dterminants of Cropping Pattern
- 3.5 Let us Sum Up
- 3.6 Lesson End Questions

### **3.1 INTRODUCTION**

The present lesson inculcates the information regarding the classification of land under different classes of land and how this land use pattern has changed over the years. Some suggestions have been given that will help to achieve optional land use pattern.

On the one hand this lesson deals with the cropping pattern, area under foodgrains and non-foodgrains and on the other hand it deals with the future cropping pattern which includes dryland farming. Lastly, it makes the students aware of factors that determine the cropping pattern or which brings changes in the cropping pattern over the years.

### **3.2 OBJECTIVES**

After going through the lesson the student will

1. be able to know about different classes of land and how land use pattern has changed.
2. will learn about optimal land use pattern.
3. be able to understand the concept of cropping pattern.
4. get familiarize with distribution of land under different crops.
5. understand the determinants and future of cropping pattern.

### **3.3 LAND UTILIZATION : LAND CLASSIFICATION AND PATTERN**

Land is a scarce resource, whose supply is fixed for all practical purposes. At the same time, the demand for land for various competing purposes is continuously increasing with the increase in human population and economic growth.

Land use pattern at any given time is determined by several factors including size of human and livestock population, the demand pattern, the technology in use, the cultural traditions, the location and capability of land, institutional factors like ownership pattern and rights scale regulation.

#### **Major Types of Land Utilization in India :**

As in all other countries, land in India is put to various uses. The utilization of land depends upon physical factors like topography, soil and climate as well as upon human factors such as the density of population, duration of occupation of the area, land tenure and technical levels of the people.

There are spatial and temporal difference in land utilization due to the continued interplay of physical and human factors. India has total geographical area of about

328.73 million factors.

1. **Net Sown Area :** Cropped area in the year under consideration is called net sown area. This area has a special significance in an agricultural country like India because agricultural production largely depends upon this type of land.
  - This area is largely due to gentle slope of land, fertile alluvial and black soil, favourable climate, excellent irrigation facilities and high density of population.
  - Madhya Pradesh has the largest net sown area of 19.89 million hectares which is about 13.89% of total reporting net sown area. This is followed by Maharashtra, UP, Rajasthan, AP and Karnataka.
  - The net sown area has increased from 118.7 million hectares in 1950-51 to 142.6 million hectares.

The %age of net sown area to total reporting area also increased from 42 in 1950-51 to 46.2 million hectares in 1999-2000.

2. **Area sown more than once :-** As the name indicates this area is used to grow more than one crop from year. The %age area sown more than one crop per year. The %age area sown more than once is low in India as a whole. This is due to infertile soils deficiency of moisture and insufficient use of manures and fertilizers. This type of area comprises of land with rich fertile soils and regular water supply. Large tracts of the Indo-Ganga plain in Punjab, Haryana, Uttar Pradesh in Bihar and in coastal regions have large %age of area sown more than once.

This accounts for over 34.3% of the net sown area and 16.6% of the total reporting area of the country.

3. **Forests :-** This will require massive tree plantations and vigorous restrictions on the reckless felling of trees. According to the expert committee recommendations much of the area reclaimed from the forest for agriculture should be retired from cultivation and brought back under forests to save the land from the adverse effects of deforestation.

Assam, J&K, North Eastern area have large percentage of forest area. Forest

area has increased considerably from 40.45 million hectares in 1950-51 to 69.0 million hectares in 1999-2000.

**4. Land not available for cultivation :** This class consists of two types of land :-

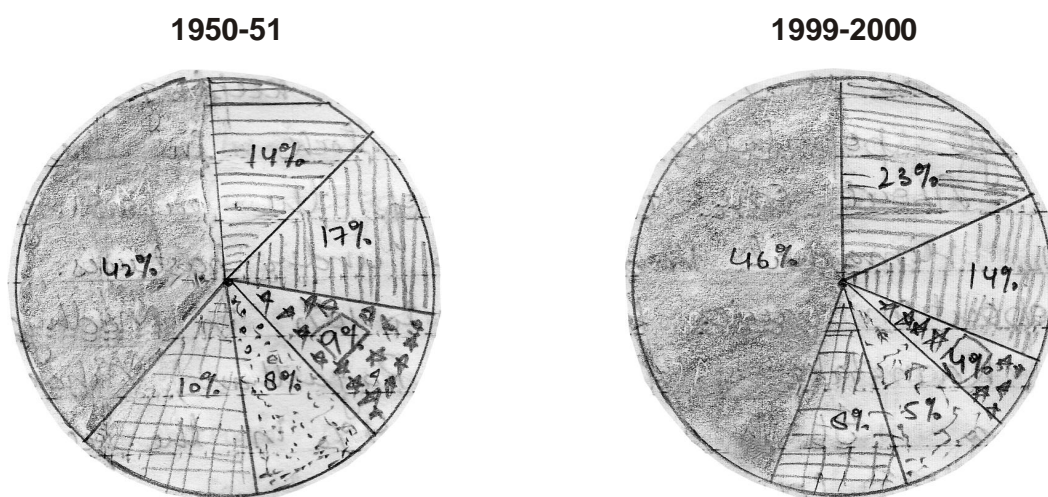
- i) Land put to nonagricultural uses and
- ii) Barren and unculturable waste

The area put to non-agricultural uses includes land occupied by villages, towns, roads, railways on under water i.e. rivers, lakes, canals tanks, ponds etc.

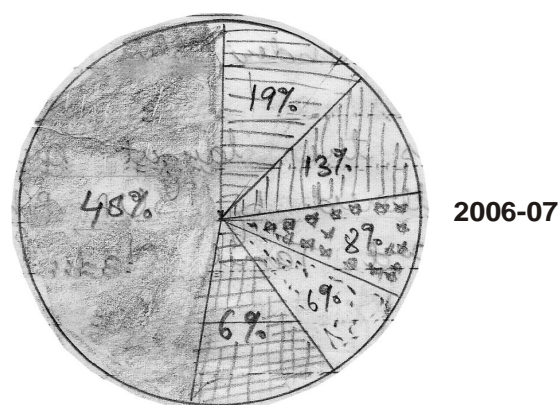
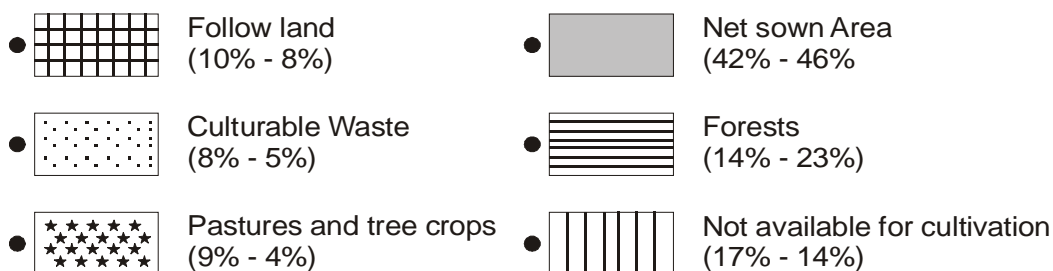
The barren land covers all barren and cultivated lands in mountain and hill slopes deserts and rocky area. These areas cannot be brought under plough expect at high input cost with possible low returns.

AP, MP, Gujrat, UP, Ladakh and Rajasthan have large % age of uncultivated land.

Land not available for cultivation accounted for 13.8% of the total reported area in 1999-2000.







**5. Permanent Postures and other Grazing lands :** A total area of 11 million hectares is devoted to permanent postures and other grazing lands. This amount is about 4% of the total reporting area of the country. Grazing takes place mostly in forests and other uncultivated land wherever pasturage is available.

The area presenting under pastures and other grazing land is not sufficient keeping in view the large population of livestock in the country. About one-third of the reporting area in Himachal Pradesh is under pastures. The proportion varies from 4 to 10% in Madhya Pradesh, Karnataka, Gujarat, Rajasthan, Maharashtra and Orissa. It is less than 4% in the remaining parts of the country.

**6. Land under miscellaneous tree crops and Groves :** It includes all cultivated land which is not included under net sown area but is put to some agricultural use. Land under casuarina trees, bamboo, bushes, other groves for fuel etc. which are not included under orchard are closed under this category.

Orissa has the largest area of land in this category followed by UP, Bihar, Karnataka, AP, Assam and Tamil Nadu.

Land under this category declined sharply from 6.97% in 1950-51 to a mere 1.41% in 1970-71.

- 7. Culturable Waste :-** The “Wasteland survey and reclamation committee” defines “Culturable waste” as the land available for cultivation but not used for cultivation for one reason or the other. This land was used in the past but has been abandoned for some reason. It is not being used at present due to such constraints as lack of water, salinity or alkalinity of soil, soil erosion, water logging, an unfavorable physiographic position.

Reh, Bhur, Usar & Kholas tracts of

**Area :** Uttar Pradesh, Punjab and Haryana as well as in several other parts of the country were used for agriculture in the past but had to be abandoned due to some deficiencies in the soil resulting from faulty agricultural practices.

**Data :** The land under this category has declined considerably from about 22.9 million hectares in 1950-51 to 13.8 million hectares in 1999-2000.

- 8. Follow Land :** This category includes all that land which was used for cultivation but is temporarily out of cultivation. Follow land is of two types :
1. Current Follow
  2. Follow other than current follow

Follow of one year is called “Current Follow” while that of 2 to 5 years is classified as follow other than current follow”. Follow land is left uncultivated from 1 to 5 years to help soil recoup its fertility in the natural way depending upon the nature of soil and the nature of farming.

**Area :** The largest area of follow land other than current follow is in Rajasthan followed by Andhra Pradesh and Maharashtra. Andhra Pradesh has the largest area as current follow, followed by Rajasthan, Bihar, Karnataka, Tamil Nadu and UP.

**Data :** The current follow has recorded an increase from 10.68 million hectares in 1950-51 to 14.79 million hectares in 1999-2000 million hectares.

But there had been a sharp decline in follow land other than current follow from 17.4 million hectares in 1950-51 to 11.18 million hectare in 1960-61

### **3.3.1 Classification of Land**

It is a process which assigns each type of land in an area to its proper class in a system of classes. The classes in the system are defined in terms of the qualities or characteristics with which the classification is concerned. In India the classification of land has had its roots in agricultural statistics. The collection of such statistics in 19th century started when in view of the famines and local shortages of food that were then confronting the country and also with a view to furthering the economic exploitation of the country's resources, it became necessary to know how the available land was utilised. The international geographical classification of world land used along with color scheme is mainly suited to local condition. The classificaiton is as follows. World land use survey was drown up under the auspices of UNESCO.

1. Settlement and ascociated non-Agricultural land (Dark and Light red)
2. Horticulture (deep purple)
3. Tree and perennial crop (Light purple)
4. Crop land : Continental rotation cropping (Dark brown) land rotation (light brown)
5. Improved permanent pasture (light green)
6. Unimproved permanent pasture (yellow).
7. Wood lands : dense (dark green) open (medium green) scrub (olive green) swampy forest (blue green)
8. Swamps and marshes. (blue)
9. Unproductive land (grey)

In India, till 1950, land was classified into the following five broad classes :

1. Area under forests.
2. Area not available for cultivation.

3. Uncultivated lands excluding current fallows.
4. Area under current fallows, and
5. Net area sown.

The classification continued almost intact all these years, the definitional changes made in one or two states being minor, later on, it was realised that the above classification afforded only a broad outline of land utilisation in the country and did not give a very clear picture of the actual area under different categories of land use. The Government of India, therefore, appointed a committee on the coordination of Agricultural statistics in India to work out the details of the Annual and periodical enquiries to be organised in pursuance of the recommendations of the Committee. In March 1950, the following classification of areas for each district of the country was given.

- i) **Forests.** These includes all lands classed as forests under any legal enactment dealing with forests or administered as forests, whether state-owned or private, and whether wooded or maintained as potential forest land. The area of crops raised in the forest and grazing lands or areas open for grazing within forests should remain included under the forest area.
- ii) **Area under non-agricultural Uses.** This includes all lands occupied by buildings, roads and railways or under water e.g. rivers and canals and other lands put to uses other than agriculture.
- iii) **Barren and Unculturable land.** Includes all barren and unculturable land like mountains, deserts etc. Land which cannot be brought under cultivation except at an exorbitant cost, should be classed as unculturable whether such land is in isolated blocks or within cultivated holdings.
- iv) **Permanent Pastures and other Grazing lands.** Includes all grazing lands whether they are permanent pastures and meadows or not. Village common grazing land is included under this head.
- v) **Land under Miscellaneous Tree Crops etc.** This includes cultivable land which is not included in 'Net Area Sown' but is put to some agricultural uses. Land under Casuarina trees, thatching grasses, bamboo bushes and other grooves

for fuel, etc which are not included under 'Orchad' should be classed under this category.

- vi) **Culturable Waste land.** This includes lands available for cultivation, whether not taken up for cultivation once but not cultivated during the current year and the last five years or more in succession for one reason or other. Such lands may be either fallow or covered with shrubs and jungles, which are not put to any use. They may be assessed or unassessed and lie in isolated blocks or within cultivated holdings. Land once cultivated but not cultivated for five years in succession should also be included in this category at the end of the five years.
- vii) **Fallow lands other than Current fallows.** This includes all lands, which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years.
- viii) **Current Fallows.** This represents cropped area, which are kept fallow during the current year. For example, if any seeding area is not cropped against the same year it may be treated as current fallow.
- ix) **Net area sown.** This represents the total area sown with crops and orchards. Area sown more than once in the same year is counted only once.

The total of these nine classes would be equal to the geographical area according to the village records.

### **3.3.2 Change in Land Utilization Pattern**

The total geographical area of the country in 2011-12 was 328.72 million hectares, and reported area as 305.81 million hectares out of which 22.89 percent was under forests. The land not available for cultivation was 14.23 percent of the total area. Barren land unfit for cultivation was 5.7 percent. The uncultivated land excluding fallow land was 8.53 percent which included permanent pastures, land under miscellaneous trees and culturable waste lands. The fallow lands accounted.

### Land Use classification of India (Million hectares)

	1950-51	1970-71	1990-91	2010-11	2011-12
Total geographical Area	328.72	328.72	328.72	328.72	328.72
Reporting Area	284.31	303.75	305.02	305.90	305.81
1. Forest	40.48	63.83	67.70	70.00	70.01
2. Land not available for cultivation	47.51	44.60	40.72	43.57	43.52
a) Land put to non-agricultural uses	9.35	16.47	21.22	26.39	26.29
b) Barren and uncultivated land	38.16	28.12	19.50	17.18	17.22
3. Other uncultivated land excluding fallow land	49.44	35.12	30.21	26.15	26.09
a) Permanent pastures and other grazing lands	6.67	13.26	11.40	10.30	10.29
b) Land under tree crops and groves not included in area sown	19.82	4.36	3.81	3.20	3.16
c) Culturable Waste	22.94	17.50	15.00	12.65	12.63
4. Fallow Lands	28.12	19.32	23.50	24.00	25.38
a) Fallow lands after than current fallows	17.44	8.72	9.66	10.32	10.66
b) Current fallows	10.67	10.59	13.84	14.29	14.71
5. Net Area Sown	118.74	140.86	142.87	141.55	140.85
Total Cropped Area	131.89	165.79	185.74	197.32	195.24
Cropping Intensity (%)	111.1	117.7	130.0	139.4	138.7
Net irrigated Area	20.85	31.10	48.02	63.59	65.29
Gross Irrigated Area	22.56	38.19	63.20	88.63	91.53
Area Sown more than Once	13.15	24.92	42.87	55.76	54.44

Source : Agricultural Statistics at Glance, 2014

for 8.3 percent of the total area. Only 46.04 of the total geographical area was under cultivation (sown net area) Double cropped area is 54.44 million hectares resulting in cropping intensity as 138.7 percent during 2011-12 as compared to 111.1% per cent in 1950-51. Therefore, overtime, net sown area has gone up from 118.74 million hectares 1950-51 to 140.80 million hectares in 2011-12. This is because more and

more of barren lands have been reclaimed. Similarly, the area under forests has increased as the land not available for cultivation went down.

The change in land use pattern in India from 1950-51 to 2011-12 has depicted in the table :

**Total Geographical Area.** Total geographical area of the country is 328.73 million hectares according to professional survey by surveyor General of India. But according to village papers prepared by the revenue staff, reporting area came out to be 305.81 million hectares in 2011-12.

1. **Area Under Forests.** It includes actually forested class or administered as forests under any legal enactment dealing with forests whether state owned or private. Therefore, the figures presented here do not tally with those of forest department because certain lands though not wooded are taken as forest by the Forest department while these are not treated as such by the Director of land records. The area under forests has increased from 40.48 million hectares in 1950-51 to 70.01 million hectares 2011-12 accounting for 21.29 percent of the total geographical area. Therefore, there has been an increase in the area under forests overtime but it is still less than the requirements to have ecological balance, since the effective area under forests is only about 23 percent of the geographical not available for cultivation.
2. **Land not available for Cultivation.** It includes a) barren and uncultivable land and b) land put to non agricultural uses. The first category includes absolutely barren and unculturable land like mountains, deserts etc. which cannot be brought under plough except at exorbitant cost. The b) category includes land covered by buildings, roads, canals, and railways or other appropriated for non-agricultural uses. In 1950-51, 38.16 million hectares of land was under barren land which was only 17.22 million hectares in 2011-12. Due to increasing pressure of population, urbanisation and industrialization, the land put to non-agricultural uses has constantly been increasing. It was 3.28 percent in 1950-51 which increased to 8.59 percent in 2011-12 land not available for cultivation was 34% in 1950-51 which declined to 23% in 2010-11.
3. **Other Uncultivated land excluding fallow lands.** This category of land

classification includes land available for cultivation either not taken up for cultivation or abandoned later on for one reason or the other and includes a) Permanent pastures and other grazing land b) Land under miscellaneous trees and groves c) Cultable waste.

The land under all these sub-categories is decreasing over time mainly due to more area being brought under cultivation. In 1950-51, it has 49.44 million hectares of land which decreased to 26.09 million hectares in 2011-12. In category a) 6.67 million hectares of land was under it in 1950-51 which increased to 10.29 million hectares in 2011-12. Whereas in category b) 19.82 million hectares of land was under it which decreased to 3.16 million hectares in 2011-12. In 1950-51, 22.94 million hectares of land was culturable waste which decline to 12.63 million hectares in 2011-12. In 1950-51, 14% of area was under forest which increased to 23% in 2010-11.

4. **Fallow Lands.** It denotes cultivable land which after abandonment remains uncultivated over long period called old fallow and those kept uncultivated during the current year are called current fallow. In 1950-51, the fallow lands was 28.12 million hectares which declined to 23.50 million hectares in 1990-91. But increased to 25.38 million hectares in 2011-12. The current follows showed a increase during the period 1950-51 to 2011-12. In 1950-51, the current follows land was 10.67 million hectares which increased to 14.71 million hectares in 2011-12. On the other hand fallow lands other than current fallows shows a declining trend during the same period. In 1950-51, it was 17.44 million hectares and it stood at 10.66 million hectares in 2011-12. The fallow lands was 8% in 2010-11.
5. **Net Area Sown.** The area under cultivation of various crops was 140.80 million hectares in 2011-12 as compared to 118.74 million hectares in 1950-51. The net sown area was highest in the 1990-91 i.e. 142.87 million hectare. From 1950-51 to 1990-91, it shows consistent improvements in net sown area. But after that there was no significant increase in net sown area.
6. **Gross Cropped Area.** The gross cropped area includes total area covered under crops during the year. In case different crops are raised on the same land



during the year, the same area is counted more than once. The gross cropped increased faster than net area sown more than once. It has increased from 13.15 million hectares in 1950-51 to 55.76 million hectares in 2010-11. However, gross cropped area was 131.89 million hectares in 1950-51 which rose to 197.32 million tonnes in 2010-11. The gross cropped area was 42% in 1950-51 which increased to 46% in 2010-11.

7. **Net Irrigated Area.** The net area irrigated has shown marked increase overtime touching a level of 65.29 million hectares in 2011-12 as compared to 20.85 million hectares in 1950-51.
8. **Gross Irrigated Area.** Gross Irrigated Area was 22.56 million hectares in 1950-51. which increased to 63.20 million hectares in 1990-91 which further increased to 54.44 million hectares in 2011-12.
9. **Cropping Intensity.** The cropping Intensity was 111.1 percent in 1950-51 which increased to 130.0 percent in 1990-91 and in 2011-12 it stood at 138.7 percent.

To conclude, we can say, that there is overall improvement in the net area sown, total cropped area, cropping Intensity, Net Irrigated Area, Gross irrigated Area and Area sown more than once.

### **3.3.3 Optimal Land Use Pattern**

In order to attain optimal land-use pattern, following suggestions have been made :

1. The cropping pattern may be in agreement with the soil and water requirements of the area. Crops standing longer on the land and needing more water. Could be easily substituted by leguminous crops, lucerne, pulses, oilseeds which are ready within shorter span.
2. The area like West Bengal, Bihar, Orissa, Eastern U.P. and Assam and the eastern coastal regions which practice mono culture, should resort to multi-cropping practices due to irrigation facilities in the area. In area producing jute, efforts should be made for double cropping and particularly introducing high value crops.
3. In the irrigation command areas of North and South India, water consuming

crops like paddy and sugarcane, cotton, wheat, vegetable crops and fruit could be planted.

4. Dry farming should be undertaken in low rainfall area with proper conservation of moisture and reducing loss of moisture by evaporation through deep ploughing and harrowing. Crops like millets, pulses, oilseeds and forage crops may be raised. In these regions, drought-resistant varieties may be cultivated. Sunflower is another crop which can be successfully cultivated.
5. Hill slopes in Northern part of the country may be developed with the cultivation of temperate fruits like peach, plum, apricot, apple, walnut, pears as they are in great demand. In Southern parts, vegetables like pea, cabbage, cauliflower, etc. may be grown.
6. In arid and semi-arid regions, fast growing fuel trees may be planted along road/railway lines and along the canal banks, and pastures raised for live-stock farming could be a useful vocation for the local people.
7. The hilly areas may also be utilized for mixed farming and raising of sheep and goat herds. Water harvest technology could be appropriate for this region.

### **3.4 CROPPING PATTERN : LAND UNDER DIFFERENT CROPS AND DETERMINANTS**

#### **3.4.1 Concept of Cropping Pattern**

By cropping pattern is meant the proportion of area under different crops at a point of time. A change in cropping pattern implies a change in the proportion of area under different crops. It means in a given piece of land we cannot cultivate same kind of crop throughout the year because some factors like seasonal changes, soil condition and some other factors would not allow the crop to survive, otherwise the crop would not give much profit. So depending upon the physiographic conditions, climate conditions economic condition, scientific conditions and political conditions we would change different variety of crops in a given piece of land over the period this is called cropping pattern. Apart from this, technological factors also played an important role. Although the impact of green revolution is uneven but it has led to new pattern. During 2006-07, more than 64.5 percent of land was put under food crops. and about 35.5 percent under non food

crops. But in 1950-51, area under food crops was 76.7 percent and that of non food crops it was about 23.3 percent. Therefore, shift in foodgrains to non-foodgrains was mainly due to the higher profitability of non-foodgrains.

**3.4.2 Area Under foodgrains and Non-foodgrains.** In 1950-51, 76.7 percent area was put under foodgrains while only 23.3 percent was under non-foodgrains. In 1970-71, the area under foodgrains declined to 75.4 percent while the area under non-food grains went up to 24.6 percent. The area under foodgrains declined to 64.9 percent in 1995-96 and that of non-food crops went up to 35.1 per cent. Further in 2006-07, area under foodgrains was 64.5 percent while it was 35.5 percent for non-foodgrains. This shift in the allocation of area from food crops to non-food crops reflects a change from subsistence cropping to commercial cropping. The area under food crops as a proportion to total cropped area is increasing, but still there is dominance of food crops over non-food crops in the present cropping pattern in India.

**1. Rice.** We all know that for paddy cultivation there are three basic requirements i) plenty of water. ii) plenty of sunshine iii) fertile alluvial soil rice is the main khariff crop of the country. It is transplanted in June and July and matures between October and November. Due to high water requirements, it is grown in the high rainfall areas. Moreover, if it has to depend barely on rainfall, it requires not less than 30 cm rainfall per month. In India, only 9 percent of the area enjoys 30 cm rainfall per month in the months of July and August. Rice is grown almost throughout the year in hot and humid regions of eastern and southern parts of India because most of the eastern and southern regions are fulfilling the above said three conditions. In those areas yearly two to three crops of rice is not uncommon. For example in the canvery delta regions of Tamilnadu paddy is cultivated thrice in a year viz. Samba crop for 5 to 6 months again Kuruvail crops for 3 to 4 months again Thaladi crop for remaining period. In the same way the other regions of eastern and southern part of the India paddy has been growing almost throughout the year. Some districts in West Bengal, Andhra Pradesh, Odisha and Tamilnadu were the areas.

But in the northern and hilly parts of the country, where the winter is very cold so we cannot get the high temperature which needed for the paddy cultivation so in that areas only one crop of paddy is possible. And some areas like eastern Rajasthan, Western Punjab and Western Haryana paddy cultivation is done specially with the help of the irrigation.

Rice has been the most important foodgrain crop in India. In 1950-51, it was grown on 30.8 million hectares which in 2000-01 increased to 44.7 million hectares and to 44.01 million hectares in 2011-12. It reflects that area under rice has been going up, the rate of increase was fast in the early period and has slowed in the later period and recently it has stagnated at about 44 million hectares. Total production of rice which was 20.6 million tonnes in 1950-51 increased to 34.6 million tonnes in 1960-61 and further to 42.2 million tonnes in 1970-71. In 2000-01 production has increased to 84.08 million tonnes and 105.30 million tonnes in 2011-12. With regard to yield, it has increased from 668 kg per hectare in 1950-51 to 1123 kg per hectare in 1970-71 and 1740 kg per hectare in 1990-91. In 2011-12, the productivity stood at 2393 kg per hectare.

**Wheat.** Wheat is the staple food crop of India. Warm and cold climate is required at the time of its sowing. Hot climate is needed for its ripening. Standard conditions for wheat growth are i) low to moderate temperature around ii) Moderate rainfall around iii) fertile alluvial soil. The time of sowing and harvesting differs in different regions due to climatic variations. The sowing of wheat crops normally begins in the September-October and harvesting has been done in January-February in Karnataka, Maharashtra, Andhra Pradesh, Madhya Pradesh and West Bengal regions. The reason is that in the ripening stage of the wheat there should be very less moisture in the atmosphere the temperature should rise gradually. In the same way the sowing of wheat begins in the October-November and harvested in February-March in the areas of Bihar, Uttar Pradesh and in Jammu and Kashmir. The sowing and harvesting has been done in November-December and March-April respectively.

Wheat was grown on only 9.8 million hectares in 1950-51. After the Green Revolution, it consistently improved its position. In 1980-81, the area under wheat was 22.3 million hectares which steadily increased to the extent of 24.2 million hectares in 1990-91 and further to 29.86 million hectares in 2011-12. The production of wheat increased from 6.5 million tonnes in 1950-51 to 11.0 million tonnes in 1960-61 and again to 36.3 million tonnes in 1980-81. Further it increased to 69.68 million tonnes in 2000-01 and to around 95 million tonnes in 2011-12. Considering the yield per hectare, it also increased from 663 kg per hectare in 1950-51 to 1307 kg per hectare in 1970-71 and to 2281 kg per hectare in 1990-91. In 2011-12, it increased to 3177 kg per hectare.

**Coarse Cereals.** The coarse cereals include maize, jowar, bajra etc. These crops are

generally sown in June-July and harvested in September-October. The coarse cereals are important in areas where irrigation facilities are not well developed for example Maharashtra, Karnataka, Rajasthan, Gujarat, Bihar, Madhya Pradesh, Uttar Pradesh and Andhra Pradesh. The area under coarse cereals has declined over the period. It was 37.7 million hectares in 1950-51 and 36.32 million hectares in 1990-91 which declined to 26.42 million hectares in 2011-12. The total production increased from 15.38 million tonnes in 1950-51 to 32.70 million tonnes in 1990-91. Upto 2000-01, it continuously slid down and stood at 31.08 million tonnes which increased to 42.01 million tonnes in 2011-12. The yield per hectare increased from 433 kg per hectare in 1950-51 to 900 kg per hectare in 1990-91. In 2011-12, it rose to 1590 kg per hectare. Since coarse cereals are less profitable as compared to wheat and rice under irrigated conditions. So with the increase in area under irrigation, the area under coarse cereals is being shifted to rice and wheat crops.

**Oil seeds.** Nine important oilseed crops include groundnut, rapeseed and mustard, sesamum, castor seed, linseed, soyabean, sunflower and Niger. Heavy expenditure has to be incurred by the country for imports of edible oils which amounted to Rs. 61106 crores in 2012-13. The area under oilseeds was 10.73 million hectares in 1950-51 increased to 24.15 million hectares in 1990-91. The area under this set of crops rose to 26.31 million hectares in 2011-12. The production increased from 5.16 million tonnes in 1950-51 to 18.61 million tonnes in 1990-91 which further declined to 14.84 million tonnes in 2002-03 but increased to 31.01 million tonnes in 2012-13. The yield per hectare of oilseeds increased from 481 kg/ha in 1950-51 to 579 kg/ha in 1970-71 but in 1980-81 it reduced to 532 kg/ha. It again increased to 777 kg/ha in 1990-91 and 1169 kg/ha in 2012-13.

**Pulses :** Pulses deserve the special attention on the food front in the country. Pulses include a number of crops which are mostly leguminous and provide much needed vegetable proteins to largely vegetarian population in India. Gram and tur (arhar) are most important pulses. These are grown in rainfed condition. But due to their poor returns to the cultivation in comparison to the competing crops, the pulses in the country are grown on marginal lands. However, severe shortage of pulses in the country has resulted in large scale imports which was worth of Rs. 12739 crores in 2012-13. The area under pulses increased from 19.1 million hectares in 1950-51 to 23.6 million

hectares in 1960-61. However in 1970-71 it declined to 22.6 million hectares and again to 24.6 million hectares in 1990-91. In 2012-13 it declined to 23.47 million hectares. The production of pulses was just 8.4 million tonnes in 1950-51 which increased to 11.82 million tonnes in 1970-71. In 1990-91, the production of pulses was 14.3 million tonnes and in 2012-13 it stood at 18.45 million tonnes. The yield per hectare of pulses was 441 kg/ha in 1950-51 which in 1960-61 increased to 539kg/ha. In 1970-71, it further reduced to 524kg/ha. and finally increased to 786kg/ha in 2012-13.

**Cotton :** Cotton is sown from mid April to mid May and picking starts in the month of September. It occupies an area of about 9 million hectares. The state of Maharashtra alone occupies about 36 percent of the total area under cotton. Gujarat Shares 21 percent, Karnataka 13 percent and Madhya Pradesh 10 percent of the total cotton growing areas. In a sense, these four states taken together account for 80 percent area under cotton. Condition for growth of cotton are i) Uniformly high temperature (21-30) ii) rainfall normal 150-100 cm iii) Black cotton soil. Frost is the number one enemy of the cotton plant and it is grown in areas having at least 210 frost free days in a year. Cotton is a Kharif crop which requires 6 to 8 months to mature. Its time of sowing and harvesting differs in different parts of the country depending upon the climatic conditions. Cotton quickly exhausts the fertility of soil. Therefore regular application of manures and fertilizers to the soil is very necessary.

The area under cotton has increased to 7.6 million hectares in 1970-71, as compared to 5.9 million hectares in 1950-51. However in 1990-91, it has declined to 7.4 million hectares but in 2012-13 it increased to 11.98 million hectares. As far as the production of cotton is concerned it was 3.04 million bales in 1950-51 which rose to 4.76 million bales in 1970-71. Moreover, in 1990-91, it was 9.8 million bales. In 2000-01, it declined to 9.5 million bales due to decline in area and yield. The production showed a record level of 35.2 million bales in 2011-12. The yield per hectare of cotton was 88 kg of lint in 1950-51 which in 1970-71 increased to 106 kg. In 1990-91 it was 225 kg and fell to 190 kg/ha in 2000-01. The decline in cotton yield is due severe attack of pests. It increased to a record of 499 kg /ha in 2010-11 mostly due to introduction of bt cotton varieties.

**Sugarcane.** Unlike other crops, sugarcane is an annual crop. It is grown mostly in the states of Uttar Pradesh, Bihar, Punjab, Haryana, Karnataka, Tamilnadu, Andhra Pradesh.

The state of Uttar Pradesh alone shares more than 50 per cent area under sugarcane. It is a long duration crop and requires 10 to 15 and even 18 months to mature depending upon the geographical conditions. It requires hot and humid climate, temperature 21-27 degree, rainfall 75-150 cm. Too heavy rain fall results in low sugar content and deficiency in rainfall produces fibrous crop. Infact, sugar can tolerate any kind of soil that can retain moisture. But deep rich loamy soils are ideal for its growth. The satluj-ganga plan from punjab to Bihar, the black soil belt from Maharashtra to Tamil nadu along the eastern slopes of the western ghats and coastal Andhra and the Krishna valley are the three belts of sugarcane cultivation.

The area under sugarcane increased from 1.7 million hectares in 1950-51 to 2.6 million hectares in 1970-71 and again to 3.7 million hectares in 1990-91. By 2000-01, it reached to the level of 4.3 million hectares and in 2012-13 at 5.06 million hectares. The production of sugarcane was 57.1 million tonnes in 1950-51 increased to 126.4 million tonnes in 1970-71. It further increased to 241.05 million tonnes in 1990-91 and 338.96 million tonnes in 2012-13. In terms of yield per hectare, it was 33 tonnes in 1950-51 which almost doubled in 1990-91 and recorded at 71 tonnes per hectare in 2011-12.

#### **3.4.3 Future Cropping Pattern**

With the introduction of New Agricultural Strategy and Green Revolution, extensive cropping pattern is giving a way to intensive cropping. It has provided an ample opportunities to the Indian farmers to raise manifold production. This is possible by making easy availability of chemical fertilisers, plant proteciton, improved techniques, of production, assured irrigation with appropriate price policy. With the rapid increase in population, size of holding has been decreased and expected to decline continuously in future also. This is a serious challenge in the coming years. Therefore, following factors are greatly responsible for the present form of cropping pattern and land use pattern :

1. Comparative advantage of crops.
2. Increased irrigation potential.
3. Increased uses of fertilizers and pesticides.
4. Better crop varieites and quality of seeds.

5. Higher level of production technology for major cereals, cotton and sugarcane etc.

Besides, the production trends and the cropping pattern of our country would be influenced by the following decisions of the Government of India :

1. A steady growth of foodgrain production to meet the growing needs and a substantial increase in pulse production to improve the nutritional quality of the diet of the people.
2. To aim at self-sufficiency in oilseeds and pulses production to eliminate import of edible oils and pulses.
3. In the context of emergence of WTO, to increase production of export oriented. Crops like tea, coffee, tobacco, cashewnut, spices, jute, cotton, sugarcane, flowers, basmati rice, durum wheat, fruits and vegetables.
4. Efforts may be made to use land in optimum way. This can be only possible when such crops are grown towards which land is more responsive.
5. Various facilities like irrigation, crop insurance, subsidies for input, marketing finance, demonstration of the profitability of different crops, and storage may be provided to the cultivators. Future changes of cropping pattern required basic conditions to be fulfilled as :
  - i) Output of all existing crops should be increased so as to meet the consumption needs of the people.
  - ii) There should be a shift towards high value crops, which in turn will obviously add to the total value of output. This commercial crops may be preferred.
  - iii) Efforts should be made to shift the area from coarse food grains to superior quality of foodgrains such as basmatic rice.
  - iv) The production of those crops should be encouraged which have world demand.
  - v) Land use plans for plains and hilly areas, salt affected, water logged



lands and dry area may be properly drawn.

- vi) Resarch on soil fertility, water use dry farming may be done continuously.
- vii) Necessary provision of financial help may be made available.
- viii) The processing units should be supplied with regular raw material.

**Dry-land farming.** Dry-land farming means the introduction of agricultural operation in the arid and semi-arid land. With the continuous growth of population, the amount of cultivable land is gradually becoming insufficient. Therefore, steps have been taken to start special type of agricultural operation in those dry lands which remained barrier at the earlier stage. Dry-land farming in India is thus defined broadly to cover rainfed agricultural operation dominated by low water requiring crops in those arid and semi-arid tropical regions of the country. To start dry-land farming, it requires alternative farm seasons of cropping season and follow season. In order to catch early showers, first the ploughing and harrowing operations are done. The second ploughing and harrowing operations are done during the rainy season to open the soil to the relatively heavier rain. The ploughing and harrowing operations are done for preventing loss of land moisture by evaporation. The ploughing operation uproots weeds which absorb moisture from the soil and the harrowing operation usually prepares a dry, dusty soil on top level which will act as blanket for preventing evaporation. In this type of farming special efforts are made by the farmers for conserving soil moisture and also for using limited rain water to a maximum extent.

#### **3.4.4 Determinants of Cropping Pattern**

The number of factors are responsible which determines the cropping pattern of any country. These factors can be classified into the broad categories.

1. **Natural Factors.** These are the most important factors determining crop-pattern and relates to the physical characteristics and natural endowments of a region. Nature of soil, type of climate, extent of rainfall, etc. will determine the basic crop-pattern of a region over a period of time. In area having sufficient rainfall and water logging the most appropriate crop is rice since it can withstand water. In areas having low rainfall and small availability of water supply, the choice will naturally be jowar and bajra as these crops

require small quantity of water.

2. **Economic Factors.** Economic factors relates to prices of agricultural commodities, incomes of farmers, size of holdings, availability of agricultural inputs, nature of land tenure etc. Increase in prices of a certain crop consistently for some years relative to other crops can induce the farmers to shift over to that crop. For example, farmers growing pulses and inferior cereals like jowar, bajra and maize have been tempted to shift over to the production of wheat in recent years on account of price factors and also on account of the higher productivity potential of new high yielding varieties of wheat. Size of holdings also affect the crop pattern as small farmers give first priority to food crops because they are more interested in fulfilling their food requirements. On the other hand, large farmers may devote a part of their land for growing cash crops. Availability of agricultural inputs like seeds, fertilisers, irrigation, etc. also affects the crop-pattern to same extent.
3. **Historical Factors.** In some areas, certain crops are grown for necessity and then the cropping pattern is maintained through the years. Historical pattern of land tenure also plays its role. If the land is divided into a number of small plots with ownership vested in numerous small and marginal farmers, the tendency will be to produce more cash crops.
4. **Social Factors.** The type of social environment, customs, traditions, outlook, towards material things etc. also influence crop-pattern to some extent. In the pre-Independence period, the outlook of a majority of farmers was very narrow and they were bound by traditions. Therefore the same crop pattern was continued to be adopted by successive generations. But after Independence, gradual changes in social awareness and social consciousness are emerging which are in turn making farmers more and more responsive to price changes and productivity possibilities of different crops.
5. **Government Policy.** Cropping pattern was also affected by the policies of the government relating to different crops, exports, taxes, subsidies, supplies of inputs, availability of credit etc. In the pre-Independence period, cropping pattern was determined exclusively by other factors as government had a

very restricted scope to play in the agricultural sector. However, after Independence, Government play a very important role with regard to the policies of expansion of irrigation facilities, determination of agricultural prices, support prices and a host of other policies that have contributed towards the changing crop-pattern.

### **3.5 LET SUM UP**

In this lesson, we learnt about the nine different classification of land and how this pattern of land utilization has changed over the years. This change was more or less due to the increase in population as more and more land is brought under cultivation and used for construction and other purposes. Cropping pattern has also changed since independence. At that time area under and production of foodgrains was main priority but presently commercial crops was given importance and area under commercial crops has increased and production also. A number of factors which influence the cropping pattern include Natural factors. Economic factors, Historical factors, Social factors and Govt policy.

### **3.6 LESSON END QUESTIONS**

- Q.1 Discuss about the classification of land in India.
- Q.2 What changes have been observed in the land utilization pattern over the years?
- Q.3 What do you mean by cropping pattern? Discuss the area under food and no food crops.
- Q.4 Which factors determines the cropping pattern and what should be future cropping pattern?
- Q.5 Write a short note on optional land use pattern.

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## **AGRICULTURE IN FIVE YEAR PLANS.**

### **STRUCTURE**

- 4.1 Introduction
- 4.2 Objectives
- 4.3. Agriculture under plans : An Overview
- 4.4 Agriculture under different Plans : Ist to 12th plan.
- 4.5 Let us Sum up
- 4.6 Lesson End Questions

### **4.1 INTRODUCTION**

Indian economy was not in a good state when India got independence. Since Indian economy is an Agricultural economy and to make Indian economy a progressive economy agriculture sector must grow. This need was felt by the Indian planners and immediately after achieving Independence they follow the path of economic planning. The First Five Year plan was introduced in 1951 and in this plan period agriculture was given priority as the state or condition of Indian agriculture is very poor. Even in the succeeding plans, agriculture was given importance. In this lesson, the students will come to know about the growth rate of agriculture sector during different plans, budget allocation to this sector, targets sets for and achieved by agriculture sector during the various plans.

### **4.2 OBJECTIVES**

After going through the lesson the student will :

1. understand the growth of Agriculture under different five year plans.
2. be able to know the factors affecting the growth of Agriculture under different plans.
3. learn about different measures introduced by government for the development of Agriculture.
4. Get information regarding targets and achievement related to Agricultural growth under different five year plans.

#### **4.3 AGRICULTURE UNDER FIVE YEAR PLANS : AN OVERVIEW**

Since 1947, the Indian economy has been premised on the concept of planning. This has been carried through the five-year plans, developed, executed and monitored by the Planning Commission. With the Prime Minister as the ex-officio chairman, the commission has a nominated deputy chairman who holds the rank of a Cabinet Minister. Five year plans (FYPs) are centralized and integrated national economic programs. Joseph Stalin implemented the first FYP in the Soviet Union in the late 1920s. Most communist states and several capitalist countries subsequently have adopted them. China and India both continue to use FYPs, although China renamed its Eleventh FYP, from 2006 to 2010, a guideline, rather than a plan, to signify the central government's more hands-off approach to development. India launched its First FYP in 1951. immediately after Independence under socialist influence of first Prime Minister Jowahar Lal Nehru. The first Five Year Plan was one of the most important because it had a great role in the launching of Indian development after the Independence. Thus, it strongly supported agriculture production and it also launched the industrialization of the country. It built a particular system of mixed economy, with a great role for the public sector as well as growing private sector.

On the eve of first plan, agriculture was in hopeless and deplorable condition. Our farmers were in heavy debt to the village money lenders. They were having small and scattered holdings. They had neither the money nor the knowledge to use proper equipments, good seeds and chemical manures. Except in certain selected irrigated areas, they were dependent upon rainfall and upon the vagaries of monsoons. Productivity of land as well as of labour had been declining and was generally the lowest in the

world. In spite of the fact that over 70 per cent of our working population was engaged in cultivation, the country was not self-sufficient in foodgrains. Besides, the partition of the country in 1947 worsened the agricultural situation, as India was allotted more people but less land to support them. The planning Commission has generally kept four broad objectives in view for agriculture sector which are – Increase in agricultural production, Increase employment opportunities, Reduce the pressure of population on land, reduce inequalities of incomes in the rural sector. To bring about increase in agricultural production and also increase in rural employment, the FYPs use various programmes such as setting up of community development programmes and agricultural extension services throughout the country, expansion of irrigation facilities, fertilisers, pesticides, agricultural machinery, high-yielding varieties of seeds and expansion of transportation, power, marketing and of institutional credit.

To reduce the pressure of population on land, the strategy was to set up agro-based Industries and handicrafts in rural areas, to promote rural transport and communications and to encourage the movement of people from agriculture to industries and services sector. Finally, for the fourth objective, the strategy was land reforms which included the removal of intermediaries like the Zamindars, the protection of tenants through tenancy legislation, ceiling of land holdings and distribution of surplus land among landless-labourers and small and marginal farmers.

#### **4.4 AGRICULTURE UNDER DIFFERENT PLANS : 1st TO 12TH PLAN**

##### **First Five Year Plan (1951-56)**

Agriculture was given the topmost priority in the First FYP. The plan was mainly directed towards increasing agricultural production and strengthening economic infrastructures like irrigation, power and transport after Independence, there was an acute food shortage in the country and to solve the food problem priority was given to increase production of food grains. The abolition of Zamindari system, the launching of the community development programme, growing more food campaign along with improvement in other related spheres like marketing, fisheries, animal husbandry, soil conservation and forestry, were the notable features of the first FYP. There was a remarkable increase in agricultural production during the First plan period. The production of food grains increased from 508 million tonnes in 1950-51 to 66.85 million tonnes (in

1955-56) at the end of the plan production of all agricultural commodities increased by 22.2 percent 31 per cent of the total outlay during the first plan was to be spent on agriculture and irrigation. The target set out for the plan were almost achieved and even in some cases, exceeded. A good monsoon was helpful for the success of agriculture during the First Plan period. The production target in foodgrains during the First Plan was exceeded-for instance as against the target of about 62 million tonnes, actual production of foodgrains came to nearly 67 million tonnes. However, the targets fixed for sugarcane, cotton, and jute were not achieved.

### **Second Five Year Plan (1956-61)**

The Planning Commission wanted the Second Plan to lay the foundations of industrialisation. Out of total outlay of ₹. 4,600 crores during the Second plan, a sum of ₹. 950 crores or about 20 per cent was spent on agriculture. Despite the percentage reduction in plan outlay on agriculture, the progress on the agricultural front was significant. For example, foodgrain production recorded nearly 80 million tonnes in 1960-61, as against the target of 81 million tonnes. Likewise, the production of oilseeds, sugarcane and cotton was much more in 1960-61 than in 1955-56. There was however a shortfall in the production of all groups of commodities, as against the target fixed, except, in the case of sugarcane in which there was remarkable progress. As a result of this unsatisfactory agricultural production, the country had to import foodgrains from abroad to overcome the food shortages. During this plan, an inflationary situation started in the economy. Experience in the second plan had showed clearly that the rate of growth in agricultural production was a major limiting factor in the progress of the Indian economy.

### **Third Five Year Plan (1961-66)**

As the Government felt that the success of the agricultural sector was an essential condition for the success of the entire plan, the Third plan fixed ambitious targets of production for all agricultural crops. The objective of the third FYP was to achieve self-sufficiency in foodgrains and to increase the agricultural production to meet the needs of industry and export. The plan accorded higher priority i.e 20.5 percent to agriculture and irrigation than to industrial development i.e. 20.1 per cent. The Government introduced the new agricultural technology known as Intensive Agricultural District Programme (IADP), which was soon followed by a programme of using improved seeds, viz. High

Yielding Varieties Programme (HYVP). The new agricultural technology was expected to usher in the green revolution. However, as a result of the extensive and serious drought conditions in 1995-96, agricultural production was adversely affected. None of the agricultural targets-except sugarcane was achieved during the Third Plan period; and the actual output at the end of the third plan in the case of foodgrains, oilseeds and raw cotton was lower than the output at the end of the Second Plan, indicating that the Third Plan was a wash-out as far as agriculture was concerned.

The plan targeted to increase overall agricultural production by 30 per cent, but the achievements were disappointing. The actual output of foodgrains was 89.3 million tonnes in 1964-65 and 72.3 million tones in 1965-66. The food production increased by 10 percent only as against the target of 30 percent. Consequently, the country has to import Rs 1,100 crores worth of foodgrains to meet the domestic demand. For, the first time, the public lost interest in the planning process and the Government adopted 'plan holiday for three years.' The experience of the third plan made the Planning Commission realise the bitter fact that economic planning would be a failure unless agricultural production was increased rapidly. Accordingly, the Planning Commission assigned high priority to agriculture in the successive plans.

### **Three Annual Plans (1969-74)**

During this period, a high priority was given to minor irrigation and this was followed by adoption by HYVP to increase agricultural production and productivity. Thus, this period is considered crucial for Indian agriculture as the Green Revolution took place during this period and the Government set up Agricultural Prices Commission to assure minimum support prices to farmers and the Food Corporation of India for maintaining buffer-stock to overcome fluctuation in the supplies of foodgrains and their prices. Due to implementation of HYV programme, there was a recorded food grain production of 95.05 million tonnes in 1967-68.

### **Fourth Five Year Plan (1969-74)**

The fourth plan had two objectives in the agricultural sector i) to provide the conditions necessary for a sustained increase of food production by about 5 percent per annum over the decade 1969-78 and ii) to enable a large section of the rural population including small farmers, farmers in the dry areas and agricultural labourers participate in



the process of agricultural development and share its benefit. The Green Revolution introduced during the annual plans had a good result and the farmers particularly in the wheat-producing belt were here interested to adopt HYV cultivation. None of the targets fixed in agriculture in fourth plan was realised. The actual production food grain was 104.7 million tonnes in 1973-74 as against the targeted increase of 129 million tonnes. The highest level of production during the Fourth plan was 108 million tonnes in 1970-71. Consider, further the targets fixed and actual production of oilseeds, sugarcane, cotton and jute during the fourth plan. It would be clear that the fourth plan failed to achieve the agricultural targets.

#### **Fifth Five Year Plan (1974-1979)**

The fifth plan was prepared with great care, with total plan outlay at Rs. 39,430 crores out of which outlay on agriculture and allied sectors would be Rs. 8,740 crores which was 24 percent of the total plan outlay. The targets for production of various crops and the necessary inputs to achieve these targets were also clearly set out. Unfortunately, all the financial calculations were wrong because of the serious inflationary situation during 1973-74. However, after the declaration of emergency (1975) agricultural progress was steady and plan targets were almost realized. The Janata Party Government suspended the Fifth Plan midway-rather foolishly and started preparing the Sixth plan. The fifth plan accorded priority for the spread of HYV cultivation, double or multiple, greater use of fertilizer pesticides and insecticides to increase agricultural production. The plan further provided special emphasis on i) small and marginal farmers ii) dry farming technique iii) evolving HYV seeds for other crops like paddy iv) social conservation measures on saline and alkaline soils and for desert land reclamation. During the Fifth Plan, the production of foodgrains increased substantially i.e. 132 million tonnes as against the target of 125 million tonnes. In fact, apart from the First Plan the Fifth Plan was the only period when the actual production of foodgrains exceeded the targetted production.

#### **Sixth Five Year Plan (1980-85)**

The Sixth FYP recognised that the growth of the Indian economy depends significantly on a rapid growth in agriculture and rural development. The main objective of the plan, therefore, was to increase agricultural production, generate employment and income opportunities in rural areas and strengthen the forces of modernization for achieving self-

reliance. Further the plan aimed at accelerating the pace of the implementation of the land reforms and institution building for beneficiaries. Of all the plans, the Sixth plan was hailed as a great success, particularly because of the success on the agricultural front. As against the annual growth rate of 3.8 percent for agriculture, the actual growth rate was 4.3 percent. The production of foodgrains in 1983-84 was 152 million tonnes as against the target of 154 million tonnes and was hailed by the Indian Government as the Second Green Revolution. While the First Green Revolution from 1967-68 arose from the introduction of new HYVs of Mexican wheat and dwarf rice varieties, the Second Green Revolution from 1983-84 was said to be from expansion in supplies of inputs and services to farmers, agricultural extension and better management. While the First Green Revolution was confined to Punjab, Haryana and Western U.P. the Second Green Revolution had spread to eastern and central states including West Bengal, Bihar, Madhya Pradesh and eastern U.P. These states had made tremendous progress in recent years. However, it is important to emphasise the fact that, despite all the great claims of the Government none of the targets except in oilseeds of agricultural productions was achieved during the Sixth Plan.

#### **Seventh Five Year Plan (1985-90)**

The Seventh Plan aimed at an annual average increase of 4 percent in agricultural production. The plan allocated ₹ 47,100 crores for agricultural sector which is 23 percent of the total plan outlay. The major programmes adopted during the plan were a special rice production programme in the eastern region, national water-shed programme for rain-fed agriculture, national oil-seed development project and social forestry. Unfortunately enough, the first three years of the Seventh Plan were poor monsoon years. As a result, agricultural production received a set-back during these years. However, it increased sufficiently during the last two years for which the agricultural production recorded a commendable growth of 4.1 percent in the Seventh plan as against the target percent. The actual achievement in the foodgrain production was 171 million tonnes as against the target of 180 million tonnes. None of the target fixed in the Seventh Plan was achieved except cotton.

### **Eighth Five Year Plan (1992-97)**

The basic objectives of the Eighth FYP were i) consolidate the gains already achieved in agricultural productivity and production during the last 40 years, ii) To sustain agricultural productivity and production in order to meet the increased demands of the growing population; iii) To enlarge the income of the farmers; iv) To create more employment opportunities in the agricultural sector; and v) to step up agricultural exports.

21 percent of the total plan outlay amounting ₹ 1,01, 590 crores was allotted for agriculture and allied sectors. The plan targets a growth rate of 4 percent per annum for the agricultural sector. The Eighth Plan was basically sound in its approach in the strategy of development and in targets of agricultural crops. Fortunately, weather and climate conditions were favourable and broadly many of the targets could be fulfilled. For instance, the actual outputs in 1996-97 i.e. the last year of the Eighth Plan of oilseeds, of sugarcane, of cotton and of jute were higher than the targets for these crops in the Eighth Plan. The only exception was foodgrains – the Eighth plan target was 210 million tonnes but the actual production was 199 million tonnes. Infact, the production of foodgrains at 199 million tonnes was the highest output registered by India till then.

### **Ninth Five Year Plan (1997-2002)**

The Ninth Plan envisaged a growth of 4.5 percent per annum in the agricultural sector. In order to achieve this, a regionally differentiated strategy based on agro-climatic regional planning was envisaged to be implemented. In recent years, several new initiatives have been taken which include.

- i) Announcement of National Agriculture Policy (2000),
- ii) Kisan Credit Cards (1998-99) iii) Creation of Watershed Development Fund (Rs. 200 crore) with NABARD (1999-2000) iv) Technology Mission for Integrated Development Horticulture in the North-eastern (2000-01) v) Technology Mission on Cotton (1999-2000), vi) Centrally sponsored scheme ‘on farm water management’ for increasing crop production in eastern India (2001-02), vii) Legislation on Plant variety protection and Farmers’ Rights and formulation of National Seed Policy to bring reforms in the seed sector (2002) viii) Implementation of the National Agriculture Insurance Scheme/Rashtriya Krishi

Bima Yojana (1999-2000) ix) Introduction of macro-management concept in the implementation of agricultural development programmes instead of scheme approach (2000-01) x) Introduction of rural Godown. Scheme (2001-02). xi) Lifting some of the restrictions and controls on the movement and storage and exports of foodgrains/agriculture produce (2002) xii) De-reservation of the manufacture of some farm implements/machines from the small-scale industries sector (2002).

The performance of the agriculture sector during the Ninth Plan has not been as envisaged. The average annual growth during the Plan is estimated to be only 2.06 per cent which is much below the targeted growth of 3.9 per cent. The average annual growth of foodgrains production has remained very low at 1.1 percent. The average annual production of pulses during the Ninth Plan marginally declined to 13.3 mt from 13.41 mt during the Eighth plan mainly account of area diversion through the productivity recorded some improvement. The oilseed production fluctuated year to year between 18.4 mt and 24.75 mt. Although, during the Ninth Plan, the average annual production of food grains remained higher than the average annual production of 187.02 mt achieved during the Eighth Plan, the production targets of various foodgrain crops could not be achieved. Total foodgrains production increased from 199.44 mt in Eighth plan to 211.32 ml in the Ninth Plan.

#### **Tenth Five Year Plan (2002-07)**

The tenth plan adopted the prescription of the National Agriculture Policy 2000. The tenth plan targets a 3.97 percent growth. The NAP envisaged the following type of growth :

- i) Growth that is based on efficient use of resources and conservers our soil, water and bio-diversity.
- ii) Growth with equity i.e. growth which is widespread across regions and covers all farmers.
- iii) Growth that is demand driven and caters to domestic markets as well as maximises benefits from exports of agricultural products in the face of the challenges arising from economic liberalisation and globalisation.

- iv) Growth that is sustainable technologically, environmentally and economically.

The Tenth Plan visualised a) the estimated foodgrains requirements at the end of the Tenth plan i.e. 230 mt. b) the estimated supply position is expected to be between 225 and 243 mt. The tenth plan planned to achieve this volume of production of foodgrains through. a) adequate thrust on maize cultivation which has good scope for increasing production of minor cereals to 43 to 48 mt and b) thrust on commercialisation of hybrid rice on a large scale and improved technologies in water. For the tenth plan allocation to the department of Agriculture and cooperation has been stepped up to ₹ 13200 crore as compared to ₹ 9153.82 crore in the Ninth Plan. The public sector outlay on agriculture and allied activities irrigation and flood control, rural development and special area programme which was of the order of ₹ 1,76,217 crores in the Ninth plan increased to ₹ 3,05,055 crores in the Tenth plan which was 20 percent of the total outlays this was almost the same as that in the Ninth Plan. The Tenth Plan was the first plan which did not fix targets of crop production. During the Tenth Plan period (2002-07), foodgrain production has increased to 216 mt it may be mentioned that the target of foodgrains production was fixed at 234 mt for the Ninth plan period. There was however, clear growth in oilseeds sugarcane and cotton. In general, it is estimated that the annual rate of growth in agriculture was 2.3 percent, as against the target of 4 percent.

#### **Eleventh Five Year Plan (2007-12)**

During the 11th plan also, the Planning Commission has fixed the target of 4 percent rate of growth in agriculture, as if this is the first time such a high rate of growth has been fixed. Agriculture is not only an important driver of macro-economic performance; it is an essential element of the strategy to make growth inclusive. The Approach paper emphasised that a reversal of the deceleration in agricultural growth witnessed after 1996 is a pre-requisite for success of the 11th plan. Although agricultural performance has improved after 2004-05, much more needs to be done. The Planning Commission has appointed a special Agricultural Commission to monitor this rate of growth. The corporate sector is encouraged to go for contract farming in fruits, vegetables and other crops. It is encouraged to provide seeds, fertilisers and assured marketing. At the same time, the Government is encouraging the setting up of Special Economic Zones (SEZ)

by buying large tracts of a agricultural land for setting up industries and services sectors.

The volatile variation in crop production from year to year shows that there is very little planning in agriculture. The growth rate during the 11th plan was 37 percent. The total plan outlay in the 11th plan on agriculture and allied activities was 1,36,381 crores. The target for the foodgrains in the eleventh FYP was 245 mt and the actual achievement was 257 mt. Infact, it was a record achievement. Except oilseeds and jute and mesta, the target was achieved in respect of all the crops. Total non-horticulture crop output grew marginally faster than target (2.8 percent against 2.7 percent target) mainly because of foodgrains (3.1 percent actual against 2.3 percent target), oilseeds (4.5 percent against 4 percent) and fibres (10.7 percent against 5 percent). Horticulture at 4.7 percent was only marginally short of the 5 percent target. Growth of output from livestock i.e. 4.8 percent was again highest among all the periods considered but this performance, and even more, so for fishing (3.6 percent) fell short of the ambitious 6 percent target for these two sub-sectors. Growth of forestry was expected slower, pulling down the growth of total value of output in agriculture and allied to 3.6 percent, but this too was the highest among the seven periods considered.

Growth in intermediate inputs has accelerated steadily reaching 4.3 percent per annum during the Eleventh plan; which was much higher than growth of output and over twice the growth rate of intermediate input use during 1981-97. The more rapid growth in input use explains why despite the faster growth of the gross value of output during the Eleventh plan at 3.6 percent in the period 1981-82 to 1996-97 (about 3.0 percent) GDP in agriculture which is value added concept grew more slowly. In other words agricultural growth became more input intensive in the Eleventh plan. This suggests the need to re-look policies relating to inputs, especially fertiliser and power.

### **Twelfth Five Year Plan (2012-17)**

The Twelfth five year plan of the Government of India has decided for the growth rate at 8.2 per cent but the National Development Council (NDC) on 27 Dec 2012 approved 8 percent growth rate for 12th FYP. The objective of the Twelfth Five Year Plan is to continue with the decentralisation thrust of Rashtriya Krishi Vikas Yojana (RKVY), while reducing number of Centrally Sponsored Schemes. This vision of decentralisation could extend to fertilisers and food subsidies also. While doing this, the main Twelfth plan foci are

- a) Bringing scale through development of Farmer Producer Organisations.
- b) Emphasising technology, both on the research and development sides
- c) Stressing standards and protocols and standard operating procedures in every scheme.
- d) Improving statistics and evaluation.
- e) Initiating a shift towards sustainable and climate resilient agriculture, not only through NMSA but more generally by laying emphasis on rain-fed areas and bringing about shifts of water-intensive rice cultivation from water-stressed North-West India to Eastern India.
- f) Preparing for faster growth through a more diversified agriculture, with investment in the necessary modern infrastructure required for perishable products.

States have indicated that they will more than double their plan expenditure on agriculture and allied sectors from ₹ 1,11,824 crore during the Eleventh plan to ₹ 2,26,500 crore during the Twelfth plan. The Centre shall also more than double its plan expenditure. The allocation for RKVY is being raised to ₹ 63,246 crores for the Twelfth plan from actual expenditure of ₹ 22,426 crores during the Eleventh Plan. The indicative Twelfth Plan Gross Budgetary Support (GBS) for all other schemes of MOA is ₹ 1,11,232 crore. This is against corresponding the Eleventh plan actual expenditure of ₹ 53,171 crore. The target for the first annual year (i.e. 2012-13) of Twelfth FYP for foodgrain was 254.24 million tonnes and the actual achievement was 255.36 million tonnes. The targets in case of rice, wheat, pulses was achieved while achievements in case of coarse cereals, oilseeds, sugarcane, cotton, Jute and Mesta was less than targets.

#### **4.5 LET US SUM UP**

Agriculture sector has enjoyed an important place in all the five year plans. Agriculture was given priority in the First FYP as Indian agriculture was in a hopeless situation at that time. Even after the first FYP, agriculture was given equally importance but the budget allocation declined in percentage terms though it increased in absolute terms. Indian planners felt the necessity that in order to achieve 9 percent growth rate in GDP, agriculture sector must grow at 4 per cent. The 4 percent growth rate has been fixed for the agriculture sector for the Ninth, Tenth and subsequent plans.

#### **4.6 LESSON END QUESTIONS**

- Q.1. Write a brief note on the Initiation of Economic Planning in India.
- Q.2. Discuss the targets sets and achieved by agriculture sector during various plans.
- Q.3. Discuss the budget allocation to the Agriculture sector from first to twelfth plan.
- Q.4. What objectives have been set for the Agriculture sector in the 12th FYP?
- Q.5 Discuss the achievements of 11th FYP.

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## **RURAL INDUSTRIALIZATION**

### **STRUCTURE**

5.1 Introduction

5.2 Objectives

5.3 Rural Industrialization : Issues and Significance

5.3.1 Concept of Rural Industrialization.

5.3.2 Significance of Rural Industrialization

5.3.3 Issues in Rural Industrialization.

5.4 Agro based Industries.

5.4.1 Concept and Definition of Agro based industries.

5.4.2 Development and Future Prospects of Agro based Industries

5.5 Let us Sum Up.

5.6 Lesson End Exercise

### **5.1 INTRODUCTION**

India is the second most populous country in the world after China. It faces a number of problems which include poverty, unemployment, inequality in the distribution of wealth etc. The solution to all these problems is the development of rural and village industries. Rural Industries should be developed due to the reason that 52 percent of the population is engaged in agriculture and they remain idle for a period of four to six months in a year. During this period these people should be provided employment in

their nearby villages so that the problem of urban migration should be solved. The setup of industries in villages should be agro-based. Since it will help in reducing cost of that industry due to availability of raw material, cheap manpower, etc. The production of foodgrains is not sufficient, processing is equally important. The agro-based industry mainly comprises of post-harvest activities of processing and processing agricultural products. So, development of agro-based industries in the field of processing should be encouraged.

## **5.2 OBJECTIVES**

After going through the lesson the student will

1. be able to understand the concept of Rural industrialization.
2. learn about the significance of and issues in rural industrialization.
3. get familiarize with the concept of Agro based industries.
4. know about the growth and future prospect of Agro based industries.

## **5.3 RURAL INDUSTRIALIZATION : ISSUES AND SIGNIFICANCE**

### **5.3.1 Concept of Rural Industrialization**

Village and cottage industries have a popular role in the Indian economy due to scarcity of physical capital, unemployment and underemployment, regional imbalances & disparities, inequalities in the distribution of income and wealth, unutilisation or under utilisation of rural resources. The government has accorded utmost importance for the growth of these industries through five year Plans and industrial policies because of their high employment intensity. Since employment is a means to achieve growth with social justice, a number of programmes and schemes have been designed and implemented for their development since the dawn of the planning era. It will help in the redistribution of income and wealth. Improving the quality of life for rural people is an enormous and challenging problem. Solutions to this problems are to be found within the rural areas. In essence, it comes down to generating employment, increasing income harnessing and utilising the primary and secondary resources that the rural areas are endowed with Diversification of manpower is required from already saturated agricultural sector to industry and secondary sector. It has been

recognised that in the long run agriculture and other land based activities, even with a high rate of growth, will not be able to provide employment to all the rural workers at adequate levels of income. Over one fifth of the rural workers are engaged in non-agricultural activities. This proportion has shown a remarkable increase in recent years. Policies are needed to be evolved to further strengthen this trend. The development of small business especially in rural segments is a viable remedy. Tiny units have been found to constitute that segment of small scale industries that is most prime to sickness or least likely to be viable.

At present, rural small scale and cottage industries comprise of handicrafts and artisan enterprises. The handicraft industry is cottage or small scale industry. Its products are artistic in nature & require individual skills and craftsmanship in the manufacturing process. The handicraft industry is a labour intensive industry, its products are of higher value added articles, whereas the village industry produces articles of daily use.

### **5.3.2 Significance of Rural Industrialization :-**

Today 52 percent of the working population comprises of agricultural labourers and they remain idle for a period of four to six months in a year, adequate employment opportunities should be explored for this population. Rural industrialization can play a significant role in this regard. Rural industrialization becomes all the more important in view of the fact that the percentage share of agriculture to GDP and the percentage of population engaged in this sector have been declining all over the world, Indian market cannot deviate from this trend. Because of saturation in the agricultural sector there is no scope to accommodate additional manpower there in and it has further accentuated the problem of unemployment. Therefore, diversion of manpower becomes imperative from agricultural sector to industry & service sectors. Since employment opportunities in the service sector are limited, the development of industrial sector, especially in rural segment is the only remedy. Rapid urban industrialization, might also have not been helpful in this regard, but this may not be the proper way to provide employment in India, as it triggers urban migration leading to social economic hygiene implication.

The National Commission of Agriculture (2007) has very rightly observed that more industries must grow at a faster rate or there will be accelerated migration to urban areas leading to decay in both areas and social tensions will build up, endangering the

nation. Ram (2002), rural industrialization seeks to use locally available resources and labour. Tiny cottage and village industries are best suited for rural areas.

### **5.3.3 Issues and Problems of Rural Industrialization**

Rural industrialization means encouraging location of large and small scale units away from urban areas on planned shifting of units from urban areas to rural areas. Rural industrialization aims at all round development of an area as well as people living in such areas.

Agro-based industries are those industries which use agriculture product as a raw material.

#### **Objectives of Rural Industrialization :**

1. Employment generation
2. An equitable distribution of income
3. Mobilisation of Capital
4. Entrepreneurial skills
5. Regional industries disparities

**Types of Rural Industry :** There are various types of rural industries possibilities present in the rural areas are :

1. **Agro-based Industries :** This industry is related with the processing of agro products like Jaggery and sugar production from sugarcane, wine production from grapes, khadi production from cotton, fruit juice production and other related processing from raw agro products
2. **Forest Based Industries :** There are possibilities to establish industries related to wood products, bamboo products, honey, preparing manure from plant leaves, herbal medicines production and others.
3. **Mineral based Industry :** After exploring for the minerals in rural areas proper utilisation is required by establishment of its processing unit nearby the concerned rural areas.

4. **Traditional Industry :** Traditional Industries like handloom, handicraft and other local artisan product manufacturing are having immense potential to become professionally managed small and medium industries.
5. **Dairy Industry :** Production of milk and milk products of large scale can create a space for organized milk industry in rural areas where milk production is high. AMUL brand of Gujarat Cooperative Milk Marketing Federation is one of the best example.
6. **Renewable Industry :** Rural areas can be converted into industry hub for producing renewable energy by setting up solar cell units, bio-gas plants, go-biogas plants and other use of alternative energy commercially.

- **Benefits of Rural Industrialization :**

1. The rural industries provide immediate large scale employment and they also offer a method of ensuring a more equitable distribution of national income.
2. They facilitate an effective mobilization of resource capital and skills which might otherwise remain unutilized.
3. Some of the problems that unplanned urbanization tends to create will be avoided by the establishment of small centres of industrial production all over the country.

**Others :**

- Reduction in regional disparities
- Improvement in standard of living
- Poverty elimination

**Problems :** Due to unfavourable economic condition on rural areas some of the emerging problems are :

1. Decrease in employment
2. Migration of rural population to urban areas.

3. Increase in Poverty
4. Underutilization of resources.
5. Shut down of traditional business
6. Lack of govt policies to regulate rural business.

**Problems :**

1. Environmental Degradation
  - Pollution - soil, air, noise, water pollution
  - Deforestation
  - Use availability of agricultural land
  - Over utilisation of natural resources
2. Infrastructural development
3. Electricity water availability
4. Availability of local market
5. Limited availability of Subsidies

To address all these problem rural industrialization is the solution. Rural industrialization will help talented local youth to get the employment, utilization of available resources, creating new business dimension and to support the rural economy as a whole.

## **5.4 AGRO BASED INDUSTRIES**

Agro-based industries refer to the establishment of linkage between enterprises and supply chains for developing, transforming and distributing specific inputs and products in the agriculture sector

In simple words, agro-based industries are those industries which use agricultural products as a raw material

**Types :**

1. Primary food processing
2. Fruits and vegetable processing
3. Dairily and live stock products
4. Fish products
5. Consumer goods industry.

**Need :**

1. Suitable to rural areas as they are raw material oriented
2. For upliftment of rural economy.
3. To solve the problem of unemployment.
4. To generate income and increase standard of living.
5. To decentralize the dispersal of industries.
6. To reduce disparity between rural and urban areas.
7. To encourage balanced growth between agriculture & industry.
8. To avoid exploitation of farming community
9. To reduce transportation costs.
10. To give big push to agriculture and act as a source of demand and supply.
11. To avoid wastage of perishable agricultural products
12. To prevent migration of rural people.

**5.4.1 Concept and Definition of Agro Based Industries**

Agro industry is an omnipresent expression. It could cover a variety of industrial, manufacturing & processing activities based on agricultural raw materials as also activities and services that go as inputs to agriculture. The agro- industry corporations, set up during the sixties in most states have mainly been engaged in supply of farm machinery,

fertilizers, seeds and other modern inputs available to farmers. Processing of agricultural produce, is however a well known agro industrial activity. Besides, the two-way linkages to agriculture one would need additional criteria to classify agro-industries. To make no distinction between the nature of economic activity involved in spinning and weaving in modern mills & traditional village weaver working with home spun yarn would, for obvious reasons be not justified. Similarly while agriculture is undoubtedly the main source of raw materials, for cotton tea-tiles, it would appear ludicrous to classify Ahmedabad and Bombay as the centres of agroindustries, because both host cotton teatile industry. From the viewpoint of backward linkages to agriculture also, it would appear add to label fertilizer and tractor manufacturing units as agro industries. The need for more rigorous definitions of agro-industries is obvious enough. While doing so, it may be necessary to take note of the nature and extent of two link ages location, capital, technology, entrepreneurial characteristics and features of the market structure. The attempt to outline the definitional contours of the concept of agro industries also calls for spelling out the purpose and the context in which the classification is being evolved.

### **Definitions**

“Agro-based industries are those which are improved in supplying the farm with agricultural inputs besides handling the products of the farm.” India, Famine Enquiry Commission 1944.

Villages Industry means any industry located in rural area, which produces any goods or renders, services with or without use of power and in which the fixed capital investment per head of an artisan or worker does not exceed Rs. 15,000/- India, Planning Commission.

“Agro-based industries are those industries which have either direct or indirect links with agriculture-” SN Bhattacharya Rural Industrialization in India.

The agro-industry is regarded as an extended arm of agriculture. The development of the agro industry can help stabilize and make agriculture more lucrative and create employment opportunities both at the production and marketing stages. The broad based development of the agro products industry will improve both the social and physical infrastructure of India. Since it would cause diversification and commercialization



of agriculture. It will thus enhance the incomes of farmers and create good surpluses. The agro-industry mainly comprises of the post-harvest activities of processing and preserving agricultural products for intermediate or final consumption. It is a well recognized fact across the world, particularly in the context of industrial development that importance of agro-industries is relative to agriculture increases as economies develop. It should be emphasized that 'food' is not just produce. Food also encompasses a wide variety of processed products. It is in this sense that the agro industry is an important and vital part of the manufacturing sector in developing countries and the means for building industrial.

The agro-industry is broadly categorised in the following types :-

- i) Village industries owned and run by rural households with very little capital investment and a high level of manual labour; products include pickles, papad etc.
- ii) Small scale Industry characterized by medium investment and semi-automation; products include edible oil, rice mills, etc.
- iii) Large scale industry involving large investment and a high level of automation; products include sugar, jute, cotton mills, etc.

#### **5.4.2 Development and Future Prospects of Agro Based Industries**

The development of agro-based industries commenced during pre-independence days. Cotton mills, sugar mills, jute mills were fostered in the corporate sector. During the post-independence days, with a view to rendering more employment and using local resources, small scale and village industries were favored. The increasing environmental concerns will give further stimulus to agro based industries. Jute and cotton bags, which have begun to be replaced by plastic bags, have made a come back. It is the right time to engage in mass production of low cost jute/ cotton bags to replace plastic bags.

The agro industry helps in processing agricultural products such as field crops, tree crops, live stock and fisheries and converting them to edible and other usable forms. The private sector is yet to actualize the full potential of the agro industry. The global market is mammoth for sugar, coffee, tea and processed foods such as suace, jelly,

honey etc. The market for processed meat, spices and fruits is equally gigantic. Only with mass production coupled with modern technology and intensive marketing can the domestic market as well as the export market be exploited to the fullest extent. It is therefore imperative that food manufacturers understand changing consumer preferences, technology with modernization, innovation and incorporation of latest trends and technology in the entire food chain as well as agro-production, the total production capacity of agro products in India and the world is likely to double by the next decade.

India is the second largest producer of food in the world. Whether it is canned food, processed food, foodgrains, dairy products frozen food, fish, meat, poultry the Indian Agro industry has a huge potential, the significance and growth of which will never cease. Sea fishing, aqua culture, milk and milk products, meat and poultry are some of the agro sectors that have shown market growth over the years. Linkages between members of the food supply chains and prevailing policies and business environment to take advantage of the global market.

### **Processed Food Segment**

The processing level of the agro industry may be at the primary, secondary or tertiary stage. In the case of hides and skins. India exports largely semi-processed items whereas in coffee/tea, the exports are mostly in secondary stage by way of fully processed bulk shipments without branding/packing Exports at the tertiary stage mean branding and packaging the product that are ready for use by the consumer. A few years ago, companies struggled to sell packaged foods. But now it is much easier to break into the Indian market because of a younger population, higher incomes, new technologies and a growing middle class, estimated at 50 million households. An average Indian spends around 53 per cent of his/her income on food. The domestic market for processed foods is not only huge but is growing fast in tandem with the economy. It is estimated to be worth \$ 90 billion. Processed Food Manufacturing companies are required to be persistent and must adapt products to the Indian cultural preferences.

Many big companies like ITC, HLL, Nestle entered the Indian market a long time ago and have made a deep penetration in the market. From the success stories we can learn some lessons in order to capture the higher end of the local market and get a fair share of the export market. The model is structured around the following :-

- i) Large scale investment and adoption of the later technologies.
- ii) Intensive marketing efforts.
- iii) Perhaps, a foreign tie-up can be beneficial.
- iv) Brand name.

The levels of processing and manufacturing can be classified into three groups, namely manual, mechanical and chemical or a combination thereof. In choosing the process, the main considerations are the nature of the raw materials, technology of processing and packaging.

#### **Other Segments :-**

Dairy products is another area where there is enormous potential. No doubt the country has made tremendous strides in the last 20 years in production and processing of milk and milk products. But the fact remains that only 15 per cent of all the milk product is processed. Today, a large number of people suffer from diabetic or cardiac ailments and availability of fat free milk, fat free curd and sugar free food is poor. A simple product like soya milk is not produced in adequate quantity. Fish and shrimp have good export potential but there is an immense lack of cold storage and modern processing facilities. For instance fish production is around six million tonnes a year and the frozen storage capacity spread over 500 units is only one lakh tonnes.

Another area is herbal medicine. It is being increasingly realized over the world that herbal drugs do not have any side effects. India has a good number of tried and tested herbal products in and what is required is rigorous quality control, proper packaging and a brand name. The government and modern retailers are addressing these issues with new laws on packaging and labelling as well as greater investment in the supply chain.

**The progress Ahead :-** With modernization, innovation and incorporation of latest trends and technology in the entire food chain as well as agro-production the total production capacity of agro products in India and the world is likely to double by the next decade. India is the second largest producer of food in the world. Whether it is canned food, processed food, food grains, dairy products, frozen food, fish, meat, poultry, the Indian agro Industry has a huge potential, the significance and

growth of the which will never cease Sea Fishing, aqua culture milk and milk products, meat and poultry are some of the agro sectors that have shown marked growth over the years

## **5.5 LET US SUM UP**

### **Problems :**

1. Agriculture in gamble with monsoon.
2. Small size of holdings.
3. Price fluctuation
4. Bulkiness
5. Rivercing
6. Irregular supply of Agricultural Products
7. Processing
8. Law of Diminishing return.
9. Low elasticity of demand and supply.

## **5.6 LESSON END QUESTIONS**

- Q.1. Write a short note on rural industries and its significance.
- Q.2. What are the various issues in Rural industrialisation?
- Q.3. What do you mean by Agro-Based Industries?
- Q.4. Discuss about the various areas in which agro-based industries can expand.

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## **LAND REFORMS IN INDIA**

### **STRUCTURE**

- 6.1 Introduction
- 6.2 Objectives
- 6.3 Land Reforms : Concept, Objectives and Measures
  - 6.3.1 Concept and objectives of Land Reforms
  - 6.3.2 Land Tenure System
  - 6.3.3 Reform Measures
- 6.4 Progress of Land Reforms
- 6.5 Let Us Sum Up
- 6.6 Lesson End Questions

### **6.1 INTRODUCTION**

The land reform Programme is an integrated programme of measures designed to eliminate obstacle to economic and social development arising out of defects in the agrarian structure. The objective of land reform should be to remove such impediments to agricultural development as arise from the agrarian structure and to eliminate exploitation and social injustice within the agrarian system so as to ensure equality of tenurial status and opportunity to all.

### **6.2 OBJECTIVES**

After going through the lesson the student will

1. be able to understand concept of land reforms.
2. will get to know about land tenure system prevailing in the country.
3. get familiarize with the reform measures introduced by the government.
4. be able to understand the impact of land reforms
5. get to know about problems of small and marginal farmers.

### **6.3 LAND REFORMS IN INDIA**

#### **INTRODUCTION**

Agrarian Structure in India, at the time of Independence, was semi-feudal with onerous tenure arrangements over substantial areas. The ownership and control of land was highly concentrated in a relatively few landlords and intermediaries. The principal interest of this controlling group in agriculture was to extract maximum rent from tenants, either in cash or in kind. Tenants were workers on land with no ownership. Under such arrangements, economic motivation for improving the quality of land and the condition of cultivators was lacking. Cultivators have to pay high rent to landlords and had no surplus to invest in farm improvement. Due to increasing pressures on land the operating base of many cultivators was further reduced. Land occupancy rights become increasingly insecure. Thus independent India emerged with serious imbalances in man-land relationship.

Soon after the attainment of independence, land reforms and abolition of intermediaries emerged as an essential prerequisite for increasing agricultural productivity and establishing an egalitarian society. Thus, with the commencement of planning since 1951, each plan had set forth a policy of land reforms. The changes brought about in the agrarian structure through direct intervention are characterised as land reforms. The need for direct intervention in the form of land reforms emanated in India from the exploitative nature of land reforms emanated in India from the exploitative nature of the land tenure system prevailing during the pre-independence period.

#### **Land tenure system- in Pre independent India**

At the time of independence, there were three land tenure systems that were prevailing in India— the Zamindari system, the Mahalwari system and the Ryotwari system. The basic difference in these system was regarding the mode of payment of land revenue.

**Zamidari System :** This system was created by Lord Cornwallis in 1793. Under this system Zamindars were declared full proprietors of large area of land in return, their task was to collect rent from the farmers. Zamindars were to function as intermediary between the cultivators and the state. The share of government in total rent collected by Zamindars was kept at 10/11<sup>th</sup>, the balance going to Zamindars and remuneration. This system was prevalent in West Bengal, Bihar, Orissa, Uttar Pradesh, Andhra Pradesh and Madhya Pradesh at the time of independence. This system was exploitative in its nature as it conferred unlimited right on Zamindars to extract as much rent as they wished. Also cultivators were left with no surplus to invest for betterment of land consequently productivity of land declined.

**Mahalwari System :** This system was introduced by William Bentick in Agra and Awadh and later on in Punjab. Under this system land is under the joint ownership of entire village community. The whole village was treated as a unit as far as payment of land revenue is concerned. The responsibility of collecting the land revenue and depositing it in the treasury was of the village headman. Period of settlement, fixation of land revenue etc. were different in different Mahalwari areas.

### **Ryotwari System or Owner Cultivation System**

This system was initially introduced in Tamil Nadu and was later extended to Maharashtra, Gujarat, Assam, East Punjab etc. Under this system the responsibility of paying land revenue to the government was of the cultivator (or individual ryot) himself and there was no intermediacy between cultivators and the state as under Zamindari. The ryot has full rights regarding sale, transfer and leasing of land and could not be evicted from land so long as he paid the land revenue. The settlement of land revenue under the ryotwari system was done on a temporary basis.

**Conditions of tenants :** During Pre-independence agrarian system land was cultivated by tenants. Tenants were of following three types 1. occupancy tenants 2. Tenants at will 3. Sub-tenants. Occupancy tenants had permanent and inheritable right on land and had security of tenure. They could also claim compensation for landlords for making any improvement on the land. But the tenants-at-will did not have any security of tenure and could be evicted from land on the wish of landlord. The condition of sub-tenants was also same except that sub-tenants were appointed by occupancy tenants.

### **6.3.1 Objectives of Land Reforms**

All the three types of tenure systems described above encouraged the practise of cultivation by tenants which led to their exploitation in a number of ways. Particularly miserable was the condition of tenants at will and sub-tenants. It was mainly to stop this exploitation of the actual tillers of the soil and pass on the ownership of land to them that land reforms were introduced in the Post-independence period in India. The land reforms policy aimed at redistributing ownership holding from the point of view of social justice and reorganising the operational holdings from the view point of optimum utilisation of land. The entire concept of land reforms aim at abolition of intermediaries and bringing the actual tiller in direct contact with state. The government defined the objectives of land reforms as follow:

1. To remove such impeliments to increase in agricultural production as arise from the agrarian structural inherited from the past.
2. To eliminate all form of exploitation and social injsutice within the agrarian system, to provide security for the tiller of soil and assure equality of status and opportunity to all sections of the rural population.

#### **Reform measures initiated**

Land Reforms legislation in India composed of Land four main categories.

1. abolition of intermediaries who were rent collectors under the pre-independence land revenue system.
2. tenancy regulation that attempted to improve the contractual terms for texants including crop shares and security of tenure.
3. a ceiling of landholding with a view to redistributing surplus land to the landless.
4. finally, attempts to consolidate scattered holidings.

#### **Abolition of intermediaries.**

The intermediaries were abolished within a few years after independence and the actual tillers accounting about 40% of the cultivated area become owners. The chief instrument of exploitation was the Zamindar patronised by the government. Approximately 57 %



area of the country was under the Zamindari system on the eve of independence. In some states, legislation was passed for their abolition in 1951. However most of the work relating to enactment of law and acquisition of area was carried out during the period of first five year plan.

The Agrarian reforms committee in its report in 1949 recommended the abolition of intermediaries, the expropriated land to be transformed to the cultivators with limitations on his right to sublet. Accordingly, every state enacted its own legislation for the abolition of intermediary tenure on the payment of compensation and by 1954 necessary legislation was adopted by all the states. Once the stage of legislation completed the stage implementation started, but fresh difficulties also emerged. Zamindars, being unwilling to give their rights, turned to courts. After the long legal battle between the Zamindars and the state governments, zamindars ultimately lost the battle but the whole process got delayed. The implementation of enacted laws has since been estimated that all 173 million acres of land was acquired from the intermediaries and as a consequence about two crores tenants were brought into direct relationship with the state.

### **Effect of Abolition**

Although enactment of land reforms results in abolition of intermediaries but it has certain loop holes in its implementation and legislation. Zamindars took advantage of these lack. Though the original documents claim that Zamindari system has completely eradicated but it has actually changed their 'grab' and have designed big landowner along with rich peasantry. The effect of abolition can be reduced to

1. **Excessive burden of compensation** : Abolition of intermediaries resulted in excessive burden of compensation. Since it involves grant of compensation to those from whom land was taken. It put a heavy burden on state exchequer except in few states where land was taken away without any compensation e.g. in the state of J&K. Should such provisions be introduced in other states is an issue of debate and compensation provisions should be dealt carefully.
  - a) **Large eviction** : Also large scale eviction caused several problems, administrative, social and legal and in some cases economic as well. Evicting a group of People without any alternatives means of livelihood leads to transfer of malady from one section to another without any overall benefit.

### c) **Multiplication of feudal landlords**

It is important to mention that defective implementation of land reform policy has created another class of feudal lords. It has only change the grap of land from one class to another. In some states ceiling has been fixed so high that very few zamindars have been affected. The plans in legislation has enabled them to transfer their land to other member of their family and escape ceiling law.

## **TENANCY REFORMS**

While ceiling on landholding was done to increase the land base of working cultivators, it was argued that reforms could be actually secured when the actual tillers of the soil were given fair share of the fruits of their labour. This calls for tenancy reforms. As describes earlier, tenants can be classified into (i) occupying tenants (ii) tenants-at-will and sub-tenants. Occupying tenants enjoyed permanent rights on land as long as they pay rent on time. But the tenants-at will and sub-tenants were in precarious position and prone to various exploitative practices. Therefore to protect these people special laws had to be enacted and implemented.

Under the tenancy reforms following three measures are discussed (i) Regulation of Rent (ii) Security of Tenure (iii) Conferment of ownership rights on tenants

**Regulation of Rent :** During the British period rent charged by zamindars was exorbitant. Brij Narayan estimated that in Punjab as much as 80% of produce was extracted by zamindars as rent by tenants. Due to these exploitative tendencies, legislations to regulate the limits of rents were passed so that burden on tenants could reduce. The First Five Year Plan stated that maximum rent should be fixed at 1/4 or 1/5 of the total produce. Excepting Punjab Haryana, Jammu and Kashmir, Tamilnadu and Andhra area of Andhra Pradesh, this limit has been gradually observed by all the states. In Punjab and Harayana, the fair rent is 33-34 y of gross produce, in Andhra state 30% of produce for irrigated land and 25% of the gross produce for web land and 33-3y for dry land However for landowner who own less than 12 acres of land, fair rent is 50% of the gross produce. However because of strong political and socio economic hold of landlords in the country, there have been violation of maximum limits of rent. While in Bihar maximum limit is 25 % of gross produces share croppers are usually required to pay 50%. The failure on the part of government to take strong action against landlords who violate legal provision increases fear of the tenents who, therefore avoid any direct

confrontation with land-lords.

**Security of Tenure :** Legislation for security of tenure was passed to grant permanent rights to tenants protect them from ejection. Legislation for security of tenure envisages three important aims.

1. Ejection does not take place except in accordance with provisions of the law.
2. Land may be resumed by an owner, if at all, for personal cultivation only.
3. In the event of resumption, the tenant is assured of a prescribed minimum area.

But how much protection is granted to tenants by this legislation depends upon the following important factors.

- a) How the term tenant is defined
- b) Under which conditions landowners are allowed to resume tenanted land for cultivation
- c) status of land records.

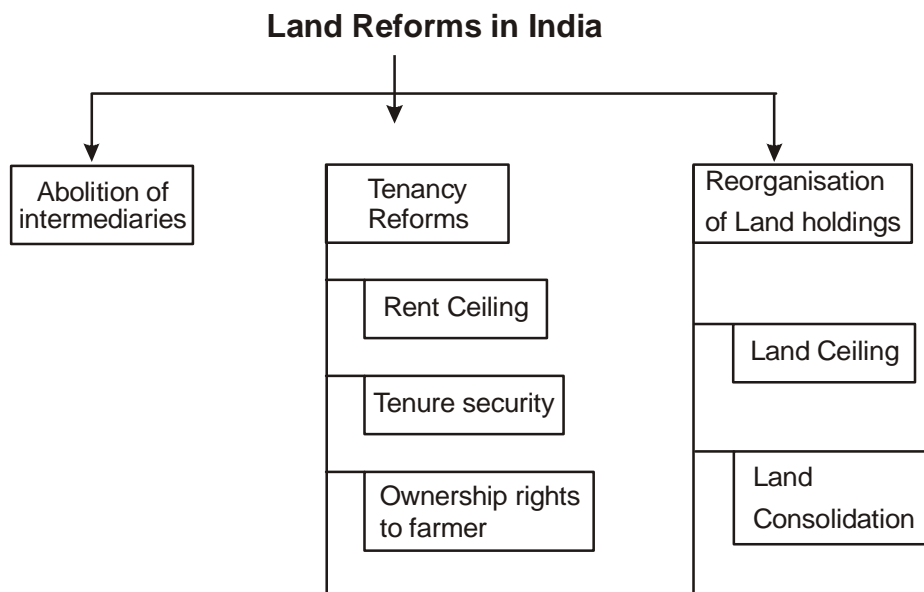
All the tenancy laws of the country define tenants as persons cultivating the land of others on payment of rent (either in cash or kind). However in some states like U.P. and West Bengal share croppers are not regarded as tenants. Thus all laws protecting tenants do not help them. A limited right of resumption of land by landowners for personal cultivation was granted in all states excepting Uttar Pradesh and West Bengal. The right of resumption of land on the grounds of personal cultivation in all tenancies is insecure. Due to this fact fourth five year Plan recommended that all tenancies should be non-resumable and permanent. Sometimes landlords compelled tenants to voluntarily give up their rights on land. In fact landlords applied various kinds of threats & pressures on the tenants to surrender the land. It is on account of this reason that the fourth plan recommended that voluntary surrenders, should be regulated by the state in such a way that surrendered land should go in favour of government only.

Effective implementation of laws concerning security of tenure requires availability of correct and up-to-date land records. In some states like Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Maharashtra there is a provision for annual revision of records. However for many states getting up-to-date land records is still a big concern.

### **Ownership Right for Tenants**

Plan documents emphasised conferring of ownership rights on tenants such that tenants

should be made owners of land that they cultivate. Accordingly some states gave passed legislations to confer right of ownership on tenants. West Bengal, Karnataka and Kerala have performed well in this respect, as compared to other states. In West Bengal 14 lakh sharecroppers have been recorded under the 'operation Barga' where as in Kerala 24 lakh tenant have accepted for conferring ownership rights. But in respect of other states the progress is not satisfactory.



It has been estimated that as a result of law Conferring Ownership rights on the tenants in various States about 12.42 million tenants have acquired ownership right over 6.32 million hectare of land.

Reorganisation of Land holdings

**Ceiling on Agriculture holdings :** A ceiling on Agriculture holdings means statutory absolute limit on the amount of land which an individual may hold Prof. Godgil justified on absolute limit to the land to be held by each individual on the plea that among all resources, the supply of land is the most limited and the claimants for its possession are extremely numerous. Therefore it is unjust to allow the exploitation of any large surface of land by a single individual unless other overwhelming reasons make it highly desirable

The imposition of a ceiling has two aspects a) Ceiling on future acquisition b) Ceilings on current holdings. In order to bring about a more equitable distribution of land an

imposition of ceiling on land a device which permits to retain certain amount of land, was adopted with remainder or excess being earmarked for redistribution among the landless. In line with the perception of five year Plans laws on imposition of ceiling on Agricultural holdings were enacted by several states during 50's and 60's. But the ceiling fixed by these laws was very high in many cases and the exemption from the ceiling too many. Besides, there were many defects in the laws that rendered their implementation difficult.

To bring uniformity in ceiling policies operating in various states, the national guidelines on land ceiling were evolved in 1972, after a conference of chief ministers of the states special features of the guidelines were (a) lowering ceiling to 18 acres of wet land and 54 acres of dry unirrigated land (b) the change over to family rather than the individual as the unit for determining land holding-lowered ceiling for a family of five. (c) fewer exemption from ceiling (d) Retrospective application of the law declaring benami transactions null and void (e) Jurisdiction of civil court has been barred from challenges in court of law. Most of these laws have been included in ninth schedule of the constitution, i.e. they are beyond any challenge in court of law on a grounds of infringement of fundamental rights.

In the light of new policy enunciated at the conference ceiling legislations were enacted by all the states except Goa and North east region. But the success has been limited due to poor enforcement e.g. under various ceiling laws till September 2001, 298 million hectares of land has been declared surplus of which 2.18 million hectare was distributed to 5.58 million beneficiaries. This shows that only less than 2.2% land has been declared surplus while only 1% of the total cultivated area has been actually distributed.

The Ninth five year Plan and Tenth five Year Plan point out a new problem that has cropped up in recent years in the wake of the economic liberalisation. In certain states like Karnataka, the industry and the large farmers are being given exemption from ceiling laws without seeking the permission of government. This would certainly go against the interest of the poor. Hence the issue requires close examination.

**Consolidation of Holdings :** The major cause of low Agricultural productivity is the sub-division and fragmentation of land holdings. Sub division of land means distribution of land of a common ancestor among his successors while fragmentation refers to a way

in which the land owned by individual is secured at different places. Consolidation of holding aims at preventing the fragmentation of holdings. The method adopted is to grant one consolidated holding to the farmer equal to the total of the land indifferent scattered plots under his possession. Initially this programmes was started as a voluntary basis but later made compulsory. The bulk of consolidation has been in Punjab, Harayana, Maharashtra, Uttar Pardesh, Bihar and Orrisa. Though it is very useful tool to prevent the problem of fregmentation but it needs the support of strong legislation keeping in view the need, legislations have been passed in most of the states preventing sub-division and fregmentation.

However, consolidation has been alone only on 1/3 rd of the consolidable area of the country. Only in Punjab and Harayana the task has been completed so far. In some states task has not even been initiated. Some factors responsible for it are (1) Since quality of soil differs from land to land, it becomes difficult to allot the land of same quality and productivity (2) Farmers are emotionally attached to his land. (3) Many state government were pre-occupied with immediate land reform programmes like ambition of intermediaries, tenancy reforms etc, and therefore postponed on consolidation measures (4) In some states lack of data is a constraint.

Another defect appears in this process is that there are complaint in some villages that rich and influencial often manage to get fertile and well suited land where as poor and uninfluential get interior land.

Another drawback of this whole process of consolidation is that it lacked effective steps regarding ensuring the security of tenure to tenants particularly share croppers.

#### **6.4 PROGRESS/ACHIEVEMENTS OF LAND REFORMS**

The land reform policy adopted since independence aims at restructuring agrarian sector to achieve an egalitarion social structure, elimination of exploitation in land relations realising the goal of “land to the utilizer”, enlarging the land base of the rural poor, increasing agricultural production and diversification of the Agricultural economy. It has been reveals that there has been a general tendency of increase in the share of households and area cultivated by small and marginal farmers there has been a reduction in the share of holdings as well as area cultivated by the large farmers.

Since inception of land reforms till December 1999, the total area of land declared surplus in the country was 73.56 lakh acres, out of which about 64.96 lakh acres have been taken possession of and 52.87 lakh beneficiaries of whom 36% belongs to schedule caste and 15% belong to schedule tribes. Till date on area of 147.47 lakh acres of government wetland have also been distributed among the landless rural poor. Legislative provisions have been made in many states of the country for the conferment of ownership rights on the tenants so far 124.22 lakh tenants have got their right protected over an area of 156.30 lakh acres.

Reports recieved from various states indicate that 3.75 lakh cases of tribal land alienation have been registered so far covering 8.55 lakh acres of land of which 1.62 lakh cases have decided in favour of tribals covering a total area of 4.47 lakh acres.

A centrally sponsored scheme on computerisation of land records was started in 1988-89. At present the scheme is being implemented in 528 district in the country.

In many states the computerised copies of records of rights (ROR) are being issued to the users and the public at large. So far about 1000 tehsils have been covered under the scheme.

Two states in which land reforms is widely considered to have been successful are West Bengal and Kerala and in both cases it was pushed by left wing administration. These two states accounted for 11.75 % and 22.88% respectively of the total number of tenants conferred ownership rights upto 2000. Despite being home to only 7.05%. and 2.31% of India's population respectively (govt. of India, 2000)

Though land reforms results in above depicted improvement in Agrarian structure but this is not the complete depiction of whole scenario. The task force on Agrarian relations of the planning commission of India (1973) had the following overall assessment of land reforms in India. The programme of land reforms adopted since independence have faded to bring about the required changes in agrarian structure. The report blames the political cult of the state governments for the failure.

APPU (1995) in his comprehensive study has observed that the significant feature of al those laws were the slow pace of legislation, inadequacies in the content of the legislations, the time consuming procedure laid down and role or judiciary in frustating

the implementation of the enacted laws. The implementation of the laws for the abolition of intermediary interest was far more satisfactory than the implementation of laws relating to tenancy reforms.

The tenancy legislation, which apparently had the objective of transferring land to the cultivator has never been nearer to the objective of “land to the tiller” on the contrary, it has driven the tenancy underground in most of the states including Andhra Pradesh. Under the Indian Constitution land reform is a state subject. Consequently while the main features of the reform legislation in different states are practically identical, there is a wide difference in the scope of the work actually undertaken. The result is that tenancy problems are concentrated in certain states and are not as important as in other states.

The national commission on farmers has placed the unfinished agenda in land reforms first in its list of five factors control to the the present agrarian crisis and states that “the first and foremost task of the national policy for farmers should be in the area of land reforms with particular reference to tenancy laws, distribution of ceiling surplus land, attention to common property and consolidation of holdings. Also there should be stringent restrictions on the diversion of prime farm land for non-farm purposes.

Though the land reforms has done much in the distribution of surplus land to landless farmers, there is much needed to be done to make the land reforms a real success and achieve the objective of establishing agrarian structure which is free from exploitation and suppression.

## **6.5 LET US SUM UP**

Land reforms has been an important step in the area of agricultural development in India. It has changed the structure of holiday and touched many aspects of land development from ceiling on holding to tenancy reforms and further distribution of land and development of co-operative farming but as far as implementation is concerned, it is still far behind legislation. To make land reforms a real success, the implementation part should be considered.



## **6.6 LESSON END QUESTIONS**

- Q.1. What was the agrarian system that was prevailing in India during pre-Independence?
- Q.2. What was the need and objectives of land reforms in India?
- Q.3. What were the major reforms measures introduced with special reference to tenancy reforms?
- Q.4. What is the progress or achievements of land reforms? How much it is successful in fulfilling desired objectives?

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## **NEW AGRICULTURAL STRATEGY GREEN REVOLUTION**

### **STRUCTURE**

- 7.1 Introduction
- 7.2 Objectives
- 7.3 Technology Change and New Agricultural Strategy
  - 7.3.1 Concept and Types of Technological Change
  - 7.3.2 Concept and Need for New Agricultural Strategy
  - 7.3.3 Ingredients of Green Revolution
- 7.4 Impact of Green Revolution
  - 7.4.1 Impact on Agricultural Production
  - 7.4.2 Impact on Employment
  - 7.4.3 Impact on Income distribution
  - 7.4.4 Impact on Inter-regional disparity
- 7.5 Future Rationale of Green Revolution
- 7.6 Let us Sum up.

### **7.1 INTRODUCTION**

Indian Economy has always been agricultural economy. At the time of Independence, agricultural sector was quite backwards the agricultural productivity and production was also quite low. India was also facing the problem of food shortage. The Ford Foundation was invited in the 1960's who introduced the new agricultural strategy to

increase the agricultural production and productivity.

This committee recommended that instead of implementing this strategy all over the country, it should start from few selected areas. It was a programme suggested by Ford Foundation in the year (1961-69) and it was a policy of technological reform as well.

## 7.2 OBJECTIVES

After going through the lesson the Studio

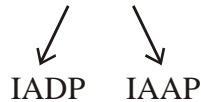
1. To increase agricultural production and productivity.
2. To overcome the problem of shortage of food.
3. Modernization of agriculture
4. To improve the condition of the farmers

## 7.3 FEATURES

1. **Package Programme :** A number of facilities or inputs are available to the farmers at the same time like the fertilizers, pesticides, machines, credit, high yielding seeds etc. which helps in increasing agricultural production and productivity.
2. **Programme of Intensive Development :** It is a policy of Intensive development, which means instead of distributing inputs at different places the inputs are concentrated at few selected areas for increasing the performance.
3. **Based on Modern agricultural technology :** This is the programme of technological reform which laid emphasis on the use of new and improved high yielding seeds, hybrid seeds, machineries and technology, soil improvement by the use of fertilizers etc.
4. **Agricultural marketing and credit :** New Agricultural strategy was not limited to technological reform but it laid focus on marketing and credit facilities. It emphasised on improving institutional credit facilities for farmers from cooperative societies etc.

- 5. Institutional Reforms :** It also lays stress on institutional reforms. It aim at abolishing zamindari system, distributing agricultural land equitably and encouraged cooperative farming.

Govt. has launched 2 programmes which are



- 1. IADP :** Intensive Agriculture District Programme was launched in the year 1961 on the recommendation of Ford Foundation team. It was started on pilot or experimental basis in 7 districts and later it was extended to 17 districts in the country. The main thrust of the programme was that in order to make rapid increase in agricultural production. It was essential to make optimum and intensive use of technical human financial and physical resource in some selected districts.

**Criteria :**

Under this programme districts in different states were selected on the following criteria :-

- 1) There should be proper irrigation facility.
- 2) Effect of natural calamities like flood, soil erosion etc were minimum.
- 3) Rural development institutes like Panchayat and cooperative societies should be sufficiently developed
- 4) Districts should have adequate potential of agriculture production.

- II IAAP :** Intensive Agricultural Area Programme is much wider in scope and was launched on the basis of experience of IADP in the year 1966. It was extended to 116 districts in the country. High yielding sees were the main inputs. The objective of this programme was to increase production of the main crops by intensive methods of cultivation in the selected areas of the country.

Similarities B/W IADP & IAAP :-

Both these programme one intensive development both of them provide package of

facilities & are technological reforms.

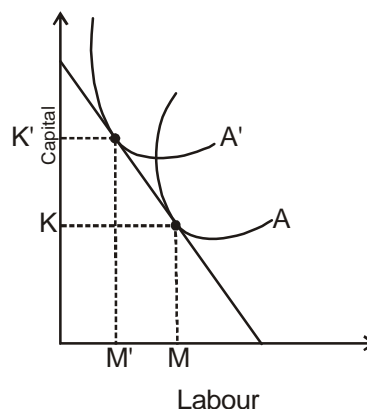
Difference : IADP laid focus on few districts & it was done on experimental basis whereas

### 7.3.1 Types of techonlogy

Technological change may be broadly divided into two parts viz embodied technological change and disembodied technological change. Embodied change is the introduction of change in physical capital inputs. Therefore all mechanised changes can be regarded as embodied technological change. Disembodied change is not embodied in the physical inputs. These changes are organisational. e.g. better inoformation which tends to increase the managerial ability of the farm-firm operator. Besides the terms like land augmenting, labour-saivng, capital sarving and neutral technological are used widely in theory.

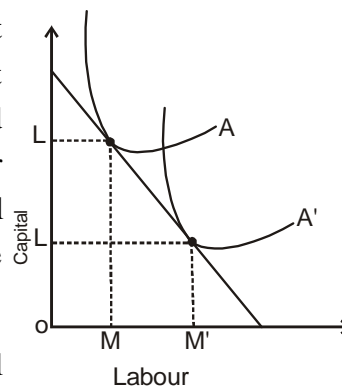
1. **Land Augmenting technological change.** As land is inelastic in its supply, some techniques help in enhancing land availability. Multiple Cropping, fertilizers, pesticides, high yielding variety seed are such techniques. Suppose a former is cultivating 4 hectare of land and is cultivating paddy. It takes months to harvest because it is traditional variety of Paddy. Now suppose he adopts high yielding variety seeds which take only 3 months duration then he can cultivate twice and the area cultivated increases to 8 hectare.

2. **Labour Sewing technological change.** All mechanised changes like use of tractors, threshers etc are called labour saving. Also some other inputs like the use of weedicides are labour displacing. The Labour saving technqiues can be elaborated with the help of fig. In the figure after the technological change isoquant shifts from A to A'. The amount of labour declined from OM to M' whereas the amount of capital used increased from OK to .

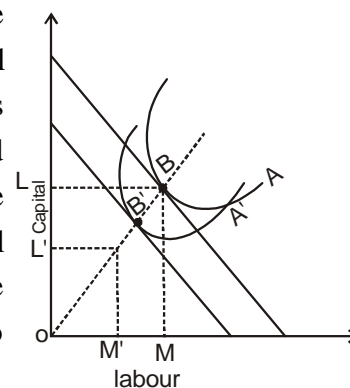


3. **Capital Saving Technological Change.** In case of capital saving

technological change the ratio of capital to that of labour declines. It is shown in the fig. that before technical change the isoquant is A and the capital labour used are ME and OM. After technical change the isoquant is A' and the capital and labour used are OL & OM. Here, the capital labour ratio declines.



4. **Neutral-technical change.** In this case capital labour ratio remains constant after technical change. This situation is shown in the figure where isoquant is the situation before technical change, OL of capital and OM of labour is used to Produce level of output represented by isoquant A. After the technical change isoquant shifts downwards. With less capital and less labour, the same output can be produced. However the capital labour ratio before and after technical change are equal.



### 7.3.2 New Agriculture Strategy-green Revolution

The new agriculture strategy was introduced in India during the third five year plan i.e. during the sixties. This period is of great significance in the Indian Agriculture. This strategy was adopted at times when the Agriculture was in the stage of stagnation and the production of crops was not picking up in the face of rising population. The government of India invited a team of experts sponsored by the Ford Foundation in the latter half of the second five year plan to suggest ways and means to increase Agriculture Production and productivity. On the basis of the recommendation of this time, a Pilot Project called Intensive Agriculture District Programme was introduced in 1960-61. Later the high yielding variety programme was also added to this and the strategy was extended to cover the entire country for the first time in Kharif season of 1966 and came to be known by various names as HVYP, new Agriculture strategy, modern Agriculture technology or Green Revolution. The dynamic transition of Agriculture Practices that involves the use of new methods of cultivation and inputs refers to as

Green Revolution in India. The Green revolution consists of technological improvements which were mainly adopted to increase Agriculture Productivity. The changes brings about a substainal increase in Agriculture Production in a short span of time.

The main elements of this strategy is HYV (High Yielding Variety) seeds which can be shown generally in the area of adequate drainage facilities and water supplies. Another feature of green revolution is that since its inception it has mostly been confined to Punjab, Haryana and Western Uttar Pardesh.

### **Need for new Agriculture Strategy**

Various factors that led to the introduction of new strategy in Agriculture were :

- (a) Continuing stagnation in Production on one hand and rapidly increasing demand on the other could be solved in the shortest possible time by only adopting new strategy.
- (b) It was considered the only way of making a breakthrough in Indian Agriculture in the shortest possible time.
- (c) HYV seeds become available during mid-1960's
- (d) Demonstration of better cultivation by using new technoloy in actual field condition would encourage farmers in other areas to adopt this improved technology. This spread effect of the Programme would raise overall of Productivity in the Indian Agriculture.

### **7.3.3 Ingredients of Green Revolution**

The factors responsible for Green revolution can broadly be classified as 4I's (i) Innovation (ii) Infrastructure (iii) Incentives (iv) Institution.

There are several factors responsible for ushring new strategy in the country. Few of them are

1. Consolidation of land holdings. Grant or Providing ownership right to the tillers and basic forward outlook of Punjab farmers was the basic reason for providing ground to the green revolution in the northern India.
2. Use of high yielding varieties seed which mature in short span of time.

3. Multiple Cropping Pattern that allow farmers to grow two or more crops on the same land as HYV seeds mature quickly. This helped to increase the total Production.
4. Mechanisation of farming the use of machines like tractors, threshers, Pumps, harvesting machines etc is conducive to multiple cropping. Because of accuracy of inputs by machines, the cost have been reduced.
5. Better infrastructure facilities in terms of better transport, irrigation, warehousing, marketing facilities, rural electrification were developed during this period.
6. Guaranteed minimum Price. Price incentive involve provision of the minimum support price for various crops so as to allow responsible price to farmers for their products. This offers incentive to farmers to adopt new products.

#### 7.4 IMPACT OF GREEN REVOLUTION

Due to the adoption of new agricultural strategy in India. We witnessed a radical spectacular on a tremendous change in agriculture which is termed as green revolution. In 1967-68, there was 25% increased in the food grains production and it continued after that. Indian agriculture was a backward and stagnant agriculture over the past 15 years, the country did not witness such a phenomenal change in the agricultural development in only one year. It was made possible due to new agricultural strategy. Hence, this phenomenal change is known as green revolution.

According to Harrar, “ The green revolution is the phrase generally used to describe the spectacular increase that took place during 1968 and are continuing in the production of food grains in India.

Causes of Green Revolution / What factors led to Green Revolution / Ingredients of Green Revolution / Measure have been taken up by the Govt. for the development of agricultural / NAS :-





**Technological Reforms :** Entire focus of new agricultural strategy was on technologist i.e. making available better and improved techniques of production to the farmers that includes water which is life blood of agriculture, improved seeds fertilizers, manners machineries and agricultural practices.

- 1) **High yielding variety of Seeds (YYV) :** Hybrid seeds or high yielding variety of seeds were the key ingredients in the years 1964-65 which lead to increase in production and productivity. The hybrid seeds of major crops like wheat, rice, jawar, bajra and cotton were imported from foreign countries and in agricultural research centres these hybrid seeds were evolved acc to Indian agricultural environment.

By the 10th five year plan the area brought under HYV of seeds was 784 Lakh hectare.

- 2) **Use of Fertilizers :** NAS stressed upon the use of fertilizers which was another key input of green revolution Traditionally the manure were used to increase the level of agricultural productivity and therefore we moved towards fertilizers. Since the fertilizers are nutrient rich and specific they help in increasing agricultural production as well as productivity.

In the year ....., the quantity of chemical fertilizers used in the country is .....

3. **Irrigation system :** Water is the life blood of our agricultural system. In the year 1951, the percentage of irrigated land as agricultural land was 18% and by the 10th plan 42% of agricultural land was irrigated. Irrigation system is necessary because

- a) To extend the area under cultivation
- b) To reduce the dependence on monsoons due to its uncertainty and inadequacy is relation to time & quantity.
- c) To do multiple cropping.

- 4) **Multiple Cropping :** Where we grown more than one crop in a year due to proper irrigation facilities and seeds, it is known as multiple cropping. By the

10th five year plan, the area under multiple cropping was 600 lakh hectares. The main things which are required for multiple cropping are :

- a) Hybrid Seeds                      b) Fertilizers
- c) Irrigation Facilities              d) Modern Technology

**5) Mechanization / Agricultural Machinery :** When the agricultural operation are done with the help of machines like seeds drills, threshers, harvesters and tractors it is known as mechanization. Complete mechanization is not possible but if we want to do double cropping and increase productivity and efficiency we require some sort of mechanization.

**6) Plant Protection :** It is important not only to increase production but also to save farmers from economic losses due to plant disease. Various ways by which plant can be protected are :-

- Healthy and disease resistant seeds should be used.
- Protection has to continue after the sowing and it should be saved from various plant diseases by using pesticides, insecticides and weedicides.

But; we have to use the insecticide keeping in mind various environmental factors and should be used in limited quantity.

**7) Soil Testing and Soil Conservation :** Soil is tested to see for which crop it is suitable and also to see how much nutrients are available and lacking in it, for which we have many govt labs soil conservation is another such method which has two objectives.

- i) To check soil erosion by doing afforestation.
- ii) Extending the area under cultivation by leveling the uneven land.

## **II. Organisational Reforms :**

**1) Credit Facilities :** The govt has reduced the dependence of farmers on money lenders who charge a very high rate of interest. As the new Agricultural strategy stressed upon the use of new and improved technology which required enough

money can be obtained through these credit facilities.

Govt has also encouraged many cooperative credit societies, regional rural bank to provide loans and other facilities like easy and cheap availability of finance.

- 2) Marketing Facilities :** To give fair price to farmers for their produce, govt. has taken many positive steps. There are number of regulated markets opened by the govt. so that rate and measure are taken properly. Govt. has also made various ware houses, so that the farmers can store their produce so that they get high price for their produce.

**III Institutional Reforms :** The govt. has formed many institutional on land reforms, but still their performance is not satisfactory and not been successful but had laid much of its focus on technological reforms.

### **Achievements**

- 1) Increase in agricultural production (1951-55 million tonnes 2013-14)
- 2) Increase in productivity (Date)
- 3) Capitalistic farming
- 4) Prosperity of farms
- 5) Development of industries
- 6) Self sufficiency
- 7) Change in altitude
- 8) Improvement in economic development
- 9) Increase in investment

### **Failures**

- 1) Limited crops (rice, wheat, jawar, bajra, maize etc)
- 2) Limited area (Rajasthan, Bihar, Orissa etc)

- 3) Limited to big farmers
- 4) Fear of unemployment
- 5) Land reforms ignored
- 6) Unbalance cropping pattern
- 7) Underluable environment effects
- 8) depletion of Water Table

Effects of Green Revolution on Environment : The inter relationship between human beings and other living creatures on the water, land and air constitutes the environment. Green revolution has led to significant increase in agricultural production and the key inputs are the pesticides and fertilizers which led to increase in agricultural production. But, on the same time they have led to degradation of our environment due to over use.

#### **Causes responsible for Environmental Degradation :**

- 1) Pollution through Chemical fertilizers
- 2) Pollution through pesticides
- 3) Reduction in ground water table.
- 4) Pollution through agricultural waste.

Green revolution has been a boom by giving many good facilities like those of marketing and credit facilities, increased agricultural production etc but at the same time it is threatening the environment of our country.

#### **7.4.1 Impact of Green Revolution on Agricultural Production**

The adoption of new Agriculture technology has led to continuous expansion of area under crops (mostly foodgrains and particularly wheat), increase in total production of foodgrains and rise in Agricultural Productivity. Basic character of green revolution was the fast increase in Agricultural Production. As a result of Green revolution foodgrains output increased sustantially from 81.0 mm tonnes in third plan to 202 million tonnes

in the tenth plan. In 2008-09 it stood at 233.9 mn tonnes rose to 241.56 mn tonnes in 2010-11 to 251 mn tonnes in 2012-13. HYVP was restricted to only five crops wheat, rice, Jowar, Bajra and maize. As far as foodgrains are concerned wheat seems to have made rapid strides with its Production increasing from 11.1 mn tonnes in 3rd Plan to 70.2 mn tonnes in the tenth plan. The Production of wheat touched the high level of 80.6 mn tonnes in 2008-09, 86.87 million tonnes in 2010-11 to 94.88 mn tonnes in 2011-12. The overall contribution of wheat to total foodgrains has increased from 13% in 1950-51 to 34.5% in 2008-09.

While the average yield per hectare of all foodgrains which was 710 kg in 1960-61 increased to 1,898 kg in 2008-09 and that of wheat rose from 851 kg to 2891 kg over the same period. It is on account of these reasons that wheat has remained the mainstay of green revolution over the years.

The production of rice which had increased slowly in the early period of green revolution started picking up late. The average annual production of rice rose from 35.1 mn tonnes in the third plan to 85.6 mn tonnes in the tenth plan. It stood at 99.2 mn tonnes in 2008-09, 95.98 mn tonnes in 2010-11 to 105.30 mn tonnes in 2011-12. The production of coarse cereals-Jowar, Bajra and maize-continued to remain static or moved very slowly for most of the period of green revolution. The new Agricultural strategy was restricted to only few crops. Therefore non-foodgrains were excluded from the ambit of new Agricultural strategy. That is why it is said to have favoured areas where prominent crops are wheat and Paddy. However major inter crop imbalances in growth witnessed in early years of green revolution are getting redressed to some extent in the recent period. Because of extension of new technology to other crops and its expansion to many other parts of India during 1980's, this period has been termed as period of maturing of green revolution.

During 1949-50 to 1964-65, there was fast increase in area under major crops while the period 1967-68 to 2008-09 yield of these crops increased faster due to technological break through but the area was almost saturated except that area shifted from one crop to another depending upon the profitability of competing crops.

Trends in growth rate of food production indicates that foodgrains production witness tremendous sprut in post Green revolution period (mid 1960 to 1990). The area

expansion slowed down considerably and output growth was achieved through improvement in yield growth.

However period since the early 1990's much worse compared to preceeding decade of 1980. The rate of foodgrain production declined to 12% during the reform period. Though much of the reforms were nto initiated to directly affect agricultural sector, this sector was affected indirectly by evaluation of exchange rate, libralisation of external trade.

#### **7.4.2 Impact of Green revolution on employment**

There is difference of opinion amongst economist regarding the effects of new agricultural strategy on real wages of agricultural labourers, there is general consensus that the adoption of new technology has reduced labour absorption in Agriculture. A study of Sheila Bhalla indicates that employment elasticity of crop output which stood at 0.77 for 1968-69 to 1978-79 declined to 0.59 b/w 1971-72 to 1983-84. According to Hanumanth Rao the uneven regional growth was mainly responsible for low absorpttion of labour within Agriculture. In a large number of states, especially in those regions where there was abundant availability of labour, the growth of output was too slow to generate adequate employment opportunities. In high growth reginos, labour was not plentiful and wage rates were high. The sudden rise in demand for labour in these areas induced mechanisation and labour saving practices in general.

But however the green revolution was expected to increase the employment of labour in absolute number due to following reasons.

1. Increase in Area under cultivaiton. Due to increasing Productivity of land, more and more area was brought under cultivation in the country. Even if per hectare labour use remains the same, the increase in area under plough has caused favourable effect on employment.
2. Multiple Cropping. More number of crops in the year from the same piece of land has also caused increase in the employment of labour in Indian Agriculture.
3. Labour intensive enterprises. A drastic change in the cropping pattern of the country in favour of enterprises like. Paddy and wheat has been able to

employ higher quantum of labour in Agricultural sector.

The above described reasons are the one side of whole picture. There has been great deal of controversy over the effect of mechanisation on employment of farm labour. The increased use of tractors, combine-harvestors, electric motors, tube wells etc have displaced labour and replaced unskilled labour by skilled or technical labour. C.H. Hanumanth Rao has estimated that tractorisation displaces 20 to 30% of the human labour-days per cropped area on account of tillage and transportation. A mechanical thresher displaces about 15% labour and harvester combine around 25% in addition to that displaced by mechanical thresher. Sawant and Diwaha indicated that proportion of female labour in the post green revolution has declined despite the fact that in absolute terms its employment has increased.

#### **7.4.3. Impact on Green Revolution on Income Distribution**

Green Revolution has reduced income disparities and it has increased it is not easy to determine. This is due to the reason that studies conducted by different scholars have yielded different results. This is probably due to the reason that the studies related to different regions/states, different time periods and use different sources of data. Some studies have shown narrowing down of income disparity between different groups of rural population with the advance of so called "Green Revolution". The green revolution vastly improved profit potential of Indian Agriculture and economic feasibility of transfer of gains to the disadvantaged group in Agriculture. It was concluded that the new technology was labour intensive and therefore, favourable to small farmers because it could afford greater opportunities to gainfully employ family's surplus labour in farm production and thereby provide an avenue to convert his idle labour into increased earnings. An empirical evidence (Nandal 1972) on income distribution in the Punjab agriculture revealed that the green revolution has the tendency to reduce the economic distance b/w different size groups of farms. In Pre-technology Period, lower half and upper half accounted for 24% and 76% of the total income respectively, whereas the share changed to 27 and 73% after the green revolution has set in. Gini coefficient declined from 0.321 to 0.287 over the two periods. A case study (Sharma, 1972) in the same region further supported the fact that the farm family income got more evenly distributed with tractorisation in agriculture.

However, there seems to be a general consensus that in the early period of the green revolution, large farmers benefitted much more from new technology as compared with the small and marginal farmers. This was not unexpected as the new agricultural strategy called for substantial investment which were generally beyond the means of the majority of the country's small and marginal farmers. This shifted the advantage of productivity per acre in favour of big farmers. There is difference of opinions as far as the later phase of green revolution is concerned. According to some economists with the passage of time, the supply of institutional credit to small farmers improved and over a period of time, green revolution started benefiting small farmers as well. R. Frankel has argued that large farmers have continued to make greater absolute gains in income because of lower cost per acre and by reinvesting earnings in non-farm and farm assets, including purchase of land from the smaller cultivators who could not make the transition to the new technology. As a result of the impact of new Agricultural strategy on rural, income disparities among state and gap between households operating medium and large hold in on one hand and households cultivating marginal and small holdings on the other hand widened majority of operational holdings clustered in the categories of marginal and small farmers.

As far as the fate of agricultural workers is concerned, all observers agree that money wages have increased. However there is difference of opinion regarding the trends in real wages. In his study P.K. Bardhan (1984) concluded that the average daily earning in agricultural operations by men belonging to agricultural labour households had declined by 12% in real terms for the whole of rural India.

The growing inequality in income was believed to be contributed more by the new technology than the land distribution. The Process of agricultural development has resulted in relatively greater disparities in farm income in developed areas as compared to the less developed areas of Punjab. It was concluded that farmers of all scale were able to adopt inputs such as seed, fertilisers and other divisible technology at the same rate and mechanisation upto a certain level caused more equality while beyond that, it created more unequal distribution (Jhunjhunwala 1972).

#### **7.4.4 Impact of Green revolution on inter-regional disparity**

To study the growing regional and economic disparities as a result of agricultural



development has been the interest of researchers. The “new Agricultural strategy” was put into practise for the first time in India in the Kharif season of 1966 and was termed as “High Yielding Varieties Programmes (HYVP). It is generally said, on the basis of various studies, that new agricultural strategy increased regional disparities. HYVP was initiated on a small area of 1.89 million hectares in 1966-67 and even in 1998-99 it covered 78.4 mn hectare which is only about 40% of the gross cropped area. Naturally, the benefit of new technology remained concentrated in this area only. Moreover, since green revolution remained limited to wheat for a number of years, its benefits mostly accrued to areas growing wheat. Even this is an over statement because within the area under wheat in HYVP, only regions having assured water supply and a package of other inputs derived benefits from the new agricultural strategy. These were the regions of Punjab, Haryana and western Uttar Pradesh. As a result, the benefit of new technology was limited to wheat and the north west region of the country in the initial period of the green revolution. The rate of growth of agricultural output in Punjab was as high as 5.58% per annum. As a result the rate of growth of Agricultural output in the north-west region was much higher than in other regions. In the eastern region except for Assam the growth performance of the other states was rather modest with Bihar recording a rate of growth of only 0.27% annum. In the central region, the crop output was hardly influenced by new technology and agricultural output in that region was characterised by sharp weather induced year to year fluctuations. In the southern region all states, except Tamil Nadu, were able to register medium growth rate of output.

An analysis (Jha, 1978) of inter-state income inequality in India from 1960-61 to 1970-71 revealed that the propagation of new technology in agriculture augmented regional economic disparities which were attributed to differences in natural resources, advances made by commercial banks and infrastructure facilities.

Thus will a deliberate policy to ensure an equitable distribution of gains of the development, the process of development should benefit all the sections alike. Concerted attention on Providing assistance to the small farms was suggested to fill the gap caused by the new farm technology. Further since inequality was primarily due to concentration of land ownership, more effective implementation of ceiling of land holdings was believed to go a long way in reducing income disparities in rural areas.

## 7.5 FUTURE RATIONALE OF GREEN REVOLUTION

The new Agricultural strategy that was introduced during the sixties has increased agricultural production manifold. It has changed the attitudes of farmers where it was practised and has enhanced the status of Agriculture from a low level subsistence activity to money making activity. But it is argued that it has created more problem rather than solving it, thus, has restricted its wider scope. In brief there is an urgent need to ensure the fruits to small and marginal farmers and to bring them within the ambit of the policy. Only then, we can minimise the harmful consequences of green revolution. To extend benefits of green revolution, following suggestions are forwarded.

1. **Extension of more crops.** For extending the scope of new agricultural strategy and optimisation of it, it is desired that modern cultivation may be extended to new crops and new areas. Other than wheat and rice, the extension of high yielding programmes should also be made to other cereals, pulses and non-foodgrains crops like oil seeds, cotton, sugarcane etc.
2. **Developing potential irrigation.** Water being the basic input in the use of seeds and fertilizers and without its extension of green revolution is not possible. Therefore development of irrigation facilities is pre-requisite. Only then farmers find it to their advantage to seek more and more of other input. Special arrangement of irrigation facilities should be made in backward regions. Along with government, private sources should be encouraged to make investment in such projects.
3. **Efficient and balanced use of inputs.** For extending the coverage of green revolution and new agricultural strategy, it is necessary to make balanced use of inputs especially agro chemical pesticides and fertilizers (Nitrogen, Phosphorus and Potash) per hectare of land. Subsidies on these inputs have resulted in deficiency in use of micro-nutrients. Thus there is need for appropriate change in crop planning, fertilizers use and better water management.
4. **Region specific Planning.** Another important thing needed to be done is the introduction of new varieties of seeds according to the soil of the region. For

this purpose, existing research cum applied set up should be strengthened to ensure test of soil and dissemination of information and inputs according to the needs of a particular region. It is only then the new technology can be made applicable to whole country.

5. **Planning for arid, semi-arid, unirrigated areas.** To make coverage of new agricultural strategy and green revolution, it is much required to make plan for arid, semi-arid unirrigated area. Dry farming practices may be introduced to capture and retain as much of the participation as possible.
6. **Addressing needs of small farmers.** Another important thing which is required is that inputs should be made easily available to small and marginal farmers. Distribution system should be streamlined. Banking credit procedure should be changed to suit the small farmers.
7. **Addressing Environmental degradation.** There is need for policy measure to educate the farmers regarding appropriate use of chemicals like pesticides, weedicides to chek their ill effects on environment. Appropriate water use practices should be made popular through media and advertisement to prevent depletion of water resources.

## **7.6 LET US SUM UP**

Second Green Revolution. Considering the limitations of first green revolution in India, the Government of India is now Planning to introduce, “the second green revolution” to attain food security. This new approach will reverse decline in farm investment through increased funds for agricultural research, irrigation and waste land management. The government is considering with more advances in science and technology in areas such as biotechnology coming frokm the Private sector. New technologies should be taken to the fields for enhancing productivity to make agriculture sector of the country globally competitive. There is need to take Agriculture to a higher trajectory of 4% annual growth rate and it can be met by improvement in scale as well as quality of agricultural reforms undertaken by state and agencies at various levels. Thus it is necessary to revisit the problems of the agricultural sector and address the cry of anguish we hear from farmers from different directions of the country.

Green revolution in 1960's have gave a new phase to agricultural history of India. By incorporating a innovation, institution and infrastructural changes it brought out a massive increase in foodgrains production. Agricultural production increased tremendous in a couple of year. Now India is not only a self-sufficient but a foodgrains sufficient nation. Because of the huge success of Green revolution. India is now looking of second Green revolution and evergreen revolution.

### **7.7 LESSON END QUESTIONS**

- Q.1. Explain the concept of green revolution. What were the ingredients of green revolution?
- Q.2. What were the needs of green revolution? Is it able to fulfil the needs or how successful it is in fullfilling the needs?
- Q.3. How is the agricultural production and Agricultural income affected by green revolution?
- Q.4. Is the green revolution increased regional disparity or it reduced the disparity?

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## **COOPERATIVE MOVEMENT IN INDIA**

### **STRUCTURE**

- 8.1 Introduction
- 8.2 Objectives
- 8.3 Cooperative Movement Concept and Growth
  - 8.3.1 Concept of Cooperative Movement
  - 8.3.2 Growth in Post Independence Period
- 8.4. Agriculture Cooperative : Objectives and Structure
  - 8.4.1 Objectives of Agriculture Cooperation
  - 8.4.2 Structure of Agriculture Cooperation
  - 8.4.3 Problems and Prospects of Agriculture Cooperation
- 8.5 Let Us Sum Up
- 8.6 Lesson End Questions

### **8.1 INTRODUCTION**

India, like many other developing nations face problems like population explosion, low productivity, low living standard, inequality and so on. With 17% of world population and 2.41 of land area. Agriculture sector is the only livelihood to the two-third of its population and is a source of raw material for large no. of industries. After the 6 decades of indpendence, the growth of Indian economy is slow for the solution of this problem and for rapid economic development, it is necessary to accept mixed economy

with a major role of co-operative societies to contribute their nit in the process of economic development.

## **8.2 OBJECTIVES**

After going through the lesson the student will

1. be able to understand the concept of Co-operative movement.
2. shall be able to learn about its growth during different periods.
3. get to know about the structure of Agriculture co-opertives.
4. be able to understand problems and future prospects of Agricultural co-operation.

## **8.3 COOPERATIVE MOVEMENT IN INDIA**

A Co-operative is a business organisation owned and operated by a group of individuals for their mutual benefit. A co-operative is defined by the international co-operative alliance's statement on the co-operative identity as “an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through jointly owned and democratically controlled enterprises.

Co-operative movement in India is one of the largest movement in the world. Co-operative movement has made tremendous progress in every aspect of Indian economy. Co-operative movement in India owes its origin to Agriculture and allied sector. Towards the end of 19th century the problem of rural indebttness and conditon of farmers created an environment of Chitfund and Co-operative society. The farmers generally found the Co-operative moevments an alternative mechanism for pooling their message resources for solving common problems related to credit, supplies of inputs and marketing of Agricultural produces. The experience gained in the working of co-operative led to the enactment of Co-operative Credit Society Act 1904. The term co-operative society is in the state list of the constitution of India.

### **8.3.1 Growth of Co-operative Movement**

The co-operative movement in India had its origin else where and was introduced to the region by the foreign rule. In India co-operation had become a part of national

policy and hence the Indian co-operative movement is sometimes ironically described not as a movement but only as a product of government policy. The cooperative movement in India was basically organised against the money lenders to rescue farmers from the clutches of the poverty and indebtedness. However the first recorded activity began in 1904 when this movement was officially set up by the British government. The government appointed the second famine commission 1901 to suggest measure for the victims. The commission recommended for a number of development activities and setting up of new institution. The most important among them was recommendation for organisation of co-operative societies. The govt accepted many of the recommendations and in 1904 “Co-operative Societies Act” were passed. The aim was to help the rural farmers and artisans by providing short term and long term loans.

The year 1928 saw a worldwide economic depression. The prices of Agricultural commodities fell and economic crisis grew up. The credit could get loan back in time and co-operative movement suffered a setback. In year 1933, the Reserve Bank of India was set up. It took some initiatives to recognise the co-operative movement and helped to keep the movement alive. In 1937, the Popular Congress government came to power in several states. The popular leaders took initiative in organising the movement. The rural farmers got extra economic gains. Non credit societies grew up. The working capital of co-operative societies also increased. The co-operative movement gathered momentum. The all India co-operative planning committee in 1945 also worked a lot in this direction.

### **8.3.2 Co-operative movement in post-Independence era**

After the attainment of independence in 1947 co-operative assumed significance in poverty removal and faster socio-economic growth. After independence for the first 3 years no significant development could be made. It was mainly due to the problem created by partition and absence of concrete programme for national re-organisation. However leaders of free India gave importance to co-operative movement for strengthening co-operative structure of India and various provisions were made through different five year plans.

With the advent of Planning co-operatives become an integral part of 5 year plans. The

first five year plan laid low prospects for extending co-operative activities to various fields. It gave special emphasis on the warehousing co-operatives at state and centre level. Third plan brought still laid down proposals for extending co-operative activities into areas like sugarcane, cotton, spinning, milk supply. Some concrete steps were taken to frame the personnels. Co-operative training college at Pune and other regional were established. Fourth plan emphasised for consolidation of cooperatives. The new programme for high yielding crops were started. The Fifth Plan made provision for improvement of central bank and primary agricultural society. It also recommended for establishment of farmers service societies. The Sixth Plan laid down a programme for transformation of primary village societies to multi purpose societies. The Seventh Plan also gives the importance on the growth and expansion of co-operative societies to ensure public participation with focus an employment and poverty. In the year 2004, cooperative movement in India completed a hundred years of its existence. It has several achievements to its credits in almost all sectors of the economy. The number of all types of cooperatives increased from 1.81 lakh in 1950-51 to 4.53 lakh in 1996-97. The total membership of co-operative sectors increased from 1.85 crore to 20.45 crore during the same period. The co-operatives have been operating in various areas like credit finance production, processing, marketing and distribution, housing, dairying and textiles. In some of the areas like dairying, urban banking, housing, sugarcane and handloom the cooperatives have achieved the success to the extent. Now the movement which has covered 100% villages and 75% rural households and functioning over 545 thousand co-operative of various levels with membership coverage of 236 million and working capital of 34,00,555 mn inclusive of credit and non-credit co-operative societies. It has been playing significant role in distributing agricultural credit, distribution of inputs and provision of marketing etc.

#### **8.4 AGRICULTURE CO-OPERATION IN INDIA**

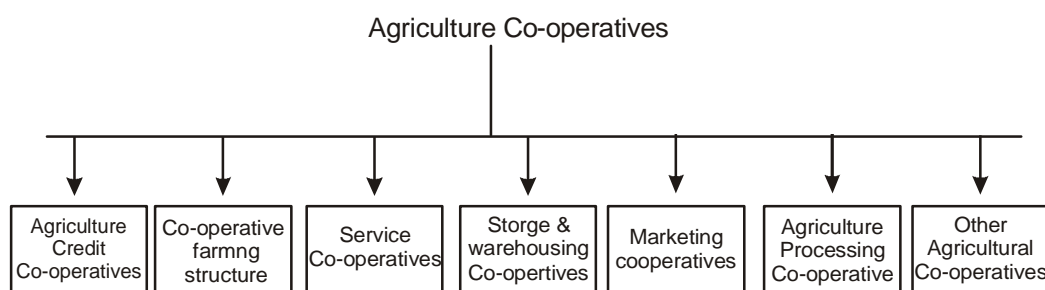
Co-operative moment has entered into different branches of economic activities. Today co-operatives found in production, consumption, service, credit marketing and other spheres of economic life. Initially the co-operatives were recognised in the field of consumer co-operation but later on they were extended to cover production also. Initially they were classified as consumers co-operation and producer's co-operation.



Later they are also classified as Agricultural and Non Agricultural.

Co-operatives have played a tremendous role in making Indian Agriculture a success story. They help farmers to solve a number of farming problems such as securing precious credit, getting production inputs, storage of agricultural produce and disposing off the same. Agriculture sector being the most traditional and primitive has been streamlined and to some extent modernised by the co-operative structure.

### Structure of Agricultural Co-operatives



Co-operative farming structure. Farming co-operatives implies pooling of land and joint cultivation and management. The term co-operative farming is often used as a farming management in which land is jointly cultivated. In other words application of principles of co-operation in the cultivation of land is called co-operative farming. Thus a co-operative farming is a voluntary organisation of farmers based on ideas of self help and mutual co-operation. With the objectives of increase in production, employment, improvement in technology, rational use of land and most desirable allocation of manpower. Since it is a voluntary association, members can withdraw any time. The farming is done on co-operative lines ownership of land generally lies in the hands of the individual members. Members receive share in produce according to the work put and land contribution to joint cultivation and net profits are utilized for payment of bonus to members after providing reserves. As per the growth of co-operatives in 1995-96 there were about 1000 co-operative farming societies with a membership of 1.4 lakh in India mostly in Punjab, Bombay and Uttar Pradesh. The number increased to 6,325 in 1960-61. The number increased further from 6625 in 1994-95 to 716 in 2003-04. Working capital increased from Rs. 502 Mn in 1994-95 to Rs. 6283 mn in 2003-04. The turn over increased from Rs. 182.5 mn in 1994-95 to 329.1 mn in

2003-04.

#### **8.4.1 Objectives of Co-operative farming**

1. Secure increased Agriculture Production through more intensive programme of land Improvement and Agriculture.
2. Undertake improved techniques in Agriculture such as Agro based industry so as to make proper utilisation of land, manpower, cattle and knowledge.
3. Secure regular employment of members.
4. Insure suitable and scientific cropping pattern and rotation of crops.
5. Provide solution to pressing agriculture problems country is facing.

#### **8.4.2 Structure of co-operative farming includes**

Co-operative better farming society.

Co-operative tenant farming society.

Co-operative joint family society.

Co-operative collective family society

#### **8.4.3 Agriculture Credit Co-operatives**

Agriculture credit societies are the Kernel of the Co-operative movement. They are the very foundation of the co-operative credit structure and constitute to be the largest number of co-operative institutions in India. Most of them have been organised with the view to provide credit facilities and to inculcate the habit of thrift and economy among its members. co-operative credit society form the base of the entire structure of co-operative. Different bodies of Agricultural credit co-operatives are discussed below.

##### ***(i) National Bank for Agriculture and Rural Development (NABARD)***

NABARD is the open organisation with respect to all matters relating to policy, Planning and operational aspects in the fields of credit for the promotion of Agriculture, small scale industries, handicrafts and rural crafts and other allied economic activities in rural areas. The main functions of NABARD are

- (i) Provide production and marketing credit to the state co-operative banks, regional rural banks, and other financial institutions approved by RBI.
- (ii) Carrying out conversion loan for production credit.
- (iii) Carry out purchase and sale of shares.
- (iv) Ensure security of credit
- (v) Issue guarantees

**(ii) State Co-operative Banks (SCB)**

The structure of Co-operative credit societies in India is three-tiered and federal in character consisting of Primary credit societies (PACS) at the base level. They federate into district central co-operative banks which in turn federate into open body at state level i.e. state co-operative banks. The open or state co-operative banks in state is closely linked to RBI which provides financial assistance to co-operative credit structure. The Apex bank stands at the top of the credit structure in each state. It finances, controls and regulates the working of central co-operative bank in each state. The state co-operative Bank is interested not only in helping the co-operative credit movement but also in promoting other co-operative venture and in extending the principles of co-operation. They serve as balancing centre in the state organize provision of credit for credit worthy farmers, carry out banking business and leads the co-operative movement in the state. State co-operative banks have made good progress. Number of banks increased from 16 to 31 all through 1950-51 to 2005-06. Membership increased from 23272 in 1950-51 to 153697 in 2005-06. Loans advanced increased from Rs. 55 cr to Rs. 48,203 cr in 1950-51 to 2005-06.

**(iii) district central co-operative Banks [DCCB]**

DCCB occupies a position of cardinal importance in the Co-operative credit structure. They form an important link b/w the apex co-operative bank and the primary agricultural credit societies. The DCCBs were established to finance the primary societies and to act as their balancing centre. Their main functions are :

1. Finance the affiliated PACs in their area of operation for Agricultural and non-

Agricultural sector.

2. Attract local deposits by creating confidence in the minds of the local people.
3. Supervise the working and management of the affiliated PACs to train members in the principle of co-operation.

Primary Agriculture Credit Society (PACs). These societies form the basis/foundation on which online edifice of the co-operative credit structure is based. It is generally for one village. The minimum initial membership is ten and ultimately the membership is expected to reach a full coverage of the village. They usually render honorary services. Primary agricultural credit societies provide short term and medium term loans. These societies raise funds through share capital, entrance fees, loans, income from investment etc. The no. of PACS increased from 1,15,710 in 1950-51 to 2,00,148 in 1965-66 and then came to 79,347 in year 2002-03. In addition to providing short term and long term loans these societies help in formulating and implementing plan for agricultural production for the village and undertake educative, advisory and welfare functions.

***(iv) Land development Banks***

Farmer usually need 3 types of credit i.e short term, medium term and long term. The only solution for providing adequate, cheap and efficient long term credit to the agriculturists appeared to be through the establishment of land mortgage banks whose main aim would be to attract long term loans and invest them in long term period advances against mortgage of land. These banks have reoriented their loan policies and are giving increasing attention to agricultural development. That is why, they are now called land development banks. LDBS have two tier pattern.

1. The Primary LDB at the base.
2. The Central LDB at the top level.

***(v) Agricultural Service Co-operatives***

With the development of modern scientific agricultural methods, the dependence of the cultivators has largely increased on outside supply. To maintain the constant supply of essential agricultural services farmers look to co-operative societies for supplying the required services. A services co-operative is different from production co-operative as

it assists the members in improving their production. The service co-operative have following functions to perform :

- (i) Arrange the supply of farm requirements including seeds, fertilisers, implements etc.
- (ii) Maintain and supply Agricultural machinery in hire.
- (iii) Provide essential household needs.
- (iv) Encourage thrift and saving among the members so as to make them self-sufficient.

**Co-operative Marketing Structure.** Marketing Co-operatives are known as the co-operatives which deal with the marketing of Agricultural produce like foodgrains and commercial crops co-operative marketing societies are organised by farmers themselves and profits are distributed among the members based on the quantity of produce marketed by them. Advantages of marketing co-operatives are increase the bargaining strength of the farmers, remove the intermediaries and enter into direct relation with the final buyers, provide credit and better return on their produce, cheaper transport, storage facilities, grading and standardisation, processing of Agricultural Produce.

Two types of co-operative marketing structures are found in India. One, there is a two tier system with Primary societies/Mandi at the base level and state society at the apex. Under second type there is three-tier system, it is operational at Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Karnataka, Maharashtra, Manipur, Punjab, Tamil Nadu, Uttar-Pradesh. (Mandi/Primary societies at village level, central marketing societies at district level and state marketing society at apex level.) The structural Pyramid of co-operative marketing is

- National Agricultural Co-operative Marketing Federation (NAFED) (National level)
- State Co-operative Marketing Federation (SCMF) (State level)
- District or Regional Marketing Society (DMS) (District level)
- Primary marketing societies (Base level)

**Processing Co-operatives.** Processing co-operative in India began working with setting up of ginning unit in 1917 co-operative processing units are registered under the co-

operative Societies Act of the concern state. Processing co-operative gained special attention during the plan period. A Processing society can offer a number of advantages to the rural people. Firstly it can help in the decentralisation of industries. Secondly, it may be cheaper because of low wages of labour, low rent of building and low cost of transportation. Thirdly by-products can be used in the rural areas. Lastly it would reduce unemployment among rural masses. The Co-operative Processing units have their own state level and federal organisation in respect of some commodities. They are supported by some government agencies, most important among them is National Co-operative Development, Corporation (NCDC). The major Co-operative Processing units in India are (i) Sugar Co-operative (ii) Fruit and Vegetable Co-operatives (iii) Co-operative processing of plantation crops (iv) Rice mill Co-operative (v) Co-operative spinning mills (vi) Co-operative oil seeds Processing units.

***(vi) Other Agricultural Co-operatives***

Apart from the major Agricultural Co-operative structures, as mentioned above, there are other co-operative structures which deal with specific enterprises of farming community. These include

- (i) Dairy Co-operatives. These are small societies formed mainly with a view to meet the demand of milk for the people residing in specific areas in which the society was operating. Co-operative dairy system in the country is two tier system.

- 1. Primary village Co-operative society or primary milk producers Co-operative at the village level as basic unit.
- 2. Milk supply unions at district level.

The main objectives of these societies is to increase the production of milk and arrange for the profitable sale of milk and milk products in the market.

- 3. Fishery Co-operatives. The importance of fishery Co-operatives lies in fact that it renders economic assistance to the dispersed and disorganised fishermen whose dependence on merchants and

middlemen is even greater than farmers. The structure of such co-operatives include (i) National federation of fisherman is Co-operative (ii) State fisheries Co-operative federations (iii) District regional federation (iv) Primary fisheries Co-operative.

Poultry Co-operatives. Development of Poultry Co-operatives has been recognised as important programme for small farmers. Many of these Co-operatives are small and not functioning effectively due to lack of proper support from high level marketing organisation. Number of Poultry Co-operatives existing during 2003-04 were 4,876 with membership of 0.4438 million.

Co-operative Cattle societies. Cattle Co-operative societies are formed by farmers, who willingly join together to take advantage of the technical advice and breeding of their cattle. They usually perform following functions for their members.

1. Propagate the necessity of cattle breeding.
2. Supervise the feed, grazing and breeding of cattle by providing requisite assistance.
3. undertake supply of fodder and salvage of dry cattle.

Conclusion. Co-operatives are vast and powerful instruments which engaged in the task of production, marketing, processing, distribution, servicing and banking in Indian Economy. Co-operatives have shown effectiveness in various fields like removal of poverty, indebtedness and increasing productivity and thrift. It has done something to raise the standard of living. However, it may be observed that the co-operatives in different sectors function more or less in isolation and do not lend support to each other. Except in the sphere of credit, the principle of federalism has not been significantly developed within the respective sector themselves. In the context of economic reforms sound healthy and competitiveness have become important for co-operatives. Now the quality is more important than quantity so emphasis should be on excellent quality management, technology upgradation, cost minimisation, profitability and professionalism. Co-operative should make themselves viable and sustainable to accept growing challenges.

#### ***(v) Problems and Prospects of Co-operative Institutions***

Co-operatives have developed for over 200 years in the world. Co-operative existing all over the world provide essential services which would otherwise be unattainable. Globally co-operatives have been able to elevate its position as a powerful economic model. In India also Cooperative model is more than a century old. In 1904 Co-operative society act was enacted to enable the formation of “agricultural credit co-operatives” in villages in India under Government sponsorship. Since then Co-operative movement has made significant progress. The Co-operative credit system of India has the largest network in the world and co-operatives have advanced more credit in the Indian Agricultural sector than commercial banks. Village Cooperative societies provide strategic inputs to the Agricultural sector, marketing societies help farmers to get remunerative prices and co-operative processing units help in value addition to the raw Product etc. In addition they help in building godowns, cold storage, rural roads, electricity, transport etc.

Despite rapid growth the overall progress of Co-operative movement during the 100 years of its existence is not very impressive. It is necessary to know the causes of its slow growth or problems and obstacles it faces so that steps could be taken to promote faster growth of Co-operative movement in India.

#### ***(a) Government Interference***

The Co-operative movement in India started in 1904 under the auspices of British government. Right from the beginning the government has adopted an attitude of patronizing the movement. The govt. interference thus become an essential element in the working of these institutions. As a result people's enthusiasm for the movement did not grow. The movements independence and self-reliance existed only on paper and files. It was not given proper importance that it deserves in any plan. Even today quite often Co-operative societies are imposed upon the people. This does bring about an increase in the membership of the societies. But the spirit of Co-operative grows fully in these circumstances. It just grew very slowly and that too haphazardly. It was a state driven institution.

#### ***(b) Mismanagement and Manipulation***

The essence of Co-operative movement is that it gives the farmers the status of shareholders and assures them agricultural, educational facilities. The relationship between



the shareholder farmers and Co-operative is simple. The farmer is committed to contributing a certain amount of cone per season and the mill is bound to take this cone. The strength of the movement was the movement of farmers who were shareholders in the sugar mills regardless of the size of holdings. But the democratic idea got corrupted and farmers with large holding grew more powerful. Even in the election of governing body money became powerful tool as the top posts of chairman and vice-chairman went to the richest farmers even though the majority of members were farmers with small and medium-sized holdings.

***(c) Lack of Awareness***

People are not informed about the objectives of the movement and the contribution it can make in rebuilding the society. People usually look upon these institutions as means of obtaining facilities and concessions from the government. Lack of education, dirty politics of village, bureaucratic attitude of government officers at lower rank are some hurdles in spreading the correct information about the Co-operative movement.

***(d) Limited Coverage.***

The Co-opertive movement has also suffered on account of two limitations (1) size of these societies has been very small. They are fixed to a few members and their operations extended to only one or two villages (2) The most of these societies have been single purpose societies. For this reason these societies are unable to take a total view of the persons seeking help nor can they analyze and solve problems from different angles. The help these societies render thus cannot be adequate.

***(e) Functional Weakness.***

The Co-operative movement has suffered from inadequately of trained Personnel right from its inception. In the first place there is lack of institutions for training of these personnels secondly because of unsatisfactory working of co-operative institutions, efficient personnel did not feel attracted or motivated towards them. The functioning of Co-operative societies also suffers from some weaknesses. These include

- (i) Not taking care of the credit needs of credit seekers or their repaying capacity at the time of granting loans.

- (ii) Unsatisfactory account keeping and factional policies in its management.
- (iii) Lack of Co-ordination among various divisions of the Co-operative structure.
- (iv) too much dependence on outside sources of finance and lack of proper auditing.

Thus on account of above mentioned pitfalls. Indian Co-operatives are unable to evolve strong communication and public relations strategies which can promote the concept of co-operation among the masses.

Future Prospects. As Co-operative sector needs reforms for making it more effective and competitive. During the past few years some important changes have taken place in Co-operative movement which gave it an opportunity of diversification and autonomy. Co-operative have been demanding that government should introduce democratic reforms in their regulation, supervision and functioning. The laws relating to Co-operatives are being modified to make it qualitatively stronger. Reforms are needed in order to overcome its shortcomings and consolidate its strength. The first and foremost improvement concerns the reorganisation of primary societies so that they can function properly. The weak and inefficient societies should be merged with strong and efficient societies. These societies then can afford to engage highly trained persons and conduct their business efficiently.

It has to ensure efficiency in its functioning. Firstly, the loans from credit societies should be granted in such a manner that they are used productively and not misused. Also it is necessary to maintain close co-ordination of activities among different constituents of the Co-operative structure—primary societies at the base, organisation at the central and state levels should be of right type.

It is necessary to spread the movement as People's movement. People should not think it as a part of the government. People should own it and manage it. Government participation and support is necessary but it should not dominate it. Thirdly the Co-operative movement should be conceived as a part of the national economy.

There is also a need for helping and including weaker sections and vulnerable groups like SC and ST to form Co-operatives in order to be free from the exploitation of middle man. Finally there should be research and continuous monitoring and inspection about the problems and constraints of different co-operative societies. It will help to

overcome the difficulties and proceed further with success.

**Conclusion.** Co-operatives should be treated as an important plank of development. The Co-operatives have inherent advantages in tackling the problems of poverty alleviation, food security and employment generation. Co-operative have immense potential to deliver goods and services in areas where both the state and the private sector have failed. Introduction.

### **8.5 LET US SUM UP**

Co-operatives movement in India began with passing of “Co-operative societies act” in 1904. Since then co-operative made gone a long way and has affected on only Agricultural product but also management of Agriculture in the form of marketing, processing, warehousing etc. Allied activities also come in the ambit of co-operative. Co-operative structure is well integrated at different level of operations. Despite all these its progress is either slow or it is not the balanced growth that we are looking for.

### **8.6 LESSON END QUESTIONS**

- Q.1. Discuss the nature and growth of co-operatives in India.
- Q.2. Comment on the efficiency of the entire structure of co-operatives in India.
- Q.3. How co-operatives help in improving the condition of agriculture and rural development in India?
- Q.4. Discuss the problems that hinder the progress of co-operatives.

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## **PROBLEMS OF SMALL AND MARGINAL FARMERS**

### **STRUCTURE**

- 9.1 Introduction
- 9.2 Objectives
- 9.3 Small and Marginal farmers : Position and Problem
  - 9.3.1 Position of small and marginal farmers
  - 9.3.2 Problems of small and marginal farmers
- 9.4 Steps to improve the condition of small and marginal farmers
- 9.5 Let Us Sum Up
- 9.6 Lesson End Questions

### **9.1 INTRODUCTION**

India is considered as an agrarian economy with majority of workforce in Agricultural sector. A major chunk of Agriculturist or farmers in India are small or marginal farmers with holding less than 1 acres. The problems of this chunk of population are also very diverse and intense from smallness of holding to lack of credit. Development of agriculture require development of this chunk of population i.e. small and marginal farmers.

### **9.2 OBJECTIVES**

After going through lesson the student will able to know :

- (i) the structure of agricultural holdings in India.

- (ii) status of small and marginal farmers in Agricultural Sector.
- (iii) problem facted by small and marginal farmers in India.
- (iv) what steps can be taken to improve their position.

### **9.3 SMALL AND MARGINAL FARMERS : POSITION AND PROBLEM**

#### **9.3.1 Position of Small and Marginal Farmers**

In the hierarchy of the farming population in the country the group at the bottom is that of small and marginal holders. Existence of small farms in overpopulated and underdeveloped economies is a common phenomenon. Excessive population, depending mainly on agriculture, has resulted in the creation of small farms in such economies. In India, the average size of holding was 200 hectare according to 1976-77 agriculture census and was 1.33 hectare according to 2000-01 census. According to the 2001 census, out of the total number of rural workers in the country 73.3% were employed in agriculture. The composition of the agricultural workforce in term of cultivators and agricultural workers in changing and so also is the size distribution of holding. According to 60th round of NSS (nation sample survey) survey, 56% of the agricultural labour households owned land between 0.4 and 1 hectare. The number of marginal holdings as a proportion of the total holdings has increased from 50.62% in 1970-71 to 61.58% in 1995-96 to more than 80% during 2005-06. The small and marginal farmers are engaged in subsistence farming and grow low value crops. They mostly devote their land to paddy, wheat and other cereal crops. They suffer due to lack of innovative technology, inadequate access to physical inputs and credit, disguised unemployment, food and nutritional security, price risk and low income. As a result their livelihood is at stake and ultimately they suffer from poverty.

The small holding means small income as compared with that of the large farmers which means small size of farm is the reason for low income. Many studies conducted earlier for different parts of the country reveal that small size of the farm gives rise to various other hinderances which, in turn, further reduce the income generated on small farms. Abnormally low income will prevent the use of modern inputs which are necessary for increasing the agricultural output on small farms.

### **9.3.2 Problems of Small and Marginal Farmers**

The nature of problems faced by the two categories of farmers is not the same in all respects. The basic difference in the type of problems faced by two group of farmers (i.e. small and marginal farmers) is that whereas the small farmers cultivate viable farms, the marginal farmers cultivate non-viable farms. As such, whereas the small farmers have to be helped in adopting new agricultural technology which will enable them to earn sufficient income from farming itself to meet their basic requirement, the marginal farmers, because of the extremely small size of the farm, will fail to earn sufficient income from farming even when they use the latest agricultural technology. So, in their case, there is a need to help them in setting up some subsidiary occupations like bee-keeping or sheep rearing etc. for supplementing their income from farming. For the proper analysis of problem, we divide them into two separate heads i.e. (i) The specific problem, (ii) general problems. The specific problems are those which a small farmer face simply because he is a small farmer. In fact, most of those problems do not arise at all if the size of the farm is large.

The general problems, on the other hand, are those which both the small and large farmers face.

#### **(i) The specific problems**

The problems faced by marginal and small can be traced to three (a) The smallness of holding itself, (b) financial constraints, (c) communication gap.

##### *(a) Smallness of Holding*

Small size of the cultivation units itself is one of the major source of problems faced by small farmers. Many empirical studies suggest that not only is the cultivation on a small farm non-viable but it will also face many difficulties in adopting the latest agricultural technology. Khuroo observed that under the Indian conditions, holdings of less than 5 acres were considered to be too small to constitute either a minimum ploughing unit or minimum work unit or an income unit and that such holding are taken to be uneconomic because they do not provide for family employment and bullock employment and do not generate surplus over and above farm family requirements. The problem however is not to keep only the members of the family or the bullock labour, busy on the farm. In fact, the small holdings give birth to many ills. Various studies bring to light the following problems which are directly due to small size of the farm.

**Firstly**, it has been found that marginal and small farmers do not own farm machinery to the desired extent because of its high price. Non-use of machinery can definitely hinder the adoption of modern technology for agriculture on small farms in certain cases. And, in case, the small farmers, somehow manage to own the machinery but when compared to large farmers they face relatively great imbalance between their holdings and machinery used on it. This imbalance has been found even with regard to the family labour and the farm size. Obviously there is every likelihood of a wasteful use of these surplus resources. Cost of production per acre will unnecessarily go up.

**Secondly**, the marginal and small farmers have less capacity to generate marketable surplus. The small marketable surplus has a direct impact on the earnings of the small farmers. A large number of these farmers sell their crops in the village itself at unremunerative prices. A study by Jasdanwala has found that if the small farmers take their marketable surplus to a market they generally suffer exploitation at the hands of the market functionaries and official agencies because of their weak bargaining power and low social status.

**Thirdly**, the cropping pattern of marginal and small farmers is dominated by low-valued and self-consumed crops. They have to sow the cereal crops and cannot go for the cash crops. The distorted crop pattern, distorts the use of inputs and thus hinders the optimum allocation of resources. At present, the government is offering various types of incentives to the farmers to further diversify their cropping pattern. However, the small farmers can, in no way, take advantage of these incentives.

**Fourthly**, marginal and small farmers generally fail to benefit from the rising trend in the prices of agricultural crops after the harvesting season. This is mainly due to lack of storage capacity and due to their immediate cash needs. These factors force them to sell the meagre surplus they have immediately after the harvesting of the crops whatever be their prices.

**Fifthly**, the small and marginal farmers generally hesitate to adopt the modern agricultural technology for quite some time after it is made available. This is because of the additional resources needed for cultivation and the relatively greater yield uncertainty associated with the crops produced by the new technology. The limited resources of these farmers makes them hesitant to take too much risk. Accordingly to World Bank, the farmers

generally take three more years to pick up a new agricultural technology after it has been fully adopted by the large farmers.

**Sixthly**, despite the keenness of small farmers to accept some of the improved agricultural practices like rotation of crops etc. They cannot adopt them because of the smallness of their holdings.

**Seventhly**, unlike the large farmers either the marginal and small farmers cannot install any medium, are minor irrigation project or if they do so, they have to incur relatively greater cost of irrigation per acre due to its under utilisation.

**Eighthly**, various improvements like fencing, drainage construction of farm buildings, farm roads etc cost more in relative terms, if effected on small farms.

**Ninthly**, because of their meagre resources, the small farmers are prone to undergo more hardships and sufferings when compared with large farmers, in the event of failure of crops due to floods, diseases, drought etc.

**Finally**, it has been noticed that after the economic reforms, the small farmers are being discriminated against, by the multinational cooperations when these cooperations enter into contracts for supply of food crops for processing purposes. These are generally the large farmers who are favoured for these contacts and therefore also get new technology and even financial help from the concerned corporations.

#### ***(b) Financial Constraints***

With the advent of new farm technology, the need for external finance on the part of various farmers especially the marginal and small ones has immensely increased. The marginal and small farmers even before the introduction of the new farm technology were known for their deficit family budgets. The regular deficit in their budgets was explained, by variety of factors such as low per capita income derived from the small, scattered, uneconomic and non-viable holdings, inadequate availability of basic inputs, ignorance about the use of important agricultural practices, lack of savings on their part, wasteful expenditure by them on social ceremonies and litigation and long gestation period of crops. These farmers had often to resort to borrowing mainly for meeting their consumption expenditure, because of the aforementioned factors. Private agencies like money-lenders, relatives, commission agents, landlords and friends were the main sources



of loans advanced to the small and marginal farmers for consumption purposes. As a matter of fact, under these circumstances, it was very difficult for the farmers to borrow from institutions like banks or co-operatives as they would advance loans only for productive purposes.

With the advent of new farm technology, the need for external assistance on part of marginal and small farmers as stated earlier, has further increased. The traditional agriculture has to be transformed. More, non-traditional inputs have to be purchased. However, their income from agriculture which is still in the traditional stage cannot meet the additional expenditure necessitated by the purchase of these inputs. According to a few studies, the family budgets of most of these farmers are still in deficit. So either they go in for external finance or they continue with the traditional agriculture.

There are however, many difficulties which the small and marginal farmers face while seeking external finance at reasonable terms even though the need for external finance is now for productive purposes, rather than for consumption purposes. The institutional finance is not freely available to them. The cooperatives that have expanded their operation considerably during the past, are not easily accessible to these farmers. These institutions are controlled by big landlords of the area. The commercial banks too are hesitant to advance loans to the small and marginal farmers because of inability of these farmers to offer suitable security for the loan advanced to them as well as because of the mindset of these banks in favour of urban loans. So even now, as we have pointed out earlier, these farmers depend on money lenders and other private agencies for external finance.

Recent studies by Punjab Agricultural University by Thorat as well as by Sidhu & Gill also confirm the dependence of these farmers on moneylenders, landlords and other such agencies for financial help. Yet another recent study (2007) by Anjani Kumar and other shows that in 2002-03, the share of the small and marginal farmers in total institutional rural credit was not at all commensurate with their share in the total rural households. In fact, this study further reveals that most of the small and marginal farmers have found it difficult to get Kisan Credit Cards which have become an important instrument for getting liberal credit by the farmers in general.

The unsatisfactory flow of institutional credit to small and marginal farmers has hindered

the adopted of new agricultural technology in many ways. Many studies confirm this fact. e.g. these farmers have not been able to use improved seeds which could be easily used even on a small farms mainly because the agencies authorised to provide these seeds demand spot payment. Some studies also reveal that some type of machinery which the small farmers wish to own and can also profitably use e.g. diesel engine and electric motor, was not purchased because of financial stringencies. Again some small farmers have used less of fertilizers and insecticides due to non-availability of finances. Lack of finance has also been cited as a hindrance for use of improved practices.

Even low educational standard of the small farmers and the drop outs from school, in case of members of families of small farmers are due to poor financial conditions of these farmers. This, in turn, affects the process of skill formation on small farms rather adversely. It may be pointed out that relatively large extent of illiteracy has been one of the reason due to which the surplus labour on marginal and small farms has not been able to find jobs in the non-farm sector.

#### *(c) Communication Gap*

The marginal and small farmers have faced some more difficulties in fully benefiting from the new farm technology. These arise because of communication gap between the extension agency and the marginal and small farmers.

University Farm Advisory Services and the State Agriculture and Development Department are the major agencies through which necessary information and instructions are imparted to these farmers. An in-depth study of the working of these agencies reveals their inbuilt weaknesses as follows:

**Firstly**, the development of rural leadership through university farm advisory service is biased in favour of medium and large farmers.

**Secondly**, the attitude of the block extension functionaries is also indifferent towards marginal and small farmers.

**Thirdly**, the mailing list prepared by many other agencies is also defective. They have not put many progressive marginal and small farmers in their list.

In fact functionaries of the agricultural universities as well as village level workers prefer

to contact the medium and large farmers for extension purpose. They seem to have the feeling that by contacting a few medium and large farmers, they cover relatively larger agricultural area. Besides it is believed that better financial conditions of the medium and large farmers make it sure that they would be able to provide for resources necessary for bringing about improvement in cultivation as suggested by these functionaries. An expectation of good returns by the prosperous section of the farmers may be another reason for preferential treatment accorded by the extension functionaries to the large farmers.

It has been found through some studies that a relatively small proportion of small and marginal farmers have knowledge about various improved practices, recommended dose of fertilizers and also about the use of pesticides as compared with medium and large farmers. It is obvious that if large number of marginal and small farmers have not adopted the new scientific techniques of agricultural production, the responsibility for this can be attributed to a considerable extent to defective extension service. National commission for farmers too has pointed out that poor extension services are one of the major causes for the slow growth of the agricultural sector.

#### **(ii) The General Problems**

The problems faced by the small farmers as described above are specific problems of the small farmers. They also face a number of other problems which can be reasonably termed as general problems. These problems relate to (1) Purchasing of machinery as well as hiring (2) Purchasing of various modern inputs, (3) Storage of farm produce, (4) Marketing of farm produce etc.

With regard to first problem non-availability of standard farm machinery of requisite size and brand and non availability of power connections are the main difficulties which the small farmers along with other face.

Regarding second problem i.e. purchase of farm inputs is concerned, it may be pointed out that procurement of each input is accompanied by certain problems. Lack of storage facilities is a difficulty common to all category of farmers. In the marketing of agricultural crops, farmers of all categories have faced various types of difficulties.

The main factors which contributed to the small holdings may be summed up as :

**Land Reforms :** Legislations pertaining to land reforms played an important role in influencing the ownership pattern. Market related factors at best supplemented the impact of land legislation. The direct implication of the ceiling legislation in sequestering the land of large owner's and its distribution to small and marginal farmers was not significant except in J&K and West Bengal. But the indirect influence exerted by legislations was significant. In spite of fictitious transfer and other subterfuges devised by the large landlords, enactment of all ceiling legislations led to disposal of land by those owning large holdings, particularly the absentee land lords. As the tenancy legislation gave the right of purchase of land to the tenants, the process of breaking up of the above ceiling holding was further accentuated.

**Demographic Pressure :** While the increase in area under the marginal and small holding could be largely explained by legislative measures supplemented by market process, the increase in their number is basically due to increase in population in those households and lack of alternative employment opportunities in the countryside. An expansion of the household or more commonly, the death of head of the household leads to division of the holding among the legal heirs.

#### **9.4 STEPS TO AMELIORATE CONDITIONS OF THE SMALL FARMERS :**

Before suggesting remedial measures one fact that is prominent is that size of land is limited. It is not possible to increase size by itself. The growing population pressure and slow pace of industrialisation imply a consistent demand for agricultural land. One measure can definitely be adopted. It is to check the size of a farm from going below a particular limit through necessary change in the law of succession.

Besides this, following other measures can be adopted to help the small farmers:

- (1) Though it is not possible to increase the size of small farms, the impact of many problems that arise due to its small size can be reduced if co-operative joint farming of small farm is encouraged. However in the light of the slow progress of co-operative joint farming in the past in our country, we would recommend that the government should encourage the organisation of service co-operatives by small farmers as has been suggested by Otto Schiller.
- (2) Under utilisation of capacity is the problem that originates when we deal with small farms e.g. there is a huge wastage of the resources when tubewells are used

below capacity. We feel that the job of co-ordination of the operation of existing tubewells in the village can be assigned to the village Panchayat which may also decide about the systematic location of tubewells in a village. The small farmers especially those with contiguous farms can be encouraged to join hands for installing jointly owned tubewells. Encouragement of water markets where owners of Water Extraction Mechanism (WEM) sell water to others can also benefit the small farmers.

- (3) It has been noticed that marketable surplus has now emerged even on small farms in those cases where the new technology has been adopted. A large farmer can reap commercial economies of scale while marketing his crop. But this is not so with small farmers. If, at all, co-operative are to help the small farmers, it is surely in the sphere of marketing of agricultural produce. The small farmers should be keen to join a co-operative marketing society because benefits to the small farmers through such a society are large, whereas the cost involved through its membership is rather small.
- (4) A second set of problems faced by the small farmers arises because of their tight financial conditions. To meet these problem there is a need for rationalisation of the system of financial aid to small farmers. More of the institutional finance needs to be diverted to the small farmers. The societies are not in reality and the control of the representatives of small farmers. The small farmers have to look to either Regional Banks or Commercial Banks for financial assistance. It is revealed by a study that nationalised bank diverted more of its resources to agriculture and the non-nationalised bank diverted more of its resources to small industries.
- (5) Communication gap between the extension agency and the small farmers in another problem that needs looking into. A large percentage of the small farmers does not even know about the recommended dose of fertilizers. Same is the case with regard to their knowledge about some improved crop practices like sowing practices, crop rotation etc. Gram Sevaks and other functionaries of extension agencies should not only acquaint the small and marginal farmers with latest technological developments in agriculture, but should also guide them about the technology used in allied occupations like horticulture, pisciculture and bee keeping etc.

- (6) Another problem of general nature faced by the small farmers is concerned with the supply of fertilizers, insecticides and seeds. Some special administrative measures are called for ensuring timely supplied good quality fertilizer and seeds to small farmers. Not only timely supply is sufficient but these inputs should be supplied to farmers at subsidised rates. This will prove incentive to small farmers to adopt modern inputs.
- (7) Investment in human capital in the form of health care and education is needed for improving the lot of these farmers. Special incentives should be devised so that children of small farmers do not drop out of the school at any time.
- (8) Vyas has made interesting suggestions for ameliorating the condition of small and marginal farmers. The crop pattern on their farms should undergo a change. Instead of producing on their farm, those cases whose productivity is higher, the small and marginal farmers may be advised to produce those crops in which the value added content is quite high.
- (9) Small farmers should be provided access to agri business. It should be ensured that they are able to sell vegetables, fruits, milk and other perishable agricultural commodities to factories engaged in agro-processing activities.
- (10) After economic reforms, many multinational corporations have set up food processing plants in India and in order to ensure a smooth flow of raw material, they have started entering into contract with the farmers for the supply of various food crops.

Besides, if steps are taken to remove the difficulties faced by farmers in general e.g. in marketing, in sale to official procurement agencies, with regard to storage, electricity connection etc. the small farmers too will benefit along with the medium and large farmers.

### **Conclusion**

It is a fact that the small farmers are keen to adopt the new technology as the large farmers. What they need is the necessary motivation to do so through provision of necessary incentives and facilities for the purpose. The steps suggested above can help to improve the condition of farmers but an important fact is that smallness of holding is the main problem and it continues until the holdings are small.

## **9.5 LET US SUM UP**

Small and marginal farmers contribute major chunk of agricultural farmers but their problems are also more than generally faced by large farmers. They have small holdings, low credit base, limited access to inputs, risk in adopting new technology, low marketing and bargaining strength. Since they are very large in proportion therefore development of agriculture is possible if problem of such farmers are addressed. There is need for determined effort on the part of government to improve their lot.

## **9.6 LESSON END QUESTIONS**

- Q.1. Explain the nature and structure of agriculture holding in India.
- Q.2. What are the main problems faced by small and marginal farmers?
- Q.3. Suggest some steps to address the problems faced by small and marginal farmers.
- Q.4. What steps taken by government to improve condition of small and marginal farmers?

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## **DEVELOPMENT OF ORGANIC FARMING IN INDIA**

### **STRUCTURE**

- 10.1 Introduction
- 10.2 Organic coverage largely under NPOP
- 10.3 Status of Organic Farming in India
- 10.4 Environmental benefits of organic agriculture
- 10.5 Constraints for Organic Farming in India
- 10.6 Let Us Sum Up
- 10.7 Suggested Reading and References

### **10.1 INTRODUCTION**

Organic farming is in a nascent stage in India. About 2.78 million hectare of farmland was under organic cultivation as of March 2020, according to the Union Ministry of Agriculture and Farmers' Welfare. This is two per cent of the 140.1 million ha net sown area in the country.

A few states have taken the lead in improving organic farming coverage, as a major part of this area is concentrated only in a handful of states. Madhya Pradesh tops the list with 0.76 million ha of area under organic cultivation — that is over 27 per cent of India's total organic cultivation area.

The top three states — Madhya Pradesh, Rajasthan and Maharashtra — account for about half the area under organic cultivation. The top 10 states account for about 80 per cent of the total area under organic cultivation.



**Only a fraction of area is converted under organic.** Sikkim is the only Indian state to have become fully organic so far. A majority of the states have only a small part of their net sown area under organic farming. Even the top three states that account for the largest area under organic cultivation — Madhya Pradesh, Rajasthan and Maharashtra — have only around 4.9, 2.0 and 1.6 per cent of their net sown area under organic farming respectively.

A few states such as Meghalaya, Mizoram, Uttarakhand, Goa and Sikkim have 10 per cent or more of their net sown area under organic cultivation. All these states, except Goa, are in hilly regions.

Union Territories such as Delhi, Dadra and Nagar Haveli and Daman and Diu, Lakshadweep and Chandigarh also have 10 per cent or more of their net sown area under organic cultivation, but their agricultural area is very small. Almost all other states have less than 10 per cent of their net sown area under organic.

#### Organic farming coverage in state and Union Territories

No.	State/Union Territory*	Total organic area ('000. ha) in 2019*	Organic area in 2019 as % of net sown area of that State/ Union Territory**(% )	Scheme-wise break up of total organic area of state / Union Territory*					Organic Farming Policy / Mission / Act
				NPOP		PKVY (%)	MOVC-DNER (%)	State schemes/ non-scheme O (%)	
				NPOP (%)	In-conversion (%)				
1	Madhya Pradesh	756	4.9	50.2	38.9	10.0	0.0	0.7	Policy, 2010 <sup>35</sup>
2	Rajasthan	350	2.0	31.5	32.5	35.2	0.0	0.7	Policy, 2017 <sup>36</sup>
3	Maharashtra	384	1.6	55.7	32.7	8.9	0.0	2.7	Policy, 2013 <sup>37</sup> Minimum 2018
4	Andhra Pradesh	144*	2.3	9.5	13.0	73.4	0.0	4.1	Draft policy, 2008 <sup>38</sup> CR-28NF 2015
5	Uttarakhand	128	18.2	15.7	13.0	70.0	0.0	1.1	Policy, 2000, <sup>39</sup> Act 2019
6	Odisha	118	2.6	62.0	19.2	17.6	0.0	1.2	Policy, 2018 <sup>40</sup>
7	Karnataka	111	1.1	51.2	23.4	9.8	0.0	15.6	Policy, 2004 and 2017 <sup>41</sup>
8.	Gujarat	103	1.0	58.2	32.5	1.9	0.0	7.3	Policy, 2015 <sup>42</sup>
9	Uttar Pradesh	79	0.5	56.5	22.8	15.7	0.0	5.0	-
10	Sikkim	155*	100.0	47.6	1.4	1.9	8.0	41.1	Policy, 2004; Mission 2015 <sup>43</sup>
11	Chhattisgarh	71	1.5	10.3	19.4	33.3	0.0	36.3	Mission, 2013 <sup>44</sup>
12	Meghalaya	546	19.5	2.9	84.0	1.6	11.2	-	Mission, 2015; Mission 2018 for turmeric <sup>45</sup>
13	Kerala	54	2.7	35.5	35.4	22.9	0.0	6.2	Policy, 2010 <sup>46</sup>
14	Assam	43	1.5	35.7	30.4	10.3	16.3	7.3	

No.	State/Union Territory*	Total organic area ("000. ha) in 2019*	Organic area in 2019 as % of net sown area of that State/ Union Territory**(%)	Scheme-wise break up of total organic area of state / Union Territory*					Organic Farming Policy / Mission / Act
				NPOP		PKVY (%)	MOVC-DNER (%)	State schemes/ non-scheme O (%)	
				NPOP (%)	In-conversion (%)				
15	Jharkhand	31	2.2	9.7	69.6	16.3	0.0	4.4	Mission <sup>47</sup>
16	Tamil Nadu	30	0.3	14.4	60.5	20.8	0.0	4.3	Draft policy, 2013 <sup>48</sup>
17	Telangana	28	0.6	22.9	8.8	50.0	0.0	18.2	-
18	Jammu and Kashmir	26	3.4	68.3	29.0	2.2	0.0	0.5	-
19.	Goa	23	18.1	45.7	11.2	43.1	0.0	-	Promotion scheme 2018 <sup>49</sup>
20	Nagaland	23	60.0	12.0	24.1	2.1	56.9	4.9	Policy, 2019 <sup>50</sup>
21	Arunachal Pradesh	22	9.8	2.8	38.9	1.7	38.4	18.1	Policy, 2014; Mission, 2017 <sup>51</sup>
22.	Manipur	19	5.0	1.3	27.3	3.1	65.4	2.9	Mission, 2016 <sup>52</sup>
23.	Himachal Pradesh	18	3.3	46.4	24.7	22.8	0.0	6.1	Organic policy, Prakritik Kheti Scheme 2018 <sup>53</sup>
24	Punjab	17	0.4	1.9	50.2	29.4	0.0	18.3	-
25	Mizoram	14	10.0	0.0	48.8	4.7	46.1	0.4	Act, 2004; Mission Cell 2006; Comm-ittlee 2007 <sup>54</sup>
26	Bihar	12	0.2	0.0	28.8	69.9	0.0	1.2	-
27	Delhi	10	45.5	0.0	0.0	99.8	0.0	0.1	-
28	Dadar and Nagar Haveli	10	53 <sup>55</sup>	0.0	0.0	100.0	0.0	0.1	-
29	Andaman and	9	60 <sup>56</sup>	0.0	84.5	15.4	0.0	-	-
30	West Bengal	9	0.2	56.4	18.8	27.2	0.0	1.6	-
31	Tripura	9	3.4	2.4	27.2	11.7	58.8	-	-
32	Haryana	7	0.2	33.0	53.1	5.8	0.0	8.1	-
33	Lakshadveep	3	-100 <sup>57</sup>	24.9	0.0	75.1	0.0	-	-
34	Chandigarh	3	-100 <sup>58</sup>	0.0	0.0	39.4	0.0	60.6	-
35	Daman and Dhu	1	32 <sup>59</sup>	0.0	0.0	98.1	0.0	1.9	-
36	Puducherry	1	8 <sup>60</sup>	0.5	0.0	99.5	0.0	-	-

& State/Union Territories have been put in descending order of organic area coverage in above table.

+ Total organic area calculated from state wise data\

/° State wise data of scheme is secured from response to a parliament question of Nov 2019

+ Andhra Pradesh is 2.9 per cent of the sown area as per the most recent data reflected in the case study mentioned in Annexure 1

& Sikkim is a 100 per cent organic state. Its total area is 76,169 ha<sup>62</sup>. The value mentioned in the source document, however, add upto 154, 798 ha due so some double covering. This also suggests that the total organic area in the country is not according calculated at 2.78 million ha

\*\* Not sown area for states is for the year 2014-15 is available 42 for Union Territories multiple source are referred to, which give not sown area of different years.

° Indicated that no data could be found in the public domain.

### **Policy initiatives do not mean greater organic coverage**

Low organic farming coverage prevails in several states, despite at least 20 of them having a policy or a scheme with regard to organic farming. States like Sikkim, Andhra Pradesh, Himachal Pradesh, Kerala, Uttarakhand, Mizoram, Nagaland and Arunachal Pradesh have expressed their desire to become fully organic or natural-farming states.

Apart from the states with 100 per cent organic ambition, there are only a select few that have set specific measurable targets.

Some states have had a policy for several years but have not been able to cover much area in absolute terms under organic cultivation. For example, Karnataka and Kerala have had an organic policy since 2004 and 2010 respectively, but have only 1.1 and 2.7 per cent of their net sown area organically cultivated.

On the other hand, states such as Rajasthan, which formulated their policy recently, have covered a significant area. This also indicates that the conversion to organic area in states may have started much before the actual policy enactment.

Currently, only around 12 states — Madhya Pradesh, Gujarat, Telangana, Sikkim, Bihar, Karnataka, Odisha, Rajasthan, Uttarakhand, Chhattisgarh, Tamil Nadu and Uttar Pradesh — have their own state organic certification agencies accredited by Agricultural and Processed Food Products Export Development Authority (APEDA).

Some states have either developed or are still in the process of forming organic brands such as MP Organic, Organic Rajasthan, Nasik Organic, Bastar Naturals, Kerala Naturals, Jaivik Jharkhand, Naga Organic, Organic Arunachal, Organic Manipur, Tripura Organic and Five Rivers by Punjab.

### **10.2 ORGANIC COVERAGE LARGELY UNDER NPOP**

India introduced the organic farming policy in 2005. The 2.78 million ha was covered under organic farming in India is about two per cent of the 140.1 million ha net sown area in the country.

Of this, 1.94 million ha is under National Programme for Organic Production (NPOP); 0.59 million ha under Paramparagat Krishi Vikas Yojna (PKVY); 0.07 million ha under Mission Organic Value Chain Development for North Eastern Regions (MOVCDNER)

and 0.17 million ha under state schemes or non-schemes.

This shows that NPOP scheme covers about 70 per cent of the organic area of the country, of which 30 per cent is under conversion.

NPOP scheme, which started in 2001, covers about 70 per cent of the organic area of the country of which 30 per cent is under conversion. PKVY and MOVCDNER schemes started in 2015-16 and cover 21.5 per cent and 2.6 per cent of the total organic area in the country.

The remaining 6.1 per cent of area under organic cultivation is either under a state scheme or not related to any scheme. During 2015-16 to 2018-19, around 96 per cent of total certified organic food production was under NPOP certification and the remaining four per cent was under Participatory Guarantee System (PGS) of certification.

India's top organic state Madhya Pradesh has about 90 per cent of its organic area under NPOP. The top three states — Madhya Pradesh, Maharashtra and Rajasthan — collectively have over 80 per cent of their organic area under NPOP. Only a few states like Andhra Pradesh, Uttarakhand, Telangana and Bihar covered more by PKVY than NPOP.

Even though India has very small organic area under cultivation, in terms of number of organic farmers it is being ranked first. India has over 1.9 million farmers as of March 2020, which is 1.3 per cent of 146 million agricultural landholders.

In addition, there are farmers who are not certified and hence not counted, especially by-default organic farmers in hilly, tribal and rain-fed regions.

### 10.3 STATUS OF ORGANIC FARMING IN INDIA

India is **home to 30% of the total organic producers in the world, but used to account for just 2.59% (1.5 million hectares) of the total organic cultivation area** of 57.8 million hectares, according to the World of Organic Agriculture 2018 report. At the same time, most organic farmers are struggling due to **poor policy measures, rising input costs and limited market**, says a study by ASSOCHAM.

#### Statistics of Organic Farming

- Cultivable land area under organic farming has **more than doubled from 11.83 lakh ha in 2014 to 29.17 lakh ha in 2020.**

- Over the years, the organic promotion activities led to development of **state specific organic brands**, increased domestic supply and exports of organic produce from the northeast region.
- As per international resource data from Research Institute of Organic Agriculture (FiBL) and the International Federation of Organic Agriculture Movements (IFOAM) Statistics 2020, India stands at 9th position in terms of certified agricultural land with 1.94 million ha(2018-19).
- Status of other countries (area under organic certification)
  - China (3rd position)-3.14 million hectare
  - USA (7th position)-2 million hectare
  - **India (9th position)-1.94 million hectare**
  - Brazil (12th position)-1.18 million hectare
  - Assistance Provided by Different Government Schemes
- **Paramparagat Krishi Vikas Yojana (PKVY):** The scheme promotes **cluster based organic farming with PGS certification**. Cluster formation, training, certification and marketing are supported under the scheme. Assistance of Rs.50,000 per ha/ 3 years is provided out of which 62% i.e., Rs. 31,000 is given as incentive to a farmer towards organic inputs.
- **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** The scheme promotes **3rd party certified organic farming of niche crops** of the north east region through farmers producer organizations (FPOs) with focus on exports. Farmers are given assistance of Rs 25000/ ha/ 3 years for organic inputs including organic manure and biofertilisers etc. Support for formation of FPOs, capacity building, post-harvest infrastructure up to Rs 2 crores are also provided in the scheme.
- **Capital Investment Subsidy Scheme (CISS)** under Soil Health Management Scheme: 100% assistance is provided to state government/ government agencies for **setting up of mechanized fruit/ vegetable market waste/ agro waste compost production unit** up to a maximum limit of Rs.190 lakh/ unit (3000 Total

Per Annum TPA capacity). Similarly, for individuals/ private agencies assistance up to 33% of cost limit to Rs 63 lakh/ unit as capital investment is provided.

- **National Mission on Oilseeds and Oil Palm (NMOOP): Financial assistance** at 50% subsidy to the tune of Rs. 300/- per ha is being provided for different components including bio-fertilizers, supply of rhizobium culture/ phosphate solubilising bacteria (PSB)/ zinc solubilising bacteria (ZSB)/ azotobacter/ mycorrhiza and vermicompost.
- **National Food Security Mission (NFSM):** Financial assistance is provided for **promotion of bio-fertilizer** (rhizobium/ PSB) at 50% of the cost limited to Rs.300 per ha.

### Check your progress - I

Answer the questions in the space provided

Q1. What is organic farming ?

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Q2. Explain the status of Organic Farming in India .

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## 10.4 ENVIRONMENTAL BENEFITS OF ORGANIC AGRICULTURE

**Sustainability over the long term.** Many changes observed in the environment are long term, occurring slowly over time. Organic agriculture considers the medium- and long-term effect of agricultural interventions on the agro-ecosystem. It aims to produce food while establishing an ecological balance to prevent soil fertility or pest problems. Organic agriculture takes a proactive approach as opposed to treating problems after they emerge.

**Soil.** Soil building practices such as crop rotations, inter-cropping, symbiotic associations, cover crops, organic fertilizers and minimum tillage are central to organic practices. These encourage soil fauna and flora, improving soil formation and structure and creating more stable systems. In turn, nutrient and energy cycling is increased and the retentive abilities of

the soil for nutrients and water are enhanced, compensating for the non-use of mineral fertilizers. Such management techniques also play an important role in soil erosion control. The length of time that the soil is exposed to erosive forces is decreased, soil biodiversity is increased, and nutrient losses are reduced, helping to maintain and enhance soil productivity. Crop export of nutrients is usually compensated by farm-derived renewable resources but it is sometimes necessary to supplement organic soils with potassium, phosphate, calcium, magnesium and trace elements from external sources.

**Water.** In many agriculture areas, pollution of groundwater courses with synthetic fertilizers and pesticides is a major problem. As the use of these is prohibited in organic agriculture, they are replaced by organic fertilizers (e.g. compost, animal manure, green manure) and through the use of greater biodiversity (in terms of species cultivated and permanent vegetation), enhancing soil structure and water infiltration. Well managed organic systems with better nutrient retentive abilities, greatly reduce the risk of groundwater pollution. In some areas where pollution is a real problem, conversion to organic agriculture is highly encouraged as a restorative measure (e.g. by the Governments of France and Germany).

**Air and climate change.** Organic agriculture reduces non-renewable energy use by decreasing agrochemical needs (these require high quantities of fossil fuel to be produced). Organic agriculture contributes to mitigating the greenhouse effect and global warming through its ability to sequester carbon in the soil. Many management practices used by organic agriculture (e.g. minimum tillage, returning crop residues to the soil, the use of cover crops and rotations, and the greater integration of nitrogen-fixing legumes), increase the return of carbon to the soil, raising productivity and favouring carbon storage. A number of studies revealed that soil organic carbon contents under organic farming are considerably higher. The more organic carbon is retained in the soil, the more the mitigation potential of agriculture against climate change is higher. However, there is much research needed in this field, yet. There is a lack of data on soil organic carbon for developing countries, with no farm system comparison data from Africa and Latin America, and only limited data on soil organic carbon stocks, which is crucial for determining carbon sequestration rates for farming practices.

**Biodiversity.** Organic farmers are both custodians and users of biodiversity at all levels. At the gene level, traditional and adapted seeds and breeds are preferred for their greater resistance to diseases and their resilience to climatic stress. At the species level, diverse

combinations of plants and animals optimize nutrient and energy cycling for agricultural production. At the ecosystem level, the maintenance of natural areas within and around organic fields and absence of chemical inputs create suitable habitats for wildlife. The frequent use of under-utilized species (often as rotation crops to build soil fertility) reduces erosion of agro-biodiversity, creating a healthier gene pool - the basis for future adaptation. The provision of structures providing food and shelter, and the lack of pesticide use, attract new or re-colonizing species to the organic area (both permanent and migratory), including wild flora and fauna (e.g. birds) and organisms beneficial to the organic system such as pollinators and pest predators. The number of studies on organic farming and biodiversity increased significantly within the last years. **A Recent Study Reporting On A Meta-Analysis Of 766 Scientific Papers** concluded that organic farming produces more biodiversity than other farming systems.

**Genetically modified organisms.** The use of GMOs within organic systems is not permitted during any stage of organic food production, processing or handling. As the potential impact of GMOs to both the environment and health is not entirely understood, organic agriculture is taking the precautionary approach and choosing to encourage natural biodiversity. The organic label therefore provides an assurance that GMOs have not been used intentionally in the production and processing of the organic products. This is something which cannot be guaranteed in conventional products as labelling the presence of GMOs in food products has not yet come into force in most countries. However, with increasing GMO use in conventional agriculture and due to the method of transmission of GMOs in the environment (e.g. through pollen), organic agriculture will not be able to ensure that organic products are completely GMO free in the future. A detailed discussion on GMOs can be found in the FAO publication **“Genetically Modified Organisms, Consumers, Food Safety And The Environment”**.

**Ecological services.** The impact of organic agriculture on natural resources favours interactions within the agro-ecosystem that are vital for both agricultural production and nature conservation. Ecological services derived include soil forming and conditioning, soil stabilization, waste recycling, carbon sequestration, nutrients cycling, predation, pollination and habitats. By opting for organic products, the consumer through his/her purchasing power promotes a less polluting agricultural system. The hidden costs of agriculture to the environment in terms of natural resource degradation are reduced.



A critical review of the relationships between organic agriculture and the environment as well as other aspects is provided by IFOAM and is presented under the shape of a list of **Criticisms And Frequent Misconceptions About Organic Agriculture With Corresponding Counter-Arguments**.

## **10.5 MAJOR PROBLEMS AND CONSTRAINTS FOR ORGANIC FARMING IN INDIA**

### **Lack of Awareness:**

The most important constraint felt in the progress of organic farming is the inability of the government policy making level to take a firm decision to promote organic agriculture.

Unless such a clear and unambiguous direction is available in terms of both financial and technical supports, from the Centre to the Panchayat levels, mere regulation making will amount to nothing. Many farmers in the country have only vague ideas about organic farming and its advantages as against the conventional farming methods.

Use of bio-fertilizers and bio pesticides requires awareness and willingness on the part of the farming community. Knowledge about the availability and usefulness of supplementary nutrients to enrich the soil is also vital to increase productivity. Attention on the application of composts/organic manure is also lacking.

The organic matter is spread during the months when the right moisture level is absent on the soil. The whole manure turns into wastes in the process. The required operation is of course labour intensive and costly, but it is necessary to obtain the desired results.

### **Output Marketing Problems:**

#### **ADVERTISEMENTS:**

It is found that before the beginning of the cultivation of organic crops, their marketability and that too at a premium over the conventional produce has to be assured. Inability to obtain a premium price, at least during the period required to achieve the productivity levels of the conventional crop will be a setback.

### **Shortage of Bio-mass:**

Many experts and well informed farmers are not sure whether all the nutrients with the

required quantities can be made available by the organic materials. Even if this problem can be surmounted, they are of the view that the available organic matter is not simply enough to meet the requirements.

#### **Inadequate Supporting Infrastructure:**

In spite of the adoption of the NPOP during 2000, the state governments are yet to formulate policies and a credible mechanism to implement them. There are only four agencies for accreditation and their expertise is limited to fruits and vegetables, tea, coffee and spices. The certifying agencies are inadequate.

#### **High Input Costs:**

The small and marginal farmers in India have been practicing a sort of organic farming in the form of the traditional farming system. They use local or own farm renewable resources and carry on the agricultural practices in an ecologically friendly environment. However, now the costs of the organic inputs are higher than those of industrially produced chemical fertilizers and pesticides including other inputs used in the conventional farming system.

#### **Marketing Problems of Organic Inputs:**

##### **ADVERTISEMENTS:**

Bio-fertilizers and bio-pesticides are yet to become popular in the country. There is a lack of marketing and distribution network for them because the retailers are not interested to deal in these products, as the demand is low. The erratic supplies and the low level of awareness of the cultivators also add to the problem.

Higher margins of profit for chemical fertilizers and pesticides for retailing, heavy advertisement campaigns by the manufacturers and dealers are other major problems affecting the markets for organic inputs in India.

#### **Low Yields:**

In many cases the farmers experience some loss in yields on discarding synthetic inputs on conversion of their farming method from conventional to organic.

Restoration of full biological activity in terms of growth of beneficial insect populations,

nitrogen fixation from legumes, pest suppression and fertility problems will take some time and the reduction in the yield rates is the result in the interregnum. It may also be possible that it will take years to make organic production possible on the farm.

### **Check your progress - II**

#### **Answer the questions in the space provided**

Q1. Explain the Environmental benefits of Organic Farming.

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Q2. What are the major problems and constraints for Organic Farming in India ?

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### **10.6 LET US SUM UP**

In this lesson we have studied about development and status of Organic Farming in India, environmental benefits of organic agriculture and major problems and constraints for organic farming in India.

### **10.7 SUGGESTED READINGS AND REFERENCES**

- Khurana, Vineet Kumar (2020) “On a Tardy Trail” : State of Organic Farming in India
- Mondal Puja (2020) “ Major problem and constraints for Organic Farming in India.
- <https://journals of India.com / status of organic - farming - in - india/>
- <http://www.fao.org/organicag/oa.faq/oa-faq6/en/>

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## **DOUBLING OF FARMER'S INCOME BY 2022**

### **STRUCTURE**

- 11.1 Introduction
- 11.2 Sources of Growth in Farmer's Income
- 11.3 Strategy for Improving Farmer's Income
- 11.4 Steps for Doubling Farmer's Income
- 11.5 Interventions and schemes
- 11.6 Roadmap and Action Plan
- 11.7 Recommendation and Suggestion to Boost Farming Income
- 11.8 Let Us Sum Up
- 11.9 Suggested Readings

### **11.1 INTRODUCTION**

Past strategy for development of the agriculture sector in India has focused primarily on raising agricultural output and improving food security. The net result has been a 45 per cent increase in per person food production, which has made India not only food self-sufficient at aggregate level, but also a net food exporting country.

The strategy did not explicitly recognise the need to raise farmers' income and did not mention any direct measure to promote farmers welfare. The net result has been that

farmers income remained low, which is evident from the incidence of poverty among farm households.

Low level of absolute income as well as large and deteriorating disparity between income of a farmer and non-agricultural worker constitute an important reason for the emergence of agrarian distress in the country during 1990s, which turned quite serious in some years. The country also witnessed a sharp increase in the number of farmers suicides during 1995 to 2004 - losses from farming, shocks in farm income and low farm income are identified as the important factors for this. The low and highly fluctuating farm income is causing detrimental effect on the interest in farming and farm investments, and is also forcing more and more cultivators, particularly younger age group, to leave farming. This can cause serious adverse effect on the future of agriculture in the country.

It is apparent that income earned by a farmer from agriculture is crucial to address agrarian distress (Chand 2016) and promote farmers welfare. In this background, the goal set to double farmers' income by 2022-23 is central to promote farmers welfare, reduce agrarian distress and bring parity between income of farmers and those working in non-agricultural professions.

### **The concept and timeframe**

Clarity on the following points is important to assess the possibility of doubling the income of the farmers. The substantive points are:

1. what is the period and targeted year for doubling the farm income;
2. what is to be doubled, is it output, value added or income earned by farmers from agricultural activities;
3. whether nominal income is to be doubled or real income is to be doubled; and
4. whether the targeted income includes only income derived from agricultural activities or would it also include income of farmers from other sources.

It is obvious that the targeted year to double the current income of the farmers or income for the agricultural year 2015-16 is by agricultural year 2022-23, which is seven years

away from the base year 2015-16. And, if anything is to be doubled by the year 2022-23, it will require an annual growth rate of 10.4 per cent.

Again, it is important to clarify what is sought to be doubled. Is it the income of farmers, or the output or the income of the sector or the value added or GDP of agriculture sector? If technology, input prices, wages and labour use could result in per unit cost savings then farmers' income would rise at a much higher rate than the output. In nominal terms, the output became 2.65 times while farmers' income tripled in the seven years period. Therefore, doubling of farmers' income should not be viewed as same as doubling of farm output.

It is obvious that if inflation in agricultural prices is high, farmers income in nominal terms will double in a much shorter period. In a situation where non-agricultural prices do not rise, or, rise at a very small rate, the growth in farmers' income at real prices tends to be almost the same as in nominal prices. The government's intention seems to be to double the income of farmers from farming in real terms.

It is pertinent to mention that the latest data on number of cultivators is available only up to the year 2011-12. Therefore, while calculating per cultivator income, it is assumed that farm workers would continue their withdrawal from agriculture at the rate observed during 2004-05 to 2011-12. Presently, per cultivator income has been estimated as Rs 1,20,193 at current market prices.

## **11.2 SOURCES OF GROWTH IN FARMERS' INCOME**

Doubling real income of farmers till 2022-23 over the base year of 2015-16, requires annual growth of 10.41 per cent in farmers income. This implies that the on-going and previously achieved rate of growth in farm income has to be sharply accelerated. Therefore, strong measures will be needed to harness all possible sources of growth in farmers' income within as well as outside agriculture sector.

**The major sources of growth operating within agriculture sector are:**

1. improvement in productivity
2. resource use efficiency or saving in cost of production

3. increase in cropping intensity
4. diversification towards high value crops

**The sources outside agriculture include:**

1. shifting cultivators from farm to non-farm occupations, and
2. improvement in terms of trade for farmers or real prices received by farmers.

**Check your progress - I**

**Answer the questions in the space provided**

Q1. Assess the possibility of doubling the income of the farmers.

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Q2. Discuss the various sources of growth in farmer's income.

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**11.3 STRATEGY FOR IMPROVING FARMERS' INCOME**

The sources of growth in output and income can be put in four categories.

1. Development initiatives including infrastructure
2. Technology
3. Policies and
4. Institutional mechanisms

**11.4 STEPS FOR DOUBLING FARMERS' INCOME**

The Government constituted an Inter-ministerial Committee in April, 2016 to examine issues relating to “Doubling of Farmers Income” (DFI) and recommend strategies to achieve the same. The Committee submitted its Report to the Gov-

ernment in September, 2018 containing the strategy for doubling of farmers' income by the year 2022. The DFI strategy as recommended by the Committee include seven sources of income growth viz., (i) improvement in crop productivity; (ii) improvement in livestock productivity; (iii) resource use efficiency or savings in the cost of production; (iv) increase in the cropping intensity; (v) diversification towards high value crops; (vi) improvement in real prices received by farmers; and (vii) shift from farm to non-farm occupations.

After acceptance of the DFI Committee recommendations, the Government has constituted an 'Empowered Body' to review and monitor the progress.

Agriculture being a State subject, the State Governments undertake implementation of programs/schemes for the development of the sector. Government of India supplements the efforts of the State Governments through various schemes/ programs. These schemes/ programs of the Government of India are meant for the welfare of farmers by increasing production, remunerative returns and income support to farmers. A list of initiatives taken by the Government are at **Annexure-I**. All these steps of the Government of India are for the welfare of the farmers of the country.

Further, the Government has adopted several developmental programmes, schemes, reforms and policies that focus on higher incomes for the farmers. All these policies & programmes are being supported by higher budgetary allocations, non-budgetary financial resources by way of creating Corpus Funds, and supplementary income transfers under PM-KISAN. The latest major intervention includes the 'Atma Nirbhar Bharat – Agriculture' which includes comprehensive market reforms and creation of 'Agricultural Infrastructure Fund (AIF)' worth Rs. 1 lakh crore and allocation of Rs 500 crore for Bee Keeping initiative.

This information was given in a written reply by the Union Minister of Agriculture and Farmers Welfare Shri Narendra Singh Tomar in Rajya Sabha today.



## **11.5 LIST OF VARIOUS INTERVENTIONS AND SCHEMES LAUNCHED FOR THE BENEFIT OF FARMERS**

- (i) With a view to provide income support to all farmers' families across the country, to enable them to take care of expenses related to agriculture and allied activities as well as domestic needs, the Central Government started a new Central Sector Scheme, namely, the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). The scheme aims to provide a payment of Rs. 6000/- per year, in three 4-monthly installments of Rs. 2000/- to the farmers families, subject to certain exclusions relating to higher income groups.
- (ii) Further with a view to provide social security net for Small and Marginal Farmers (SMF) as they have minimal or no savings to provide for old age and to support them in the event of consequent loss of livelihood, the Government has decided to implement another new Central Sector Scheme i.e. Pradhan Mantri Kisan MaanDhan Yojana (PM-KMY) for providing old age pension to these farmers. Under this Scheme, a minimum fixed pension of Rs. 3000/- will be provided to the eligible small and marginal farmers, subject to certain exclusion clauses, on attaining the age of 60 years.
- (iii) With a view to provide better insurance coverage to crops for risk mitigation, a crop insurance scheme namely Pradhan Mantri Fasal Bima Yojana (PMFBY) was launched from Kharif 2016 season. This scheme provides insurance cover for all stages of the crop cycle including post-harvest risks in specified instances, with low premium contribution by farmers.
- (iv) Giving a major boost for the farmer's income, the Government has approved the increase in the Minimum Support Price (MSPs) for all Kharif & Rabi crops for 2018-19 season at a level of at least 150 percent of the cost of production.
- (v) Implementation of flagship scheme of distribution of Soil Health Cards to farmers so that the use of fertilizers can be rationalized.
- (vi) "Per drop more crop" initiative under which drip/sprinkler irrigation is being en-

couraged for optimal utilization of water, reducing cost of inputs and increasing productivity.

- (vii) “Paramparagat Krishi Vikas Yojana (PKVY)” for promoting organic farming.
- (viii) Launch of e-NAM initiative to provide farmers an electronic transparent and competitive online trading platform.
- (ix) Under “Har Medh Par Ped”, agro forestry is being promoted for additional income. With the amendment of Indian Forest Act, 1927, Bamboo has been removed from the definition of trees. A restructured National Bamboo Mission has been launched in the year 2018 to promote bamboo plantation on non forest government as well as private land and emphasis on value addition, product development and markets.
- (x) Giving a major boost to the pro-farmer initiatives, the Government has approved a new Umbrella Scheme ‘Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)’. The Scheme is aimed at ensuring remunerative prices to the farmers for their produce as announced in the Union Budget for 2018. This is an unprecedented step taken by Govt. of India to protect the farmers’ income which is expected to go a long way towards the welfare of farmers.
- (xi) Bee keeping has been promoted under Mission for Integrated Development of Horticulture (MIDH) to increase the productivity of crops through pollination and increase the honey production as an additional source of income of farmers.
- (xii) To ensure flow of adequate credit, Government sets annual target for the flow of credit to the agriculture sector, Banks have been consistently surpassing the annual target. The agriculture credit flow target was set at Rs. 13.50 lakh crore for the F.Y.2019-20 and Rs.15.00 lakh crore for F.Y. 2020-21.
- (xiii) Extending the reach of institutional credit to more and more farmers is priority area of the Government and to achieve this goal, the Government provides interest subvention of 2% on short-term crop loans up to Rs.3.00

lakh. Presently, loan is available to farmers at an interest rate of 4% per annum on prompt repayment.

- (xiv) Further, under Interest Subvention Scheme 2018-19, in order to provide relief to the farmers on occurrence of natural calamities, the interest subvention of 2% shall continue to be available to banks for the first year on the restructured amount. In order to discourage distress sale by farmers and to encourage them to store their produce in warehouses against negotiable receipts, the benefit of interest subvention will be available to small and marginal farmers having Kisan Credit Card for a further period of upto six months post harvest on the same rate as available to crop loan.
- (xv) The Government has extended the facility of Kisan Credit Card (KCC) to the farmers practicing animal husbandry and fisheries related activities. All processing fee, inspection, ledger folio charges and all other services charges have been waived off for fresh renewal of KCC. Collateral fee loan limit for short term agri-credit has been raised from Rs. 1.00 lakh to Rs. 1.60 lakh. KCC will be issued within 14 days from the receipt of completed application.
- (xvi) Several market reforms have been rolled out. These include
  - a. Model APLMC (Promotion & Facilitation) Act, 2017
  - b. Establishment of 22,000 number of Gramin Agriculture Markets (GrAMs) as aggregation platforms
  - c. Agri-Export Policy, that targets to double agri-exports by 2022
  - d. The Farmers Produce Trade and Commerce (Promotion & Facilitation) Ordinance, 2020
  - e. The Farmers (Empowerment & Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020
  - f. Amendments to Essential Commodities Act, 1955, that deregulates various agri-commodities

g. Promotion of 10,000 FPOs by 2024

(xvii) Creation of Corpus Funds

a. Micro Irrigation Fund – Rs. 5,000 crore

b. Agri-marketing Fund to strengthen eNAM and GrAMs – Rs. 2,000 crore

c. Agricultural Infrastructure Fund (AIF) to build agri-logistics (backward & forward linkages) – Rs. 1 lakh crore

## **11.6 ROADMAP AND ACTION PLAN**

The quantitative framework for doubling farmers income has identified seven sources of growth. These are:

1. Increase in productivity of crops
2. Increase in production of livestock
3. Improvement in efficiency of input use (cost saving)
4. Increase in crop intensity
5. Diversification towards high value crops
6. Improved price realization by farmers
7. Shift of cultivators to non-farm jobs

### **Check your progress - II**

**Answer the questions in the space provided**

Q1. What are the various steps through which farmers' income can be increased ?

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Q2. Discuss various policy measures to enhance farmer's income ?

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### **11.7 RECOMMENDATION AND SUGGESTION TO BOOST FARMING INCOME**

The low level of farmer's income and year to year fluctuations in it are a major source of agrarian distress. This distress is spreading and getting severe over time impacting almost half of the population of the country that is dependent on farming for livelihood. Persistent low level of farmers income can also cause serious adverse effect on the future of agriculture in the country. To secure future of agriculture and to improve livelihood of half of India's population, adequate attention needs to be given to improve the welfare of farmers and raise agricultural income. Achieving this goal will reduce persistent disparity between farm and non-farm income, alleviate agrarian distress, promote inclusive growth and infuse dynamism in the agriculture sector. Respectable income in farm sector will also attract youth towards farming profession and ease the pressure on non-farm jobs, Which are not growing as per the expectations.

Doubling farmer's income by 2022 is quite challenging but it is needed and is attainable. Three pronged strategy focused on (i) development initiatives, (ii) technology and (iii) policy reforms in agriculture is needed to double farmer's income.

- The rates of increase in sources underlying growth in output need to be accelerated by 33 per cent to meet the goal.
- The country need to increase use of quality seed, fertiliser and power supply to agriculture by 12.8, 4.4 and 7.6 per cent every year.
- Area under irrigation has to be expanded by 1.78 million hectare and area under double cropping should be increased by 1.85 million hectare every year.
- Besides, area under fruits and vegetables is required to increase by 5 per cent each year.

- In the case of livestock, improvement in herd quality, better feed, increase in artificial insemination, reduction in calving interval and lowering age at first calving are the potential sources of growth.

Research institutes should come with technological breakthroughs for shifting production frontiers and raising efficiency in use of inputs. Evidence is growing about scope of agronomic practices like precision farming to raise production and income of farmers substantially. Similarly, modern machinery such as laser land leveller, precision seeder and planter, and practices like SRI (system of rice intensification), direct seeded rice, zero tillage, raised bed plantation and ridge plantation allow technically highly efficient farming. However, these technologies developed by the public sector have very poor marketability. They require strong extension for the adoption by farmers. R&D institutions should also include in their packages grassroots level innovations and traditional practices which are resilient, Sustainable and income enhancing.

ICAR and SAUs should develop models of farming system for different types of socio-economic and bio physical settings combining all their technologies in a package with focus on farm income. This would involve combining technology and best practices covering production, protection and post-harvest value addition for each sub systems with other sub systems like crop sequences, crop mix, livestock, horticulture, forestry. Such shift requires interdisciplinary approach to develop on knowledge of all disciplines.

About one third of the increase in farmers' income is easily attainable through better price realization, efficient post-harvest management, competitive value chains and adoption of allied activities. This requires comprehensive reforms in market, land lease and raising of trees on private land. Agriculture has suffered due to absence of modern capital and modern knowledge. There is a need to liberalise agriculture to attract responsible private investments in production and market. Similarly, FPOs and FPCs can play big role in promoting small farm business. Ensuring MSP alone for farm produce through competitive market or government intervention will result in sizeable increase in farmers' income in many states.

Most of the development initiatives and policies for agriculture are implemented by the States. States invest much more than the outlay by the Centre on many development activities, like irrigation. Progress of various reforms related to market and land lease are

also State subjects. Therefore, it is essential to mobilise States and UTs to own and achieve the goal of doubling farmers' income. If concerted and well-coordinated efforts are made by the Centre and all the States and UTs, the Country can achieve the goal of doubling farmers' income by the year 2022.

### **11.8 LET US SUM UP**

In this lesson, we studied about the various sources through which farmer's income can be increased. List of various policies and schemes that will benefit the farmers and finally, various suggestions to boost the farming income.

### **11.9 SUGGESTED READINGS AND REFERENCES**

- [https://Pib.gov.in/Press Release Page = aspx ? . PRID - 1656148](https://Pib.gov.in/Press%20Release%20Page.aspx?PRID=1656148)
- <https://.in agriculture/policies-and-schemes/policy paper-on-doubling-farmers-income>

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## **AGRICULTURE LABOUR IN INDIA**

### **STRUCTURE**

- 12.1 Introduction
- 12.2 Objectives
- 12.3 Agricultural Labour : Nature and Extent
  - 12.3.1 Categories of Agricultural Labour
  - 12.3.2 Extent or Growth of Agricultural Labour in India
  - 12.3.3 Characteristics/Features of Agricultural Labourers
  - 12.3.4 Programmes for improving the conditions of Agricultural Labour
- 12.4 Agricultural wages
  - 12.4.1 Male-female wage differences
- 12.5 Let Us Sum Up
- 12.6 Lesson End Questions

### **12.1 INTRODUCTION**

Agriculture labours are those labours which are engaged in agricultural operation i.e. operation relating to raising crops. Such labour are usually semi-skilled labours which fall in different categories. The magnitude and number of such labours have increased overtime making it necessary for the government to come up with different policies to improve their condition of employment, wages and standard of living.



## 12.2 OBJECTIVES

After going through the lesson the student will

1. be able to understand the nature and concept of Agricultural labour.
2. learn about the magnitude of Agricultural labour in total labour force.
3. get to know about various government policies for improving the condition of Agricultural labour.
4. know the structure and status of Agricultural wages.
5. be able to figure out male-female wage differences.

## 12.3 AGRICULTURAL LABOUR : NATURE AND EXTENT

The term Agricultural labour is difficult to define. As capitalism in Agriculture is not fully developed and a class of Labours fully dependent of wages has not come up. Also there are small and marginal farmers who also work on the farms of others to supplement their income. Despite these difficulties, attempts have been made to define them. According to Agricultural Labour Enquiry commission of 1950-51, Agricultural workers are those who are engaged in raising crops on payment of wges. Accordingly those people should be treated as agricultural labour who worked for 50% or more days on payment of such wages. Agricultural labour may be defined as labour who work in agricuture or allied activites for the whole or part of year in return for wages. The agricultural labourers has no risk in the cultivation and no right on land be he merely work on other persons's land for wages. The definiton also includes workers who are engaged in other allied occupations such as dairy farming, animal husbandry, poultry etc.

### 12.3.1 Categories of Agricultural labour

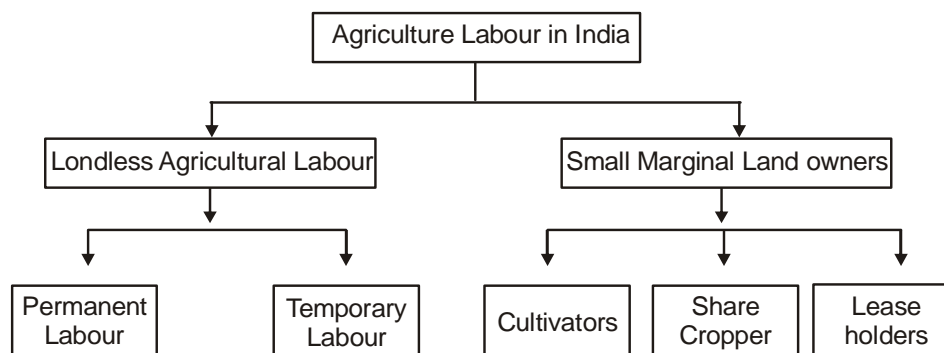
Agricultural labourers can be classified into two broad categoeries i.e. 1. Landless Agricultural labourer 2. small and marginal land owners.

1. **Landless Agricultural labourer** are those labourers. who don't possess land and can be further classified into (a) attached labourers (b) casual laboures.

**Attached labourers** are attached to some cultivator household on the basis of written or oral agreement. Their employment is permanent and regular. The hours of

work are lengthy and wages are determined by customs and traditions.

**Casual labourers.** They are free to work on the farms of any farmer and payment is generally made to them on a daily basis. Casual labourers are paid at the market rate and are engaged during the peak period of work.



**2. Small and Marginal Land owners.** These are very small cultivators whose main source of earning due to their small and marginal holdings is wage employment. These labourers can again be divided into three groups.

- (i) **Cultivators.** Cultivators are small farmers, who possess very little land and therefore have to devote most of the time working on the land of others as labourer.
- (ii) **Share Croppers.** Share croppers are those, who while sharing produce of land cultivated, also work as labourer.
- (iii) **Lease holders.** Those tenants who not only work on the leased land but also work as labourers, come under this category.

### 12.3.2 Extent or Growth of Agricultural labour in India

The class of landless labourers or Agricultural labourers did not get much attention before the advent of Britshers. Even after their advent their condition was not much better. In fact the class of Agricultural workers was too small to attract any attention. It was only after the land reforms that some steps were taken to improve their conditon. According to census of 1881, landless labourers in that year were 7.5 million. In 1921, agricultural workers were 21 million which was 17.4% of the total working population. The number of workers has continuously increased since then. According to 1981

census, the agricultural workers constitute 22.7% of the total labour force which increased to 26.1% in 1991% further the total workforce engaged in agriculture sector increased dramatically. In 1951 no. of Agricultural labourers 27.3 million which rose to 31.5 mn in 1961 and which was 74.6 million in 1991 constituting 26.5% of total labour force. This shows that every fourth person of the labour force is an Agricultural worker in India.

At international level, the labour force employed in agriculture overtime is on the decline almost in all the countries. The world average figure of agricultural labour force as percentage of total population was 53% in 1980 and declined to 49% in 1990. An important inference drawn is that labour force engaged in agriculture is negatively correlated with the development. The countries with low per capita income have to employ more of their labour force in Agriculture but as the economy develops further, the population is shifted from Agriculture to manufacturing and commerce sector. Even in Indian case this figure is relevant where agriculture labour force as percentage of total population declined from 56.4% in 1994 to 51.8% in 2004.

Year	Cultivators	Agricultural Labourers	Total
1951	69.9	27.3	97.2
1961	99.6	31.5	131.1
1971	78.2	47.5	125.7
1981	92.5	55.5	148.0
1991	110.7	74.6	185.3
2011	118.7	144.3	263.6

Source. Registrars General of India

### 12.3.3 Characteristics/features of Agricultural labourers

The main features, characteristics of Indian Agricultural labourer in India are :

1. **Agricultural labourers are scattered.** Agricultural labour in India is being widely scattered over 5-6 lakh villages, of which half have population of less than 500 each. Any question of building an effective organisation poses insurmountable difficulties. Thus the vast no. of agricultural labour lies scattered all over India.

2. **Agricultural labourers are unskilled and lack training.** Agricultural labourers are generally unskilled workers carrying on agricultural operation in the centuries old traditional wages. Most of them are generally conservative, tradition bound and do not have training to go for new techniques of Agricultural operation.
3. **Unorganised Sector.** Agricultural labourers are not organized like industrial labourers. They are illiterate and ignorant. Hence they could not organize in unions. Accordingly, it is difficult for them to bargain with the land owners and secure good wages.
4. **Low Social status.** Most agricultural workers belong to depressed classes, which have been neglected for ages. In some parts of India, Agricultural labourers are migratory, moving in search of jobs at the time of harvesting, Government measures to improve their lot by legislation have proved ineffective so far due to powerful hold of rural elite class in rural economy.
5. **Demand and supply of labour.** The number of agricultural labourers being very large and skill they possess being meager they are generally more than abundant supply of agricultural labourers in relation to demand for them. It is only during the sowing and harvesting season that there appears to be near full employment in case of agricultural labourers. But once the harvesting season is over, majority of Agricultural workers will be jobless especially where there is single cropping pattern.
6. **At the bidding of the landlord.** There is generally direct and day-to-day contact between agricultural labourers and the landlords on whose farm they are working unlike industrial workers, this direct contact between the employer and employees is a distinct feature of agriculture labourer. The above mentioned few important characteristics distinguish agricultural labourers in India from Industrial workers. Thus partly due to factors beyond their control and partly because of their inherent bargaining weakness, the farm labourers have been getting very low wages and have therefore to live a subsistence life.

#### **12.3.4 Programmes for improving conditions of Agricultural labour**

The government has shown awareness of the problems of agricultural workers and all plan documents have suggested ways and means to ameliorate the lot of these people. Measures adopted by the government for improving the economic condition of Agricultural labourers are

- 1. Passing of Minimum Wage Act.** Minimum Wage Act was passed in 1948. It empowers the legislation to fix the minimum wages for the labourers. The act has been extended almost throughout the country and accordingly minimum wages for agricultural labourers have been fixed. At present, legislations have been passed in all the states of the country.
- 2. Abolition of Bonded Labourers.** In 1976, the govt. passed the Bonded Labour Abolition Act. According to this act, no labourer can be kept as bonded labour in lieu of paying the debt. All bonded labourers were freed and discharged from any such obligation. This act has really saved labourers from exploitation and inhumane behaviour.
- 3. Insurance.** Since August 15, 1987 group insurance scheme has been introduced which will cover all the landless Agricultural labourers. Under this scheme, life insurance offered to the bread winner of the family. The premium cover under the scheme is only 10% per annum for an insurance cover of Rs. 1000.
- 4. Antodaya Programme.** Several states have adopted this programme to improve the lot of poor agricultural labourers. In each village five poorest families are identified and they are allotted land and implements etc. Besides this, they are also provided other facilities to get employment and raise standard of living.
- 5. Ceiling of Holding.** All states have fixed the minimum limit of agricultural holdings to be cultivated by a single farmer. The excess land of this limit is distributed among the landless labourers.
- 6. Food for work scheme.** This scheme was initiated in 1977. Under it the payment of part of the wages of workers engaged in rural works is made in foodgrains. The

foodgrains for such distribution are made available free of charge by the central government.

In addition to above some special schemes for providing employment has also introduced by government.

1. Cash Scheme for Rural Employment (CSRE).
2. Pilot intensive Rural Employment Project (PIRER)
3. National rural employment Programme (NREP)
4. Rural landless employment programme (RLEP)
5. Drought Prone area Programme.
6. Jawahar Rojgar Yojana (which comes in with the merger of NREP and RLEGP)
7. Desert Development Programme.
8. National Scheme of Training of rural youth for self employment.
9. Integrated rural development Programme.

other legislative measures for improving working condition of agricultural labour are Trade union Act 1926, Industrial Disputes Act 1947) which covers agricultural farms run on commercial lines, Employess Provident Fund Act (1952) which cover agricultural labour engaged in specified plantations and workmen's Compensation Act 1923 to compensate workers against certain disabilities incurred on mechanised farms.

Organisation of Rural Labour Co-operatives

**National Rural Employment Programme.** National Rural Employment Programme (NREP) was launched in October 1980 as centrally sponsored scheme on 50 : 50 sharing basis between centre and state. Main objectives of the Programme were to generate gainful employment opportunities, creating durable community assets and improving overall quality of life in rural areas. Rs. 1843 crore were spent on this scheme in both centre and state share, creating 17751 lakh mandays work during the Sixth Plan Period. Employment generated for scheduled castes/scheduled tribes during the period was roughly 45% of the total employment generated. The Programme had a substantial

impact on stabilizing wages in the rural areas, containing prices of food grains and raising standard of living of the people.

**Twenty Point Programme.** The first 20-point programme was announced in July 1976 and the second in July 1982. Basically these programmes were formulated with a view to ameliorate the living conditions of the rural people. Therefore targets which are directed at uplifting the poor have naturally found place in 20-point Programme.

**Rural landless employment guarantee Programme (RLEGP).** was launched in 15 August in 1983 to generate additional employment in rural areas particularly for the rural landless workers and to create productive and durable assets for strengthening infrastructure which will lead to rapid growth of rural economy. The programme was fully controlled by the central government.

#### **Small Farmers Development Agency (SFDA)**

The rural masses in India constituted major part of the rural population and improvement of their lots has become a key issue in various five year plans. All India Rural Credit Review Committee (1969) recommended the establishment of SFDA to tackle the problem of rural poor. The committee observed that small farmers have not benefited in proportion to their needs from various programmes of rural development. These agencies were set up during the fourth plan to deal with the problems. These agencies remained in operation since 1971 covering 1818 blocks in the country. It made the provisions of easy cheap facilities to small and marginal farmers and in all 25% of the total amount involved has been sanctioned as subsidy and the rest as loans.

In addition to the above mentioned programmes government has come up with different programmes of rural development and for improving the condition of agricultural labours. After the formation of national commission on rural labour, it has recommended government to introduce various employment generation programmes. National Commission on farmers, constituted in 2004, is active in its area for improving the condition of farmers, their living standard and for assuring farmer friendly services covering extension, training, connectivity, credit and insurance.

## 12.4 AGRICULTURAL WAGES IN INDIA

Agricultural sector in most of the developing countries is not a mechanised and highly productive. It is still in the stage of subsistence. Since the earning is subsistence. Wages are also at low level. Agricultural wages are very low in India. The first agricultural labour enquiry reported that the per capita annual income of agricultural labour families was a meagre Rs. 104 in 1950-51, the average annual income of the household being Rs. 447. The second agricultural labour enquiry reported a further deterioration in the condition of agricultural workers. Then per capita annual declined to Rs. 99.4 in 1956-57 and average income of the agricultural labour households to Rs. 437. It then increased to Rs. 600 in 1963-64 and then increased significantly to Rs. 1671 during 1974-75. After the introduction of improved farming methods and mechanisation of agriculture, with the advent of green revolution, the level of income of middle and rich farmers increased, but the same time due fall in demand for labours and rise in prices, real wage declined in all states except Kerala, where labours were organised to some extent. Jeemol Unni's study on, "Agricultural labourers in rural Labour households 1956-57 to 1977-78 also show that between 1964-65 and 1974-75 daily real wage earnings of adult male actually declined at all India level and in most of the state (excepting Karnataka, Punjab and U.P.)

Parthasarathy estimated that in 1984-85 the daily money wage varies between Rs. 6 and Rs. 11 in all the states except Punjab, Haryana and Kerala. Whereas the minimum daily wage required for subsistence standard of living was Rs. 22. Thus the level of agricultural wages prevailing in India were very poor and the living condition were really pathetic.

Wage rate have not remained the same for all the states. Since 1980-81 wage rates have generally been higher in Punjab, Haryana, Kerala states at the lower end of the wage rate include Orissa, Bihar, Madhya Pradesh, Maharashtra and Andhra Pradesh. At the All India level wages continue to grow during 1980's and 1990's but it declined during early 80's and in early years 90's it was due to fiscal crisis which the country faced and consequently over-all demand for labour declined and so is the wage rate.

In a study on wage rate of agricultural labour in West Bengal in 1990s, Thushar K. Mahanti pointed out that while the average daily money wage rate more than doubled



in 1998-99 over 1990-91 (from Rs. 21.50 to Rs. 49.96) the average daily real wage rate increased by just 13.80% from Rs. 21.50 in 1990-91 to 24.48 in 1998-99. An increase of just two rupees and eight paise in eight years. This is due to the fact that Bengal has registered a remarkable growth in agricultural production during the same period.

In their study on agricultural wages in India (covering the period 1964-65 to 1999-2000) Pallavi Chavan and Rajshree Bedamatta arrive at the following conclusion (i) There was striking increase in wage rate during 1983-1987-88 and between 1987-88, 1993-94. But between 1993-94 to 1999-2000), there was decline in rate of growth of real earning of both male and female in majority of states. The difference between average wage of male and female-workers widened (Particularly after 1987-88) while daily wage of male workers exceed the minimum wage in most of the states, the daily wage of female workers/labourers were below minimum wage in most of state indicating wider gender disparity in wages.

In the recent study by Mukesh Eswaran, Ashok Kotwal, Ramaswami and Wilima have found that average daily wage rate grew faster 74% between 1983-2004-05. Rate of growth higher in first decade i.e. 1983-1993-94 with annualised rate of 3.2% for daily earning. declined to 2.3% during 1993-2004-05 and 0.6% during 1999-2004-05.

Thus agricultural wages in India are still very low and are growing at very low pace- especially with respect to real wage situation is deteriorating and growth rate of agricultural wages is low. Gender disparity in wages is wide spread.

#### **12.4.1 Male-female-wage differences**

Male-female wage differences *i.e* gender gap in wages is widely documented phenomenon in developing countries. Wage differences between male and female are commonly seen in agriculture and in rural sector. Female wages as a Percentage of male wage is about 50% in some south Asian countries. The phenomenon of male female wages gap is also evident in India. Within India, the ratio of female to male agricultural wages varies widely across regions from 90% in Gujarat to 54% in Tamil Nadu in 2004-05.

#### Nominal Average Wage rate by Gender and Wage differences NSS Round

<b>Year</b>	<b>1999-2000</b>	<b>2004-05</b>	<b>2009-10</b>
Daily wage male (Rs/day)	151.42	176.90	325.00
Daily wage female (Rs/day)	116.93	131.89	261.31
Wage differential	29.50	34.13	24.85

Gender differences in Agricultural labour are observed in various states in India. The prevalence of such difference is often described as customary feature of all agrarian economies-Agricultural operations like ploughing and Post-harvest operations which carry high rewards are generally performed by male workers. On the other hand operations such as sowing, transplanting and weeding with reasonably lower wages are predominantly performed by women worker. Even in such operations wage differences are there

#### Task-wise allocation of work in Agriculture

<b>Task</b>	<b>Male</b>	<b>Female</b>
Ploughing	95%	5%
Sowing	67%	33%
Transplanting	55%	45%
Weeding	48%	52%
Harvesting	63%	37%
All activities	67%	33%

Source : NSSO 2004

All India Annual Daily wage Rate in agricultural operation (in Rupees)

Occupation	2007-08		2008-09	
	Men	Women	Men	Women
Ploughing	91.38	49.96	102.90	55.43
Sowing	79.28	57.18	90.0	65.0
Weeding	70.07	58.27	80.15	68.02
Harvesting	75.24	62.31	87.05	71.58
Transplanting	73.79	61.93	82.28	71.43
Threshing	73.50	59.40	85.06	67.66
Well-digging	106.96	58.33	116.28	63.47
Herdsman	47.64	37.78	53.48	41.32

Thus given table show how the distribution of task and wages are skewed towards male workers. Gita sen has shown that (in her study) average daily earning is more in peak time operations like ploughing, harvesting, transplanting than in off peak activities like weeding and other activities which are mainly female task and this may have impact on women's earning. Indian states which also exhibit considerable gender disparities in wages, easily seem to conform to this pattern. Gender disparities also differ in different states. It was found considerably large in some state e.g. in Maharashtra, Rajasthan and Tamil Nadu wages rarely exceed 65 to 70% of male wage while in states like Assam, Bihar, H.P., M.P they tend to remain above 80%.

**Female to Male Wage Ratio**

State	1983	1993	1999	2001
Assam	86%	81%	78%	90%
Gujarat	88%	98%	89%	90%
W.B	93%	88%	89%	88%
Bihar	84%	87%	88%	87%
Haryana	97%	85%	90%	84%

Madhya Pradesh	88%	83%	85%	83%
Punjab	81%	108%	94%	83%
Uttar Pradesh	79%	75%	78%	83%
Rajasthan	65%	75%	80%	81%
Orissa	75%	73%	79%	72%
Maharashtra	59%	63%	65%	63
Kerala	65%	70%	63%	59%
Tamil Nadu	55%	57%	58%	54%
All India	69%	72%	72%	70%

Thus the gender disparity in wage rate i.e. male-female difference in wage rate are widely evident in Agricultural sector of India. It is due to social factors, distribution of task and historically low status accorded to women. Thus is need for government intervention to make effective implementation of minimum wage laws and equal right to wages for female Agricultural labourers.

## 12.5 LET US SUM UP

Though there is significant growth in number of agricultural labour but the conditions of them has not improved as per requirement. Government has come up with different policies of employment generation but there is need for taking adequate advantage for the needy people. Also male-female wage differences which are prominents in Indian Agriculture, also call for the attention to check this disparities. Working at gross-root level i.e. not only incorporating legislations but also trying to improve the social factors causing the problem.

## 12.6 LESSON END QUESTIONS

- Q.1. Describe the nature and growth of Agricultural labour in India.
- Q.2. Comment on various employment generating measures adopted by government from time to time.
- Q.3. Describe nature of Agricultural wages in India. Is employment scenario in India gives rise to male-female wage differences?

## **RURAL LABOUR EMPLOYMENT-UNEMPLOYMENT**

### **STRUCTURE**

- 13.1 Introduction
- 13.2 Objectives
- 13.3 Unemployment : Concept and Magnitude
  - 13.3.1 Concept of Unemployment
  - 13.3.2 Magnitude of Unemployment
  - 13.3.3 Rural labour Unemployment
- 13.4 Non Agriculture labour Employment Trends
  - 13.4.1 Trends in Non-Agriculture labour Employment
  - 13.4.2 Rural Labour Employment
  - 13.4.3 Policies towards Rural Employment
- 13.5 Let Us Sum Up
- 13.6 Lesson End Questions

### **13.1 INTRODUCTION**

Unemployment is a grave problem in developing countries especially in rural areas where disguised unemployment is prominent. There has been change in structure and magnitude of unemployment over time. Not only Agricultural but also non-agricultural

employment and unemployment trends have undergone a change. Various employment generating policies especially those concerned with rural employment generation are worth studying to assess their impact on the unemployment problem.

### 13.2 OBJECTIVES

After going through the lesson students will be

1. Be able to understand different concepts of unemployment.
2. Be able to know magnitude of rural employment - Agricultural and non-Agricultural.
3. Will learn about the status of unemployment in the country
4. Learn about various programmes and policies initiated for employment generation.

### 13.3 UNEMPLOYMENT : CONCEPT AND MAGNITUDE

**Unemployment.** In a common sense, unemployment is a situation characterised when any one is not gainfully employed in a productive activity. It means that an unemployed person is one who is seeking any work for wages but is unable to find any job suited to his capacity. Prof. Keynes calls this type of labour force as voluntarily unemployed. Broadly unemployment is of many types like i) cyclical ii) frictional iii) Technological iv) Seasonal v) Structural vi) Voluntary viii) Involuntary ix) Disguised

**1. Structural Unemployment.** Most of unemployment in India is definitely structural. It arises when a large number of persons are unemployed or underemployed because of the other factors of production required to engage them fully are not sufficiently available. There may be scarcity of land, capital or skill in the country or economy causing structural disequilibrium in labour sector. During 1961-2001 period, Population in this country had grown at an alarming rate of around 2.15% per annum and with it the number of people coming to the labour market in search of jobs had also increased rapidly where as employment opportunities did not increase most of the time due to slow economic growth.

**2. Cyclical Unemployment.** This arises due to the changes occurring during the recession phase of the trade cycle.

**3. Seasonal Unemployment.** Seasonal unemployment results from seasonal fluctuations in demand. Seasonal unemployment in agriculture is a normal condition in India. Agricultural labour in India rarely have work throughout the year.

**Frictional unemployment.** Frictional unemployment exists when there is lack of adjustment between demand for and supply of labour. This may be due to lack of knowledge on the part of employers about the availability of workers or on the part of workers that employment is available at a particular place.

**Disguised unemployment.** The Indian Agriculture is characterised by the existence of considerable amount of surplus labour. So the incidence of disguised unemployment is very common. Disguised unemployment occurs when marginal product of additional labour is zero or near to zero.

**Concepts of Unemployment.** The three concepts of unemployment developed by the NSSO are: i) Usual status unemployment ii) Current weekly status unemployment iii) Current daily status unemployment.

- i) **The usual status:** Concept is meant to determine the usual Activity status-employed or unemployed or outside the labour force of those covered by the survey. The activity status is determined with reference to the longer period say a year Preceding to the time of survey. The usual status unemployment rate is a person rate and indicates chronic unemployment because of all those who are found “usually” unemployed in the reference year are counted as unemployed.
- ii) **Current weekly status:** Concept determine the activity status of a person with reference to a period of preceding seven days. A person having worked for an hour or more on any one or more days during the reference period gets the employment status. The current weekly status unemployment rate is also a person rate.
- iii) **The Current daily status:** Concept considers the activity status of a person for each day of the preceding seven days. A person who works for one hour

but less than four hour is considered having worked for half a day. If he works for four hours or more during a day, he is considered as employed for the whole day. The current daily status unemployment rate is a time rate.

Out of these concepts of unemployment, the current daily status concept provides the most appropriate measure of unemployment. The daily status flow rate is evidently the most inclusive, covering open as well as partial unemployment. It is therefore the rate which is most relevant for policy makers. In India the problem of chronic unemployment is for less serious as compared with enormous problem of the discontinuous underemployment of a section of labour force whose composition keeps on changing over time.

### **Nature of Rural Unemployment**

The nature of unemployment in India is very different from the nature of unemployment in industrially advanced countries. In advanced countries unemployment is due to the deficiency of effective demand where as in poor countries like India, unemployment is mainly due to shortage of capital and the poor exploitation of its natural resources. Main cause of unemployment is the absence of sufficient employment avenues for people in India. Rural unemployment may be classified into two categories namely :

- (i) open unemployment
- (ii) concealed or disguised unemployment

**(a) In Open Unemployment,** it is possible to identify the people who are without work. Agriculture is a seasonal occupation and there is always a heavy demand for labour at the time of sowing, weeding and harvesting where as in slack season demand falls considerably. The period of season unemployment in India varies from state to state, depending upon the method of farming and nature of soil. It has been estimated that on the whole agriculture remains idle from 4 to 6 months in a year. Agricultural labour falling in this category comes from economically and socially backward classes.

**(b) In Concealed Unemployment,** it is difficult to identify an unemployed person. This type of unemployment is known as disguised unemployment. Disguised unemployment in rural India is prevalent among marginal and small farmers. There



resources are not enough to provide full employment throughout the year to all the members of their family. When the members of the farmer's family are not able to get employment outside agriculture, they settle on their land even though land is not enough to accommodate them.

### **13.3.2 Magnitude of Unemployment**

The genesis of the problem of unemployment in India can rightly be assessed only in the light of its magnitude. At the time of formulation of first five year Plan (1951-56) the backlog of unemployment was put at 3.3 million to which were added 9.0 million new entrants during the plan period. The plan provided employment to 7.0 million, thus leaving a backlog of 5.3 million at the start of the second five year plan. It was 13.0 million at the beginning of the fourth five year plan (1969-74) which rose to 22.9 million at the end of the plan period. In march 1978 planning commission puts the figure at 20.6 million. The planning commission independently estimated labour force and employment on April 1992. Total employment in terms of the current weekly status was estimated to be 301.7 million against the labour force of 319 million. The backlog of unemployment in terms of current weekly status on April 1992 was 17 million. The unemployment rate increased from 56 per thousand in 1993-94 to 80 per thousand in 2004-05. Overall unemployment rate for rural area according to usual status was around 2% according to 62nd round of NSSO. It was estimated to be 3.8% according to employment and unemployment survey conducted by labour bureau 2012. It has been found that unemployment rates based on current daily status were much higher than those on the basis of usual status implying high degree of intermittent unemployment.

### **13.4 NON-AGRICULTURAL LABOUR EMPLOYMENT TREND**

The estimates of employment and unemployment are made for different sectors separately i.e. Agriculture industry, services trade etc. The estimates of employment based on NSSO data state that four major sectors viz agriculture, manufacturing, trade and community, social and personal service. These sectors together accounted for 86.84% of employment in 2004-05. Non-Agricultural labour are those which are employed in sectors other than agriculture. Although there has been a decline in employment in agriculture in percentage terms since 1983, but in absolute terms Agriculture has retained

its Predominant position as a provider of employment. In 2004-05 agriculture has accounted for 52.06% of employment. As far as rural areas are concerned, agriculture has proved to be incapable of productively absorbing growing rural labour force. As a result, people are seeking employment in non-Agricultural activities.

The number of workers employed in manufacturing rose from 34.03 Million in 1983 to 42.50 million in 1993-94 and further to 48.01 Million in 1999-2000. Mining and quarrying, electricity gas and water supply, construction, transport, storage and communication and financial sector do not absorb much labour force. These industries together accounted for mere 13.16% of employment in 2004-05.

The number of workers employed in manufacturing rose from 34.03 million in 1983 to 42.50 million in 1993-94 and further to 48.01 million in 1999-2000. However in percentage terms, the importance of manufacturing as a provider of has shown only marginal improvement. The percentage of employed workers in manufacturing rose to 12.1% in 1999-2000 and 12.90% in 2004-05.

From the point of view of employment next important sector is trade, hotel and restaurant. In 2004-05 this sector accounted for 12.62% of employed workers as against 6.98% in 1983. The annual growth rate of employment in trade hotel and restaurant sector was 4.01% during 1983 to 2004-05.

Employment in mining and quarrying and electricity, gas and water supply remained 0.63 and 0.35% respectively in 2004-05. Construction accounted for 5.57% of the employment in 2004-05 against 3.3% in 1993-94. This employment in this sector increased during 1980's and 1990's. Transport and communication are important segments of infrastructure but their employment potential is low. Similarly only 2.06% of the employment is contributed by financial services in 2004-05. The main sectors providing casual non-agricultural employment were secondary sectors like construction, manufacturing and mining. About 22.3% of casual non-agricultural employment was provided by the government under public works programmes. After the economic reforms, new macro economic strategy (1991) involved cut in central government expenditure on rural development in per capita terms. There was substantial reduction in Public investments in infrastructure which adversely affected the non-agricultural

employment in rural areas. However, for men share of tertiary sector employment rose significantly after the economic reforms. Eleventh five year plan identified that while non-agricultural employment expanded at a robust annual rate of 4.7% during the period 1999-2000 to 2004-05, this growth was largely in the unorganised sector. The labour force which was expected to increase by about 52 million during 11th plan. This will be over above about 35 million unemployed. Since inclusive requires shift of unemployment from Agriculture to non-agriculture, so we must plan for at least 65 million additional non-agricultural employment opportunities during 11th plan. This is not going to ensure full employment but at least to ensure that the unemployment rate falls somewhat. With the shift in employment structure from agriculture to non-Agriculture sector, Non-Agriculture has to create additional employment ventures to withstand such change.

#### **13.4.2 RURAL LABOUR EMPLOYMENT**

According to 61st round employment and unemployment survey, employment growth rate during 1999-2005 has not only outpaced the growth rate of working age population at 2.5% per annum but also shown sign of reversal of previous trends of jobless growth during 1990's which shows employment growth at around 1% per annum only.

In rural sector, most of the employment is in agriculture and primary activities, towards secondary and tertiary sector is rather small. During the 1980's there was diversification of employment away from agriculture. It was considered to be a positive feature because it had resulted in overall growth of rural employment in most regions of the country and was associated with a decline in the incidence of rural poverty. The main dynamic source of rural employment generation in this period was expansion of government expenditure rather than forces internal to the rural economy. Along with a rapid increase in the subsidies, there was a steep rise in expenditure on the rural sector by the state and central government. As a result nearly 80% of all new government jobs created during the decade occurred in rural area. The NSS data show that the government's contribution to total rural employment was only around 5% during 1980s. At the same time, nearly 2/3rd of the regular non agricultural employees in the rural areas were employed by the government which accounted for four-fifth of such regular job creation

over that decade. Hence the flow of government resources into rural areas have been substantially large and such resource flow was mainly in two forms – (1) Increased expenditure on rural development schemes with emphasis on employment generation (2) increased expenditure on rural infrastructure. This led to creation of opportunities for diversification of non-Agricultural self employment. Obviously job thus created went to the better off and more powerful group in rural society. Moreover, access to better employment was accorded to male workers rather than to women workers.

Over the 1990s, which marked neoliberal economic reforms, macroeconomic strategy involved cuts in central government revenue expenditure on rural development in per capita terms. There was substantial reduction in public investment in infrastructure which adversely affected non-agricultural employment in rural areas.

For rural areas; self employment and wage labour are the dominant form of employment with little regular movement. Bulk of decline in agriculture employment and increase in non-farm employment is due to the exit of the workers in household owning less than 1 hectare of land of the entire increase in non-farm employment, during 1999-2000, in rural areas of 16 million by principle, status nearly 50% (8 million) was in the form of self employment, 5 million as casual employee and remaining 3 million as regular employment. Major part of increase is accounted by manufacturing (3.5 mn), trade and hotel (4 mn) transport and communication (1.8 mn) and construction (5 million). As far as casual employment of 5 millions is concerned it is almost entirely due to increase in casual employment in construction followed by manufacturing and minning of the three million regular employment, trade and hotel accounted for 0.96 million, manufacturing 0.67 million, transport and communication 0.53 million and personal services accounted for 0.5 million.

However, the largest increase among rural non-farm employment is due to increase in self employment of the entire increase in self-employment, non-farm employment, almost 60% is accounted by 3 industries i.e. manufacturing of wearing apparels, retail trade and land transport.

**Table 1. Number of usual status workers (in million)**

	Rural Male			Rural Female		
	50th	55th	61st	50th	55th	61st
Self employment in Agr	85.0	83.1	92.8	52.9	51.0	66.6
Self employment in non-farm	23.2	26.0	34.4	8.5	9.6	12.4
Regular in agriculture	2.5	2.5	1.9	0.5	0.6	0.5
Regular in non-farm	13.4	15.1	17.7	2.3	2.6	4.1
Casual in agriculture	51.6	52.6	50.8	36.9	38.6	36.2
Casual in non-farm	12.1	15.7	21.2	3.7	3.2	4.3

Trends show that casual employment has increased in non-form at much faster rate for both male and female. More than 90% of the incremental workforce in the case of rural females is employed in self employment in agriculture females account for more than 60% of total increase in self-employment in agriculture, while males account for almost 75% of the entire increase in self-employment in non-Agriculture. According to NSS primary sector employment declined for both men and women in rural areas between 1993 and 1999-2000 and the decline was sharp in case of men. However for men share of tertiary sector employment rose significantly. The decline in primary sector employment during 1990s was reflection of collapse of productive employment opportunities in rural areas generally rather than rural dynamism.

### **Rural labour unemployment**

The unemployment rates by three alternative concepts of the usual status, the current weekly status and the current daily status have become available from the various rounds of NSSO survey for the year 1972-73, 1977-78, 1983, 1987-88 and 1993-94.

**Table 2. Unemployment among urban and rural areas**

(As % of labour forced)

Survey Period	Rural areas	Urban areas
1977-78	7.7	10.3
1983	7.9	9.5
1987-88	5.3	9.4
1993-94	5.6	7.4
1999-2000	7.2	7.7
2004-05	8.28	8.28

*Sources : NSSO*

Data in the table reveals that unemployment rates are traditionally higher in urban areas than in rural areas. As against unemployment rate of 10.3% in 1977-78 in urban areas, the rural unemployment rate was 7.7% (current daily status). There was a significant fall in the rural unemployment rate in 1987-88 to 5.3%. After 1993-94, the period of liberalisation rural unemployment rate increased to 8.28%. The rural areas indicate higher level of disguised unemployment. The increase in unemployment rates in rural areas may be due to the neglect of rural areas in the Post-reform period. It may be due to shift in the composition of employment from self employment to casual labour.

**Table 3. Unemployment Rates for the 50th Round and 61th Round NSSO**

	Males			Females		
	Usual Status	CWS	CDS	Usual Status	CWS	CDS
<b>Rural Area</b>						
1993-94	2.1	3.9	7.2	1.5	3.7	7.0
2004-05	2.1	3.8	8.0	3.1	4.2	8.7

The results of 61st Round of NSSO survey employment and unemployment reveals that unemployment rate based on current daily status in 2004-05, for males was 80% (up from 7.2% in 1993-94) in rural areas. The corresponding figure for females was 8.7% (up from 7.0 percent in 1993-94).

Moreover unemployment rates on current daily status were much higher those on the basis of usual status in 2004-05. When compared to 1993-94. This highlights the fact that instead of open unemployment, the problem of underemployment is more serious. This indicates non availability of regular employment for a majority of workers.

There are evidences and increasing casualisation of work force over the period 1972-73 to 1992-2000 in both rural and urban areas. In the rural areas Agricultural proved to be incapable of productively absorbing the growing labour force. As a result, people increasingly sought employment in non-agricultural activities.

At the all India level the estimates of current daily status unemployment indicate a worsening of the unemployment situation during the period and economic reform in all the four population segments viz rural males, rural females, urban males and urban females. The increase in the current daily status unemployment rate between 1993-94 and 2004-05 was the steepest for rural females followed by rural males. Unemployment among agricultural labour households has risen from 9.5% in 1993-94 to 15.3% in 2004-05.

**Table 4 Information on rural and urban unemployment rates for the year 2009-10, is shown in table:**

<b>Estimate</b>	<b>Rural 2009-2010</b>	<b>Urban 2009-2010</b>	<b>Total 2004-05</b>	<b>Total</b>
1. UPSS	1.6	3.4	2.0	2.3
2. CWS	3.3	4.2	3.6	4.4
3. CDS	6.8	5.8	6.6	8.2

*Source : Govt. of India, Economic Survey 2011-12*

Table shows that, the current daily status estimate of unemployment is the highest. The higher CDS unemployment indicate a high degree of intermittent unemployment. Under both the UPSS and CWS approaches urban unemployment was higher than rural unemployment in 2009-10. However, rural unemployment was higher under CDS approach. This indicates existence of higher seasonal unemployment in rural areas than urban areas, something that employment generation schemes like MNREGA need to pay attention to.

#### **13.4.3 Policies towards rural employment**

The problem of unemployment in the country is alarming. It has adversely affected the social life of many individuals. Government has emphasised, while understanding the problem of unemployment, employment generation as one among important goals in different five year plans. However it was only in the sixth plan when for the first time a reference for long term employment policy with a bold approach to tackle the unemployment problem was made. The plan aimed at two major goals (i) reducing unemployment for majority of labour force (ii) cutting down long term unemployment. Some of major employment programmes thus under taken were IRDP (Integrated rural development programme), NREP (National rural employment programme); TRYSEM etc. Seventh plans like some earlier plan stressed the role of agricultural sector for employment generation. The eight plan emphasised that employment potential of growth can be raised by adjusting output in favour of sectors having high employment elasticity. Thus different plans have come with different strategy to tackle the unemployment problems. Some of the important programmes and policies that have been adopted by the government in the recent past to deal with unemployment problem are mentioned below.

**1. Swaranjayanti Gram Swarozgar Yojana (SGSY)** was launched from April 1999 after restructuring the IRDP and allied schemes. It is the only self-employment programme for the rural poor. The objective is to bring the self-employed above the poverty line by providing them income generating assets through bank credit and government subsidy upto december 31,2009, 36.78 lakh self help groups have been formed and 132.81 lakh swarogaries have been assisted with total outlay of Rs.30,896 crore.



**Sampoorna Grameen Rozgar Yojana (SGRY)** was launched on September 25, 2001 and scheme of Jawahar Gram Samridhi Yojana (JGSY) and employment Assurance scheme (EAS) were fully integrated with SGRY. It aims at Providing additional wage employment in rural areas. This scheme has cash and foodgrains components and the centre bears 75% and 100% of the cost of the two with balance borne by the states.

**The Swarna Jayanti Shahari Rozgar Yojana (SJSRY)** come into operation from December 1, 1997, subsuming the earlier urban poverty allevation programmes viz Nehru Rozgar Yojana, Prime Minister's integrated urban poverty eradication Programme. The Programme was revamped with effect from April 1, 2009. The scheme provides gainful employment to the urban unemployed and under employed poor, by encouraging the setting up of self-employment ventures and also by providing wage employment. The revamped SJSRY has five componets (i) The urban self-employment Programme (ii) The urban women self-help programme (iii) Skill trainning for employment promotion among urban poor (iv) The urban wage employment programme (v) The urban community development Programme.

**The National Rural Employment Programme (NREP)** was started as part of the sixth Plan and was continued under the seventh plan on April 1, 1989 it was merged into Jawahar Rozgar Yojana. The NREP was meant to help that segment of rural population which largely depends on wage employment and has virtually no source of income during the lean agricultural period. The Programme was implemented as a centrally sponsored scheme. But its financial burden was to be shared between the central government and state government on 50-50 basis.

**Rural Landless employment Guarantee Programme (RLEGP)** was started on 15 August 1983, with the objective of expanding employment opportunities for the rural landless. The Programme aimed at providing guarantee of employment to at least one member of the landless household for about 100 days in a year. Infrastructural development was undertaken with a view to create employment opportunities for the rural landless.

### **Jawahar Rozgar Yojana (JRY)**

In February 1989 the government announced a new wage employment scheme, the Jawahar Lal Nehru Rozgar Yojana for intensive employment creation in 120 backward districts. Later NREP, RLEGP and Jawahar Lal Nehru Rozgar Yojana all were merged into Jawahar Rozgar Yojana (JRY). The JRY was restructured with effect from April 1999 and was renamed as Jawahar Gram Samridhi April 1999 and was renamed as Jawahar Gram Samridhi Yojana (JGSY). The objective of JGSY was creation of infrastructure and durable assets at the village level as to increase opportunities of sustainable employment for the rural poor. The wage employment under JGSY was provided normally to persons belonging to households below poverty line.

### **National Rural Employment Guarantee Act (NREGA)**

Rural unemployment has sharply increased in India in recent years. The growth rate of labour force has been much higher than the rate of growth of employment. In the absence of gainful employment opportunities in rural areas, an increasing number of rural households have faced collapse of their incomes. This miserable plight of rural household olds has driven an unprecedented number of farmers to commitment suicide. Recognising such crisis, government made a commitment in its Common Minimum Programme (CMP) to immediately enact an employment guarantee act.

The national rural employment guarantee act (NREGA) was enacted in September 2005. It came into force on February 2, 2006. Initially it was introduced in 200 of the most backward districts of the country. From April 1, 2008 it has been extended in all the districts of country. Thus National rural employment Guarantee act (NREGA) now covers all the rural areas of the country. From October 2, 2009, National rural employment guarantee scheme (NREGA) has been renamed as mahatma Gandhi National rural employment Guarantee scheme (MNREGS)

### **Features of NREGA**

NREGA seeks to provide at least 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work. NREGA is not just a scheme like other wage employment programmes as it bestows a legal right and guarantee to the rural population through an act of

Parliament unique features of the scheme include time bound employment guarantee and wage payment within 15 days, incentive-disincentive structure to the state government for providing employment as 90% of the cost of employment provided is borne by the centre or payment of unemployment allowance at their own cost and emphasis on labour intensive works prohibiting the use of contractor and machinery. At least 33% of the beneficiaries are to be women-under NREGA, wage disbursement through bank and post office accounts is mandatory. This is likely to help in the “financial inclusion of the poor.”

The focus of NREGA is on works relating to water conservation, drought proofing, land development, flood control and rural connectivity in terms of all weather roads. Panchayats have a key role in planning, implementing and monitoring of NREGA. This shows that act is also a vehicle for strengthening decentralisation and local democracy.

Budget allocation for NREGA in 2009-10 was Rs.39,100 crore. This was increased to Rs.40,000 crore for the year 2010-11.

### **Implementation of NREGA**

- 1. Increasing employment opportunities:** In 2007-08 3.39 crore, in 2008-09, 4.51 crore, in 2009-10 4.90 crore, in 2010-11 5.49 crore, in 2011-12 4.39 crore households were provided employment under NREGA.
- 2. Enhancing wage earning and impact on minimum wages:** The enhanced wage earning have led to strengthening of the livelihood resource base of the rural poor in India. More than 1/3 of the funds utilized have been in the form of wages paid to the labourers.
- 3. Increasing out reach to disadvantaged groups:** NREGA has high work participation of marginalised groups like SCs/STs and women. SC/ST participation was 57% in 2007-08, 54% in 2008-09 and 51% in 2009-10. Act targeted 33% of beneficiaries have to be women.
- 4. Financial inclusion:** Under NREGA, wage disbursement through institutional account is mandatory. So, NREGA worker's accounts have been opened in banks and post offices.

Also implementation of work under NREGA is monitored by Panchayats. It makes the institution of local-self government more strong and effective. It also keep a check on the working of the authority involved.

### **Criticism of NREGA**

Studies and surveys carried out by reseachers/organisations over different areas of the country have pointed out various flows of the scheme some of the criticism are as follows:

1. There are widespread irregularities in implementation and bribes and paybacks are common. For example, a CAG report (2007) on NREGA has pointed out that in Bihar Rs.8.99 lakh was paid as wages to fictitious labour in respect of 7 works, as the name of the same labour was recorded twice or thrice for the same period in the same or other muster rolls.
2. The data reveals that the number of households that availed jobs under NREGA declined over 20% during 2011-12 as compared to previous fiscal. Total number of person days of jobs generated, suggested a total of 160.55 crore of person days generated in 2011-12 as against 257.2 crore jobs generated in previous year.
3. There are reports of delayed payment of wages beyond the stipulated period of 15 days. Apart from delayed payment, labourers are sometimes paid wages at outdated rates.
4. Under the stipulations of the act, the state government will be responsible for the payment of unemployment allowances. However a number of state governments have either reluctant to disburse unemployment allowance or have tried to effectively scuttle it.
5. As for as quality of projects being undertaken under NREGA, K.S. Gopal Director of Centre of Environmental Concern, have pointed out that all assets being built under scheme are waste and by and large unproductive.

## **Conclusion**

However, most of the criticism of NREGA give about pertain to implementation inefficiencies. The rational of scheme is not in doubt. It has potential to transform rural economic and social relations at many levels. The NREGS is different from earlier government employment schemes as it treat employment as a right and the programe in indebted to demand driven. What needed is the effective implementation of this programme.

### **13.5 LET US SUM UP**

Concerning the acuteness of unemployment problem, various measures and programmes have introduced from time to time. MNREGA has contributed significantly to the rural employment generation. But still there is much to be done that can push the employment scenario ahead.

### **13.6 LESSON END QUESTIONS**

- Q.1. Discuss the nature and magnitude of unemployment in India.
- Q.2. How rural labour employment trends have changed overtime?
- Q.3. Critically evaluate the role of MNREGA in employment generation in rural area.

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## **RURAL INDEBTEDNESS**

### **STRUCTURE**

- 14.1 Introduction
- 14.2 Objectives
- 14.3 Rural Indebtedness : Extent and Causes
  - 14.3.1 Extent of Rural Indebtedness
  - 14.3.2 Causes of Rural Indebtedness.
- 14.4 Govt measures and its impact on Rural Indebtedness.
- 14.5 Let Us Sum Up
- 14.6 Lesson End Questions

### **14.1 INTRODUCTION**

Marginalisation and subsistence of agricultural labour gives rise to the problem of rural indebtedness. Problem of indebtedness of farmers is deep rooted in Indian society since the pre-British period. Social and economic factors have contributed to rural indebtedness in developing nation. Indebtedness, sometimes, gives rise to debt trap. To get out of such trap and to overcome the poverty there is the trend of migration from rural areas in the form of rural urban migration. The government has taken various steps to curb increasing trends to rural to urban migration so as to reduce increasing congestion in urban areas.

## **14.2 OBJECTIVES**

After going through the lesson the student will be

1. Able to understand the nature and extent of rural indebtedness.
2. be able to understand different factors causing and contributing to rural indebtedness.
3. Learn about government measures and their impact on rural indebtedness.
4. Get familiarize with various factors responsible for marginalization of rural labour.
5. able to understand the magnitude and causes of rural urban migration.

## **14.3 RURAL INDEBTEDNESS**

Rural indebtedness is deep rooted in our country. The mounting burden of rural debt has crippled the rural economy. It has affected the economic, social and political life of rural India. Farmer borrows year after year but he is not in a position to clear off the loans, either because the loans are larger or because his agricultural output is not large enough to pay off his debt. Therefore the debt of farmer goes on increasing and this is what known as rural indebtedness. There is well known saying in our country that Indian farmer is born in debt, lives in debt and dies in debt.

It has been recognised that borrowing or getting loans is not bad in the sense as agriculture is a costly affair and after the inception of green revolution, need for credit to purchase various inputs has also increased. Such debt can be paid out of the income generated from production. But when this fund is used for unproductive purpose like family expenditure, marriage, birth, death etc. it become burden some as these loans contribute nothing to production. As a results such debts go on increasing from generation to generation. A serious aspect of this problem is that it is by and large a problem of small farmers. These farmers are of small means. Their production is small. But their credit needs for agricultural operations and household needs are comparatively greater.

To meet such need they go for moneylenders which export high rate of interest. Being unable to return, dead weight of debt sit heavily on their heads.

#### **14.3.1 Extent of Rural Indebtedness**

Problem of rural indebtedness has drawn the attention of many authorities and expert committees from time to time especially with regard to the amount of indebtedness.

The Deccan Ryots commission in 1875 analysed that one-third of the occupants of government land were burdened with debt and these debts averaged about eighteen times the assessment. It found that the average debt per occupant amounted to Rs.371.

The famine commission (1901) came to the conclusion that about four fifth of the Bombay cultivators were in debt and at least an equal numbers, although in debt, were not so beyond the power of recovering themselves.

**The Central Banking Enquiry Committee** (1931) estimated that the total agricultural indebtedness of the British Indian Provinces was about Rs. 900 crores in 1929.

**Dr. B.V. Narayanaswamy Naidu** in 1945 estimated indebtedness at Rs.1,100 crores. Similarly the first report of the national income committee found it at Rs.913 crores and interest on this stood at Rs. 865 crores.

#### **Debt Position in post Independence Period**

RBI carried out three decennial survey on rural debt in 1951, 1961 and 1971. The NSSO conducted all India debt and investment surveys for the year 1981-82 and 1991-92. The first and second decennial all India rural debt and investment survey conducted by RBI attempted at valid and reliable estimates of debt, investment and other related characteristics of rural households for the country as a whole and for major individual state.



**Table 1 Debt of Average Rural Household (in Rupee)**

<b>Year</b>	<b>Cultivators</b>	<b>Non-cultivators</b>	<b>All</b>
1971	605	223	580
1981	803	205	661
1991	2294	1151	1906

*Source – RBI Bulletin, 1999*

In 1951, The national income committee put the total rural debt at Rs.1913.8 crore of the Indian union, though Bhawani son estimated Rs. 2000 crore.

All India Rural credit survey committee pointed out following facts regarding borrowing and indebtedness.

- (i) Borrowing was reported by 51.7% of the rural families. However 58.6% of the cultivators and 39.6% of non-cultivators were resorted to borrowing.
- (ii) The all India average borrowing per rural family was Rs 160 for all families and average borrowing was Rs. 210 for cultivators and Rs. 66 per non-cultivators.
- (iii) The quantum of outstanding debt per indebted cultivators was Rs. 526 and the average debt per cultivator was Rs. 364. The quantum of total rural debt was Rs. 750 crore.

All India rural debt and investment survey brought out that the quantum total rural debt was Rs.1.034 crore in 1961-62. The quantum of total outstanding debt per indebted cultivator was Rs.708 and average debt per cultivator was Rs.473.

**Table 2. Estimated No. of Farmer house hold and indebted farmer households**

State	Estimated No. of Farmer Households ('00)	Estimated No. of indebted Farmer Households ('00)	% of Farmers Households Indebted
Andhra Pradesh	60339	49493	82.0
Arunachal Pradesh	1227	72	5.9
Assam	25040	4536	18.1
Bihar	70804	23383	33
Chattisgarh	27598	11092	40.2
Gujarat	37845	19644	51.9
Haryana	19445	10330	53.1
Himachal Pradesh	9061	3030	33.4
J and K	9432	3003	31.8
Jharkhand	28238	5893	20.9
Karnataka	40413	24897	61.6
Kerala	21946	14126	64.4
Madhya Pradesh	63206	32110	50.8
Maharashtra	65817	36098	54.8
Manipur	2146	533	24.8
Meghalaya	2543	103	4.1
Mizoram	780	184	23.6
Nagaland	805	294	36.5
Odisha	42341	20250	47.8
Punjab	18442	12069	65.4
Rajasthan	53080	27828	52.4
Sikkim	531	174	38.8
Tamil Nadu	38880	28954	74.5
Tripura	2333	1148	49.2
U.P.	171575	69199	40.3
Uttrakhand	8962	644	7.2
West Bengal	69226	34696	50.1
UTS	732	372	50.8
All India	893504	434242	48.6

*Source.* National sample survey 59 Round (Jan-Dec. 2003) Report no. 498

Above data present indebtedness of farm household in different state data shows that Andhra Pradesh, Tamil Nadu, Punjab, Haryana, Karnataka, Kerala, Maharashtra and Orissa are the states where indebtedness among farmers is greater. The prevalence rate of indebtedness of farmers household in different social group was 13.3% in ST, 17.5% in SC, 41.5% in OBC and 27% in others.

**Main Finding.** Thus the above analysis of data regarding rural indebtedness in the country, reveals the following important findings:

1. About 70% of the rural families in the country are indebted.
2. Incidence of debt on small farmers is heavier.
3. Cultivators as against non-cultivators are more indebted.
4. Most of the debts taken are of short term and unproductive nature.
5. Proportion of debts bearing higher rate of interest is relatively higher.
6. Grip of Private creditors and particularly of money lenders cum-traders on the life of rural people is strong and other agencies are relatively weak in providing alternative financial machinery.
7. The rise of agricultural prices and planned development and its benefits have not affected the majority of the peasants of the country.

#### **14.3.2 Causes of Rural Indebtedness in India**

Broadly, there are several causes of rural indebtedness. It is the socio-economic structure of the rural area which compels him to borrow more and more. Indian farmers are unable to return the debt due to his meagre income. The main causes of indebtedness are:

1. **Chronic poverty of farmers.** The main cause of indebtedness of the farmers is the poverty. It is true that he is poor because he is indebted. The farmer has to borrow for various purposes as he has no past savings of his own. Sometimes crops fail because of the failure of monsoons or because of floods etc. When he has to make improvements on land he has to borrow. Just as poverty forces him to borrow, it is his poverty again which forces him to have so little

for paying off his debt. The vicious circle resulting in poverty, debt and high interest rates hold the small cultivators in a tight grip. Poverty is the main reason that he is unable to save anything out of his present earning.

2. **Ancestral debt.** This is another important cause of rural indebtedness in the country. The Decan Ryot Commission had expressed the view that the main cause of the existing indebtedness was ancestral debt, debt being passed on from father to son, generation after generation without any equitable restriction. Royal commission on Agriculture remarked, "The Indian Peasant is born in debt, lives in debt, dies in debt and bequeaths debt. He inherits debt from his forefathers and poverty makes him unable to pay. He takes loans from money lenders to repay the same."

**Excessive Pressure of Population on land.** With the rapid rise of population especially in the rural area the Pressure of Population on land is increasing day by day. This results in reduced per capita income. Thus farmers are forced to borrow. Also due to increasing population there is sub-division and fragmentation of holdings. It has resulted in the existence of numerous tiny land farms scattered at different places reducing agricultural productivity and per capita production, which forms the basis of debt.

**Extravagance of the farmers.** It has been recorded that they spend more than they can afford on social and religious ceremonies such as marriage, festivals, ornaments, funerals, seasonal feasts etc. This type of attitude is also responsible for indebtedness among farmers.

**Unfavourable climate conditions.** Another cause of rural indebtedness is that Indian agriculture is still a gamble of rains frequent failure of Monsoons results in droughts which badly affect crops on the other hand excessive rains cause floods which damage crops failure of crops whether partial or complete at misery to their situation and become the cause of indebtedness.

**Illiteracy of farmers.** The illiteracy and ignorance of farmers are very big obstacles in the overall improvement of the cultivators. They do not bother to check up the various farmers which compel them to borrow. They are ignorant of the laws of the land. They are easily cheated by money lenders and other private agencies which provide credit. The amount of interest accumulates to such an extent that it even exceeds the principal

amount. Thus due to illiteracy they fall in the clutches of the vicious money lenders, which extract as much money as possible.

**Low hoading capacity of farmers.** Farmers are compelled to sell their produce at the time of harvesting because they can't wait for long. They are compelled to sell their produce at the time when market price is low. Lack of storage facilities, absence of marketing arrangements. Pressure for payment of interest etc. compel them to sell their produce in the village itself at cheap rates. This results in heavy burden on them.

#### **14.4 GOVT. MEASURES TO SOLVE THE PROBLEM OF RURAL INDEBTEDNESS**

During the last one century Government has taken various steps to solve the problem of rural indebtedness. In fact the solution of this problem could solve the many other problems. The government initiated a series of measures to reduce rural indebtedness keeping in view steady increase in the volume of debt and agrarian unrest in the country. Various measures adopted by the government from time to time can be listed as:

1. **Deccan Agriculturists Act of 1879.** It was in 1879, that the government passed Deccan Agriculturists act, through which certain relieves were granted to the farmers. The agricultural implements and the animals such as bullock etc. of the farmers could not be sold for non-repayment of loans. A farmer could not be imprisoned for his inability to pay loans. He was given facilities to repay the loans in installments. He also gets the facilities to repay the loans in the installments. He also gets the facility to declare himself as bankrupt. These measures gave a good deal of relief to the farmers who were under the debt of the money lenders.
2. **Punjab land alienation act of 1900.** Registration of document act of 1864 and transfer of property act 1882 gave an opportunity to money lenders to exploit the poor farmers with the provision of these acts, the money lenders took away the land of thousands poor farmers. To reduce such exploitations Punjab land alienation act was passed. It restricted the sale of land by agriculturists to non-agriculturists. Also according to this act money lenders could not take away the land mortgaged and has to return his land after 20

years. Similar act were passed in 1993 in U.P. and 1904 in north western frontier provinces and in 1996 in the central provinces.

3. **Laws for minimising the amount of loan.** The government has to come in between the money lenders and the debtors. As a result of legislative measures a “debt conciliation board” was set up by the law and government minimised the amount of loan and also made provision for the realisation of the money in installments. These boards tried the method of persuasion to bring about a settlement between the parties through the order of the court. According to Gadgil committee report, ending 1941, a total debt of Rs. 5016.2 lakhs was scaled down to Rs. 1796.3 lakh representing a reduction of 64%. In Punjab West Bengal and Madhya Pradesh acts were also passed which Provided for rural bankruptcy. A cultivator or borrower could take advantage of it if his assets were insufficient to repay the debt. Under this act he could be declared insolvent and payment could be made out of the sale proceeds of his property.
4. **Measures for regulating money lending.** The government by this time realised that the bad conditions of the farmers was very much due to indebtedness. They therefore introduced measures for improving the conditon of the farmers and also for putting restrictions on the loan. In 1883 land improvement act was passed through which loan was advanced to the farmers for making the land more fertile and also for making arrangements for irrigation facilities. The legislative measures to a very great extent helped the farmers.
5. **Agricultural loans act 1884.** This act was passed in 1884. It provides for loans to the farmers for the short time in low rate of interest for certain thigns necessary for their agriculture. Then in 1904 co-operative credit societies act was passed as a result of which co-operative credit societies were set up in various parts of the country. In 1912 this law was amended and land mortgage banks were also started to provide loans to farmers for improving their agriculture and the fertelity of land.
6. **Laws regarding control on money lenders.** After 1930 several acts were passed by different states by which they put various restrictions on the money lenders in regard to the loans, to the farmers. It was made binding for them to

have a license and set themselves registered as money lenders. They were also required to keep their accounts properly. The rate of interest was also regulated and the maximum rate of interest was prescribed.

**Nationalisation of banks and facilities for loans through banks.** After the nationalisation of banks, there has been a definite efforts to advance loans to the farmers for improving agriculture. Nationalised banks have opened their branches in various villages and more branches are now being opened. These banks are providing special facilities and loans to farmers from weaker sections and there who do not have any capital these things have solved the problem of rural indebtedness to a very great extent.

**Farm loan waiver scheme 2008-09 and farmer's debt relief fund.** The Govt of India, in its budget 2008-09, introduced a complete debt waiver scheme for small and marginal farmers to the extent of Rs. 50,000 crore of loans over due from commercial banks, regional rural banks and co-operative credit institutions as on 31st December 2007 and one time debt relief scheme at the rate of 25% for large farmers to the extent of Rs. 10,000 crore.

Besides, government on May 23, 2008 brought large farmers in the ambit of its farm loan waiver scheme by expanding the package by nearly 20% to Rs. 71,680 crore under the modified scheme, all farmers including big ones, in 237 identified district get a debt relief of 25% of the outstanding amount or Rs. 20,000 whichever is higher. The scheme was expected to benefit over four crore small, marginal other large farmers. As per the scheme all farm loan disbursed by banks and co-operatives upto March 31, 2007 to an estimated three crore small and marginal farmers will be waived. Under the one time settlement scheme, farmers will get a rebate of 25% on their farm loans if they pay the balance 75% of their outstanding loan.

### **Impact of legislative measures**

The legislative measures undertaken by the government from time to time to tackle the problem of rural indebtedness in the country proved to be a temporary solution for the problems. It could not eradicate the evils instead, these measures have created a problem for cultivators to avail credit facilities from local money lenders. They lend only to the old and trusted borrowers. Thus it is not time to argue that it has benefited the

cultivators. So long as their credit requirement stand, that must be fulfilled. The effects of non-availability of credit facilities very well be realised.

These measures have proved beneficial only to few cultivators since the majority of them are ignorant and cannot take advantage out of them.

There are some shortcomings in the legislative measures as mentioned below :

1. The scope of these acts in various states is not uniform and the rates of interest permitted under them differ widely.
2. The machinery for enforcing the legislative provision is not effective.
3. The evasion of provisions of these acts by money lenders is a common practice. Because of the inadequate supervising machinery, absence of alternate source of credit and compelling nature of borrowing requirements, the money lenders are able to evade the important provisions of legislative enactments. Some modes of evasion are:
  - (a) Obtaining a pronote for a large amount of principal than that of actually lent.
  - (b) interest computed at illegal and deducted in dvance from the amount lent.
  - (c) Conditional sale.
  - (d) Taking over a debtor's land on unwanted mortgage on terms which in effect imply the charging of illegal interest.
  - (e) False evaluation of the debtor's Produce.
4. The benefit of loan waiver scheme was largely reaped by large farmers. Large farmers has lobby to put up their demands and are literate enough to get the benefit of banking system. Small and marginal farmers to whom the scheme was mostly focussed could not get the desired benefits due to their ignorance and illiteracy.

Thus we can say that government, realising the indebted and poor conditions of farmers,



have come up with legislative provision from time to time but there is a need for strong implementing and supervisory machinery to ensure that benefit goes to deserving persons and the wealth of the government does not go waste.

#### **14.5 LET US SUM UP**

Indebtedness is the chronic problem which gives rise to the debt trap. In the post independence period number of indebted household has increased many times. Government initiatives have tried to relieve the situation but the number of indebted household has not reduced. There is a need that benefits of measures should reach the deserving sections so that they can come out of the debt trap.

#### **14.6 LESSON END QUESTIONS**

- Q.1. Explain the nature and extent of rural indebtedness in India.
  - Q.2. What are the main causes responsible for rural to urban migration in India?
  - Q.3. How far government measures have been able to solve the problem of rural indebtedness?
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## **AGRICULTURAL FINANCE**

### **STRUCTURE**

- 15.1 Introduction
- 15.2 Objectives
- 15.3 Agriculture Credit : Types and sources
  - 15.3.1 Types of Agriculture Credit
  - 15.3.2 Sources of Agriculture Credit
- 15.4 Institutional credit sources
  - 15.4.1 Regional Rural banks
  - 15.4.2 Commercial banks
- 15.6 Let Us Sum Up
- 15.7 Lesson End Questions

### **15.1 INTRODUCTION**

Credit is the requirement of any occupation whether in Agriculture, Industry or any other profession. Agricultural finance means finance needed to run the agricultural operations like purchase of inputs, machinery etc. Source of Agricultural finance are also diverse ranging from money lenders to scheduled commercial banks. Increasing proportion of institutional credit is a healthy sign for Agricultural development. Such sources made credit available at reasonable rates and reduced exploitation.

### **15.2 OBJECTIVES**

After going through lesson the student will:

1. Be able to know about the types and sources of Agricultural Credit.

2. Be able to distinguish between institutional & non-institutional credit sources.
3. Be able to learn the broad structure of Agricultural Credit in India.
4. Get familiarize with the working and functioning of credit institutions at different level.

### 15.3 AGRICULTURAL CREDIT

Agricultural sector like any other sector like industry and manufacturing require capital and for that capital it needs credit or finance. But due to attached uncertainties, low return and limited scope for employment, a large number of cultivator being unable to manage the needed finance recourse to borrowing. So, for stimulating the tempo of Agricultural Production, it is necessary that the farmers must be provided with adequate and timely credit. Agricultural credit thus is a nucleus of the system of farm operations. It provides flow to the system averting ruin which would have occurred due to lack of monetary capacity of a farmers.

Agricultural credit is an important prerequisite for agricultural growth. Agricultural policies have been reviewed from time to time to provide adequate and timely availability of finance to this sector. In poor countries, agricultural credit assumes more importance due to farmer's inability or limited ability to save does not allow him to finance his pursuits and raise productivity. Importance of rural credit system is also there for India where rural families have limited saving to finance farming and other economic activities. This coupled with lack of simultaneity between realization of income and expenditure and lumpiness of agricultural capital investment makes agricultural credit's need more strong. In India multiple agency approach comprising co-operative banks, scheduled commercial banks and regional rural banks (RRBs) has been followed to allow credit to agricultural sector.

#### 15.3.1 Type of Agricultural Credit/Finance

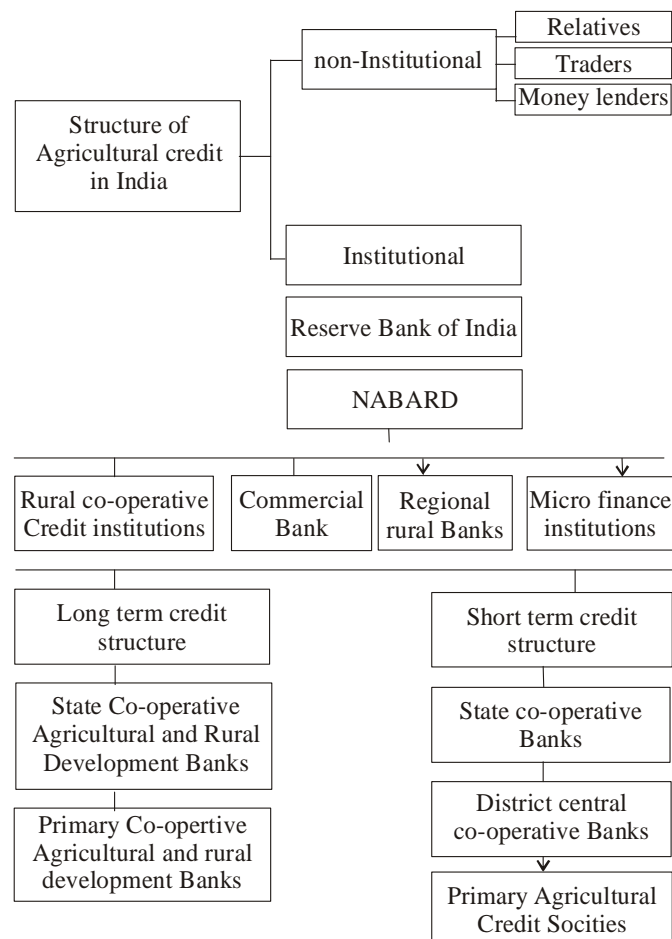
**On the basis of Tenure.** On the basis of the tenure of credit Agricultural credit can be divided into following categories :

- (i) **Short term credit.** Period of short term credit is less than 15 months. Such loans are required for the purchase of seeds, fertilizers, feeds, fooders, payment of wages of hired labour etc.

- (ii) **Medium term credit.** Medium term loans are generally obtained for the purchase of cattle, small agricultural implements, construction and repair etc. The tenure of such loans extends from 15 months to 5 years.
- (iii) **Long term Credit.** The period of such loans extends beyond 5 years. Long term-loans are required for introducing permanent improvement on land, digging tubewells. Purchase of tractors harvests etc.

**On the basis of Purpose.** On the basis of Purpose Agricultural credit needs of the farmers can be classified into following categories (i) Productive (ii) Unproductive under Productive needs we can include all the credit requirement which directly

### Structure of Agricultural Credit in India



### Sources of Agricultural Finance and Rural Credit

affect agricultural productivity, farmers need loans for the purchase of seeds, manures, Agricultural implements, livestock, effecting improvements on land etc. Generally it is difficult to repay these loans as the very process of production generates resources for repayment. Farmers also need credit for the consumption needs. Between the moment of marketing of agricultural Produce and harvesting of rent Produce there is a long interval of time and most of the farmers do not have sufficient income to sustain then through the period. Therefore, they have to take loans for meets such needs. Also in case of drought, or floods, causing failure to crops, farmers have also to incur such loans.

The short term and medium term loan needs of Indian Agriculture are met through loans borrowed from money lenders, co-operative credit societies and from government. The long term credit requirements of farmers are met by and development banks etc. Sources of agricultural finance can basically be divided into two categories (i) Institutional sources Non Institutional sources.

### **15.3.2 Sources of Agricultural Credit**

**Non-Institutional sources.** The non-institutional finance forms an important source of rural credit in India, constituting around 40% of total credit in India. The interest charged by the non-institutional lenders is very high. The land or other assets are kept as collateral. The important sources of non-institutional credit are:

- (i) **Money lenders.** Money lenders has been the widely prevalent professions in the rural areas. At the time of Independence the most important source of Agricultural credit was money lenders and was accounting for near about 70% of rural credit. The moneylenders charge huge rate of interest and mortgage the property of the cultivators.
- (ii) **Traders and Commission agents.** Traders and commission agents advance loans to agriculturists for productive purpose against their crops without any legal agreement. They force them to sell their produce at low price and they charge heavy commission for themselves. In case of cash crops like cotton, groundnut etc. this source of finance is very important. The share of traders and money lenders was about 8.1% in 1961-62 against 5.5% in 1951-52. But after 2000-01 its share started declining.

- (iii) **Credit from relatives.** These credit are generally used for meeting personal expenditure.

With the passage of time share of non-institutional sources has declines of Agricultural credit. After independence, with the spread of institutional machinery for credit, the role of non-institutional sources has declined. The share of non-institutional sources which was near about 93% in 1951 declined to 31% in 1991.

#### **15.4 INSTITUTIONAL CREDIT SOURCES**

There has been tremendous expansion of institutional credit to agriculture over the years. The institutional credit to agriculture rose from 744 crore in 1970-71 to 9830 Cr in 1991 and 2,92,437cr in 2008-09. As far as institutional sources are concerned, the first institution established and promoted was the institution of co-opertive credit societies. As a result of the efforts of the government to develop the institutional sources of credit, the role of non-institutional sources like moneylenders in Agricultural credit declined considerably. The share of non-institutional sources in rural credit which was as high as 92.7% in 1951 fell considerably to 68.3% in 1971 and further to 30.6% in 1991. After the nationalisation of 14 major commercial banks in 1969, the commercial banks have considerably increased their share in institutional credit to Agriculture from 38.4% in 1980-81 to more than 78% in 2008-09. Institutional sources of credit which are engaged in disbursment of credit in India are Co-opertive credit societies, Regional rural banks, commercial banks and National bank for Agricultural and Rural development (NABARO) at the open

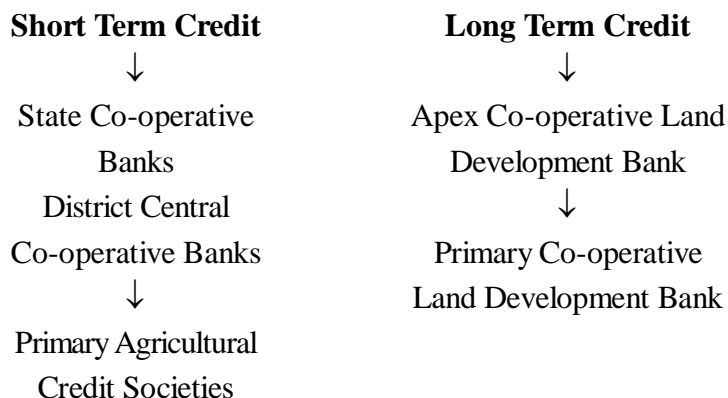
#### **Reorganisation of rural credit**

**Co-operative Credit societies.** In India the History of co-operative credit is very old. The co-operative movement was initiated in 1904 with the enactment of Co-operative societies Act in 1904. The act Provided for the formation of credit societies only. These societies were to be rural or urban depends upon its membership. As regard the growth of these scoeities, it was noticed that the Act of 1904 was insufficient. These defects were removed by the Co-operative societies act 1912. In 1914, in order to review the growth of the movement Maclegan committee was set up. The committee submitted its report in 1915 and recommended the three tier structure of co-operative credit. Even in the post indepedence period it is most convenient to recognise the co-operative

system as an important instrument to achieve the ends of state policy.

### **Organisation of Co-operatives / Three tier structure**

The rural co-operative credit institutions in India have been organised into short term and long term structure. The short term co-operative credit structure is based on a three-tier structure. At the lowest tier is primary Agricultural credit societies (PACs). These are organised at the village level. At the second tier are the district central co-operative Banks (DCCBs) organised at the district level. At the third and uppermost tier are the state Co-operative Banks (stCBs) organised at the state level. As far as the village level PACs are concerned, they can be formed by any ten or more than ten persons. These societies generally advance loans only for productive purpose. The DCCBs are of two types. Co-operative banking union and merged central Co-operative banks. The chief task of central Co-operative banks is to advance loans to PACs in times of need so that they can fulfill the requirements of farmers. The stCBs advance loans to the



DCCBs in order to augment their capacity to provide loans to the village level PACs. It also co-ordinates and regulates the working of DCCBs. In addition to their short term credit requirement farmers also require long term credit for (i) affecting permanent improvements in land (ii) Purchase of agricultural implements. To fulfill these needs long term credit co-operatives have been set up. These include state co-operative agricultural and rural development Banks (SCARDBs) operate at the state level, Primary Co-operative agricultural and rural development bank. The rural credit co-operative structure in India is a huge institutional structure comprising of 31 state co-operative banks, 371

DCCBs and 94,942 PACS at the gross root level in the short-term credit structure and 20 SCARDBs and 697 PCARDBS in the long-term credit structure as at end-March 2009.

### **Primary Agricultural Credit Societies**

Primary Co-operative societies exist at operational level to extend credit to the farmers. PACs are the most important link in short term co-operative credit structure. These societies were started to provide cheap credit to the agriculturist to get them free from the clutches of the money lenders. Generally these societies are started with one or more persons belonging to a village. The value of each share is nominal so that poor farmers may be able to become its members. The fundamental functions of primary agricultural credit societies (PACs) are to provide short and medium term credit to its members. It may supply agricultural and other production inputs and undertake marketing of Agricultural produce. They also provide storage facilities and supervise the use of loans to see if they are disbursed properly. The membership of PACs increased from 44.08 lakh in 1950-51 to 1,256 lakh in 2005-06. In 1950-51 it advanced loans worth Rs. 22.90 cr which rose to 73386.67 Cr in 2005-06 to....

**Central Co-operative Banks.** Central Co-operative banks are a link between open band and primary societies. These are federations of Primary credit societies in a specified area. The membership of these banks is confined both to individuals and the societies. Board of directors looks after the management and supervision of these banks. The Central Co-operative Banks raise funds by ways of share capital, deposits from public and borrowing from the State Co-operative Banks. The banks advance short and medium term credit to the Primary societies. The number of Central Co-operative Banks has come down from 505 to 366 during 1950-51 to 2005-05 as a result of reorganisation of weak unit on the recommendations of Advisory Committee on Agricultural credit of RBI, the policy of amalgamation of Central Co-operative Banks adopted with the aim of having one strong bank for a district loans advanced by the banks have increased from Rs.82 crore in 1950-51 to Rs. 73,864 cr in 2005-06.

**State Co-operative Banks.** The apex banks stands at the top of the credit structure in each state. It finances, controls and regulates the working of central co-operative banks in each state. The main features of the state Co-operative banks are they serve as the balancing



centre in the state, organise provision of credit for credit worthy farmers, carry out banking business and act as the leader of co-operatives in the state. All Apex banks have been given the status of a “scheduled bank.” It acts as a link between central co-operative banks ; Primary co-operative societies and RBI from which it borrows. Its membership comprises either of the central banks or both of the banks and individuals. The main source of working capital is the share capital, reserve funds, deposits from members, borrowing from RBI. The main functions of these banks are to supervise activities of central co-operative banks, grant subsidies to the central co-operative banks for the development of co-operative activities, to formulate and execute uniform credit policies for the co-operative movements. The number of banks increased from 16 to 31 through 1950-51 to 2005-06. Loans advanced by the bank was increased from Rs. 55 cr to Rs. 48, 203 cr in 1950-51 to 2005-06.

**Co-operatives and rural credit.** The role of co-operatives in providing credit was almost negligible in the Pre-Independence period. Even after half a century of operations Co-operatives provided only 3.1% of the rural credit in 1951-52. However the progress after independence has been quite rapid e.g. co-operatives provided 15.5% and 22.7% of the total rural credit in 1961-62 and 1970-71 respectively. In 2008-09, Co-operative provided Rs.36,762 crore of rural credit. This was 12.6% of the total Rs.2,92,437 crore institutional credit to Agriculture provided in that year. Total credit (short term + long term) provided by co-operative banks increased from 18260 cr in 1990-91 to 78121 cr in 2010-11 to 87963 cr in 2011-12.

**Commercial Banks and Rural Credit.** Emergence of commercial banks as an important supplier of rural credit actually happened decade after independence for a longer period, the share of commercial banks in rural credit was meagre. It was only 0.9% in 1951-52 and 0.7% in 1961-62. The reason for insignificant participation of commercial banks in rural credit in India was the subsistence nature of agriculture and its unorganised, individualistic functioning. Moreover the heavy dependence of agriculture on monsoon makes it a risky venture. Consequently banks tended to concentrate on industrial sector and even diverted the funds mobilised from rural areas to meet the demands for credit of the industrial sector. To get rid of this state of affairs 14 major commercial banks were nationalised in 1969, followed by nationalisation of 6 more banks in 1980. After nationalisation banks opened a large number of branches in rural areas and have increased

their advances to these areas considerably. In June 1969 out of total 8,262 branches of commercial banks in India 1,832 were in rural areas. By 1991 32, 224 branches were in rural and semi urban areas comprising 68% of their total outlets. The period since 1991-92 has seen a fairly rapid expansion of credit to Agriculture. Disbursement have considerably increased from Rs. 52,441 crore in 2003-04 to Rs. 1,16,447 cr in 2006-07. During 2006-07, Commercial Banks along with Regional Rural Banks extended nearly 79.1% of total institutional farm credit in our country. During 2008-09, commercial banks provided rural credit of Rs. 2,28,951 cr, constituting 78.3% of total Rs. 2,92,437 crore institutional credit to agriculture provided in that year. The short term and long term credit supply by Commercial Banks increased from 24733 crore in 1990 to 81481 cr in 2004-05 to 345877 cr in 2010-11 to 368616 cr in 2011-12.

Thus the above data shows that after nationalisation, commercial banks have played an important role in providing rural credit. This has enabled farmers to adopt new Agricultural technology on an increasing scale. The study by Binswanger et.al. shows that rapid bank expansion in India increased fertilizer demand by about 23%, investment level in tractors by 13%, in pumps by 41% milk animals by 46%. The study also notes that 10% increase in number of commercial banks branches increases investment in animals and Pumpsets by between 4 to 8%. Thus bank expansion has played a pivotal role in India's agricultural growth and modernisation in addition to freeing large number of rural people from the clutches of money lenders.

Despite the achievement of commercial banks in the field of rural credit, certain loopholes have emerged in their operations and performance commercial banks are finding difficulty in advancing loans to farmers Particularly in response to lending techniques, security, recovery etc and are expected to overcome these gradually. Also rapid expansion and diversification have resulted in deterioration in the quality of scheme preparation, Particularly under anti-Poverty Programmes. Also commercial banks are not very much interested to advance loans to small and marginal farmers. The commercial banks have failed to fill the geographical gap in the availability of credit not covered by the co-operatives and tended to serve those areas already covered served by the Co-operatives.

While there is evidence that commercial banks have been cognisant of their social responsibility in regard to small and marginal farmers, tenants, and disadvantaged sector.

There is a need to evolve strategies for providing easier access to affordable credit to such farmers and social group in rural sector.

### **Regional Rural Banks and Rural Credit**

Establishment of the regional rural banks has been the landmark in the history of rural credit or rural banking. The working group on rural banks (1945) recommended the establishment of Regional Rural Banks to supplement the efforts of commercial banks and the co-operatives in extending credit to weaker sections of the rural community-small and marginal farmers, landless labourers and other rural residents of small means. These banks were established in 1975 to strengthen the institutional rural credit structure. Prior to the establishment of Regional Rural Banks (RRBs), Commercial Banks and Co-operatives were active in disbursement of rural credit but they were not able to meet the rural credit requirements. Therefore a committee was set up, under the chairmanship of Shri N.Narsihman to

**Table 1 Flow of Institutional credit to Agriculture**

Year	Co-operatives	Scheduled Commercial Banks	Regional Rural Banks	Total credit to Agriculture (Rs. crore)
1970-71	100.0%			744
1980-81	61.6%	38.4%		3292
1990-91	49.0%	47.6%	3.4%	9830
2000-01	39.4%	52.6%	8.0%	52827
2001-02	38.0%	54.6%	7.9%	62045
2002-03	34.1%	57.2%	8.7%	69560
2003-04	31.0%	60.3%	8.7%	86981
2004-05	25.0%	65.0%	10.0%	1,25,309
2005-06	21.8%	69.7%	8.5%	1,80,456

**Sources.** Govt of India, economic survey, 2004-04 and 2006-07

**Table 2 Flow of Institutional Credit (in Rs. Crore)**

Year	Co-operatives	Scheduled Commercial Banks	Regional Rural Banks	Total credit to Agriculture (Rs. crore)
2006-07	42480	166485	20435	229400
2007-08	48258	181088	25312	254658
2008-09	46192	228951	26765	301908
2009-10	63497	285800	35217	384514
2010-11	78121	345877	44293	468291
2011-12	87963	368661	54450	511029

**Source.** Department of Agriculture and Co-operation Credit Division.

suggestion for making a better disbursement of rural credit on the recommendations of the committee, 5 RRBs were initially set up in 1975 (at Moradabad and Gorakhpur in UP, Bhiwani in Haryana, Jaipur in Rajasthan and Malda in West Bengal). Their number later rose to 196. The credit provided by RRBs was 3172 cr in 1990. Which rose to Rs. 12404 cr in 2004-05 and further to 44293 cr in 2010-11 to 54450 cr in 2011-12.

Each regional rural bank is sponsored by a nationalised bank known as a sponsoring bank which provide all sort of help to these RRBs. The management of each regional rural bank is vested in nine member Board of directors, headed by a chairman. The strength of Board of directors could be raised by the government, chairman is appointed by the central government and is a paid servant of sponsoring bank. The staff of RRBs was to be recruited from the neighbouring areas and as such would have a better understanding of the local problems and the local people their needs and constraints.

The Regional rural banks are financial institutions. The area of operation of these banks in specified. The Jurisdiction of each regional rural bank was to be within specified district in a state. Its branch office will generally cover one to their blocks and be in a position to finance five to ten farmer's service societies.

Thus the RRBs have an important role to play as a part of the multi-agency approach to rural credit and as an instrument of income distribution in rural areas. In former role they are eminently suitable to do the job envisaged and can exist side-by-side with co-operatives and commercial banks. In the latter role, they can keep on doing the good work of providing resources to the weaker section. RRBs are fruitful exercise in bank-led rural growth.

### **15.6 LET US SUM UP**

Finance is the pre-requisite of any activity whether it is Agriculture or any other. In India both institutional and non-institutional source are active in providing credit to agriculture. However after independence and particularly after the nationalisation of banks proportion of institutional credit to total credit flow has increased which is further supported by the growth of regional rural bank and co-operative institutions. The three tier system of co-operatives fulfil the need of each unit in the hierarchy.

### **15.7 LESSON END QUESTIONS**

- Q.1. What are different sources of Agricultural credit in India?
- Q.2. Explain the role of co-operatives in Agricultural credit in India.
- Q.3. How far regional rural banks and co-operative banks have become successful in fulfil their role in the area of Agricultural Finance?

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## **NABARD AND AGRICULTURAL CREDIT**

### **STRUCTURE**

- 16.1. Introduction
- 16.2. Objectives
- 16.3. NABARD : Role and Performance
  - 16.3.1. NABARD and its functions
  - 16.3.2. Performance of NABARD overtime
- 16.4. Progress of Institutional Finance in India since Independence : Achievements and Corrective Measures
  - 16.4.1. Progress of Institutional Finance in Rural India
  - 16.4.2. Achievements in Rural Finance and some corrective measures
- 16.5. Let Us Sum Up
- 16.6. Lesson End Questions

### **16.1 INTRODUCTION**

NABARD has emerged as an open institution in the area of rural finance especially agriculture. It has emerged as a single most important institution not only for agricultural improvement but also for rural development. Its functions are expanding over times and it has come up with new and innovative measures for the rural development from time to time.

## **16.2 OBJECTIVES**

After going through this lesson the students will :

1. Be able to know about the concept and role of NABARD
2. Be able to examine the performance of NABARD overtime.
3. Be able to get an idea regarding the progress of Institutional finance and its achievements in India.

## **16.3 NABARD**

Institutional sources have played an important role in Agricultural credit especially after the nationalisation of commercial banks. Since its inception, the Reserve Bank of India has been playing an important role in rural finance. From setting up short term to long term credit agencies for Agriculture development to undertake special measures for giving a proper direction to the flow of credit and to carry out extensive research in the field of rural finance Reserve Bank of India has taken extensive steps for the development of Agriculture. All these tasks that the RBI has taken in the field of Agriculture Finance has been transferred to another open institution, called NABARD. In 1981, a committee called “The Committee to Review arrangements for institutional credit for Agriculture and Rural Development” recommended that a new open bank called National Bank for Agriculture and Rural Development, be set up for providing undivided attention, forceful direction and pointed focus to credit problems arising out of the integrated approach to rural development. Accordingly, NABARD was set up by the government on 12 July, 1982 with an authorised capital of Rs. 500 cr. and a paid up capital of Rs. 100 cr. The capital was contributed by the government of India and the Reserve Bank of India. During 1998-99, the share capital of NABARD was increased by another Rs. 500 crore. The setting up of NABARD has been the most important development in the field of rural credit. It is the open organisation in respect of all matters relating to policy, planning and operational aspects concerning the flow of credit for promotion of Agriculture, small-scale industries handicraft and other allied economic activities in rural areas. It is a single agency for meeting the credit needs of all types of Agricultural and Rural Development.

### **16.3.1 Functions of NABARD**

NABARD was established as a development bank to perform the following functions :

1. To serve as an apex financing agency for the institutions providing investment and production credit for providing various developmental activities in rural areas.
2. To oversee the functioning of the co-operative sector through its agricultural credit development.
3. To provide long term finance to land development banks, co-operative banks, commercial banks and regional rural banks.
4. To extend short term credit to Agriculturists, Rural small scale and cottage industries, rural handicrafts and for other economic activities for promoting integrated rural development.
5. To provide loans (like RBI) to state government for agricultural development.
6. To look after the performance of co-operative banks and regional rural banks.
7. To take over all the functions so far performed by the Agricultural Refinance and Development Corporation (ARDC).
8. To maintain and strengthen a research and development fund to be used for promoting research in Agricultural development.
9. To undertake monitoring and evaluation of Projects financed by it. It has been entrusted with statutory responsibility of inspecting state co-operative banks, central co-operative banks and RRBs under the provision of Banking Regulation Act 1949. In addition it has been conducting periodic inspection of state level co-operative institutions such as State Co-operative Agriculture and Rural Development Banks (SCARDBs).

Thus, it has taken over the entire operation of the former Agricultural Refinance and Development Co-operation (ARDC) as well as the refinance function from the RBI in relation to state co-operative banks and regional rural banks.



### **16.3.2 Performance of NABARD**

As soon as NABARD was set up, loans and advances issued by the RBI to regional banks and state co-operative banks were transferred to NABARD. These loans (in total) were to the order of Rs.750 crore. Upto 4 June, 1983 further loans, amounting to Rs. 222 cr and Rs. 1574 crore were issued to these banks respectively. In its first year of operations i.e. during 1982-83, NABARD sanctioned 4957 schemes involving a commitment of Rs.1019 crore. Since then, a number of schemes are being sanctioned every year. These schemes relate to minor irrigation projects, land development, farm mechanisation, plantation, poultry, dairying sheep breeding etc. Such types of schemes were formerly financed by ARDC.

An Idea about NABARD's assistance to agriculture can be had from following details :

**1. Credit extended by NABARD :** NABARD provides short-term credit facilities to State Co-operative Banks (SCB) for financing Seasonal Agricultural Operation (SAO) marketing of crops, production/procurement and marketing activities of Co-operative Weaver's Societies, purchase and sale of yarn by open / regional societies. Production and marketing activities of industrial co-operatives, financing of individual rural artisans through PACs : Purchase and distribution of fertilizers and allied activities and marketing activities. Long term loans are provided to the state government for contributing to share capital of co-operative credit institutions. During 2008-09, NABARD sanctioned total credit limits aggregating Rs. 24,962 crore as against Rs.18,689 crore during 2007-08 for various short and medium term purposes of State Co-operative Banks and Regional Rural Banks (RRB) and long term loans to state governments.

NABARD Sanctions loans for seasonal agricultural operation also. These loans are provided at a concessional rate which is always below the bank rate. It has also directed the banks to advance a specific share of loans to the weaker sections of the society. The loans for seasonal operations are not directly advanced to the beneficiaries. Rather these are advanced to the state co-operative banks, schedule commercial banks and regional rural banks for refinance purpose. NABARD's refinance policy on short term SAO (Seasonal Agricultural Operational) for co-operative banks and Regional Rural Banks lay emphasis on augmentation of the ground-level credit flow through

adoption of region-specific strategies and rationalisation of lending policies and procedures.

**Rural infrastructure development fund (RIDF) :** Since 1995-96 NABARD has been sanctioning loans to the state governments for completion of ongoing/for taking up new rural infrastructure projects relating to major/minor irrigation, rural roads and bridges, flood protection, watershed management, forest development, cold storage, Market Yards/Godowns and certifying laboratories for grading of crops etc. RIDF-I was established in 1995-96 with a corpus of Rs.2000 crore with the major objective of providing funds to state government and state owned corporations to enable them to complete various types of rural infrastructure projects. RIDF has been continued on annual basis. The total corpus of RIDF (RIDF I to RIDF XV) amounted to Rs.100000 cr. RIDF XVII was implemented in (2011-12).

A perusal of the operation of NABARD overtime clearly shows the growing role of NABARD in rural finance. The number of schemes sanctioned under various heads has been constantly increasing. NABARD has been paying special attention to the strengthening of institutions, extending credit to less developed/under banked areas like U.P., Bihar, M.P., Rajasthan and Orissa. It has started playing an effective role in revamping the co-operative credit institutions in those areas where their progress has been rather slow.

**Micro Finance Innovations :** The access to credit for the poor from conventional banking is often constrained by lack of collaterals, information asymmetry and high transaction costs associated with small borrowal accounts. Micro finance has emerged as a viable alternative to reach the hitherto unreached for their social and economic empowerment through social and financial intermediation. It involves provision of thrift, credit and other financial services and products of very small amount to the poor for enabling them to raise their income level and thereby improve living standard. Micro finance programme for improving access of rural people to formal institutional credit was introduced in 1992. In operational terms micro credit involves small loans, Upto Rs.25,000 extended to the poor without any collateral for undertaking self-employment projects. Such loans are provided through micro finance institutions one of the most popular model of MFI has been the Grammeen Bank Model, developed originally in Bangladesh and replicated in various parts of the world. Under this model self help

groups are formed and credit is provided. NABARD has played a key role in the development and promotion of self help groups and other micro finance institutions and providing refinance at special rates. SHG bank linkage programme has now emerged as a major micro-finance initiative. Under this programme on 2009, 61,21,147 SHGs, held saving bank accounts with total serving of Rs.5,545.62 crore. During 2009-10, 15.87 lakh new self-help groups were advanced loans by various commercial banks, regional rural bank and co-operative banks. Commercial banks have the maximum share of around 70% of the outstanding bank loans to SHGs followed by RRBs with a share of 23% and co-operative banks with the balance.

At present, the micro finance is considered to be biggest scheme of its kind in the world, in terms of its outreach. However, even then, there is a lot of scope for its expansion. It has been pointed out that the self help groups are not getting sufficient financial help for various institutions.

**Kisan Credit Card Scheme :** The Kisan Credit card scheme was introduced in 1998-99 to facilitate short term credit to farmers. Commercial banks, co-operative banks and RRBs are implementing this scheme. Each farmer is provided with a Kisan credit card and pass book for providing revolving cash credit facilities. NABARD has accelerated the pace of issue of KCCs (Kisan Credit Card). However, the progress of the scheme is not uniform across states and is dismal in north-east. This is attributed to low level of loans issued to farmers availing of crop loans from banks, poor financial position of the co-operatives and RRBs in the region, lack of infrastructure facilities which are a hurdle in the way of augmenting credit facilities etc.

**5. Credit Monitoring Arrangement :** With a view to providing co-operative banks with more freedom and discretion to operate in an increasingly liberalised and competitive banking environment, NABARD, in consultation with RBI decided to replace the Credit Authorisation Scheme (CAS) with a Credit Monitoring Arrangement (CMA) with effect from the year 2000-01. The bank will have to follow prudence and exposure norms and have to satisfy themselves about the technical feasibility and financial viability of the proposals. Credit worthiness of borrowers, risk management, security requirements etc.

**6. Refinance Under SGSY :** NABARD has issued operational instructions to RRBs and Co-operative Bank with regard to implementation of Swarna-Jayanti Gram Swarozgar

Yojana (SGSY) on similar lines as was issued by the Reserve Bank for Commercial Banks. Policy guidelines for refinance support under SGSY were issued to all financing banks.

**Co-operative Development Fund :** NABARD setup the co-operative development fund (CDF) in 1993 with the objective of strengthening the co-operative credit institutions in the area of organisational structure, human resource development, resource mobilisation, recovery position etc.

**Supervision :** NABARD is the supervisory authority for St CBs, CCBs and certain other state level co-operative institutions such as SCARDBs. Accordingly, NABARD undertakes periodic on-site inspection of these organisations and since 1998-99 this has been supplemented by a site of off-site surveillance.

In addition to this, NABARD has, in association with Swiss agency for Development and Co-operation, constituted the NABARD-SDC Rural Innovation Fund, to support innovative projects in farm, non-farm and micro-finance, sectors, leading to creation of livelihood opportunities for the poor.

The three main functions of NABARD are refinancing, institutional development and inspection of client banks. As noted by the ACRC, an evaluation of these functions shows that the refinance function has attracted relatively more attention and resources over the years.

#### **16.4 AN OVERALL REVIEW OF THE PROGRESS OF INSTITUTIONAL FINANCE IN RURAL INDIA SINCE INDEPENDENCE**

At the time of Independence, co-operatives were the only source of institutional credit for rural India. But, their working was not at all satisfactory. Money lenders and other private individuals were the main source of rural credit. Even in 1961, the non-institutional sources provided loans to 83% of the total rural borrowers. The result was that, at the time of independence, a major section of the peasantry was burdened with a huge amount of outstanding and overdue debt. Under these circumstances even though the agriculture in India was almost stagnant at the time of independence and an additional loan facility of the farmers was not likely to raise its productivity, it was felt necessary that the farmers must be provided with an alternative source of cheap credit, so that

they could be saved from the menace of growing indebtedness. With this objective in view, the Reserve Bank of India, set up in the year 1952, a committee suggesting measures to improve system of rural credit in India. It also suggested that a country wide banking system should be developed. Following the last recommendation, the Reserve Bank of India set up a new bank called the State Bank of India in 1955 for expanding the Banking system, especially in rural areas.

As a result of the efforts of the Reserve Bank of India to improve the working of the co-operative credit institutions, the share of co-operatives in total rural credit rose from about 3% in 1952 to 10.4% in 1961. The co-operatives, in 1961, had advanced Rs.203 crore as loans to the rural sector.

Till 1969, these were the co-operatives which continued to be the major source of institutional credit to the rural people. The commercial banks, on their own, were not favourably inclined to extend their operations to the rural areas because of various reasons. In 1969, the government nationalized 14 commercial banks and directed them to provide credit to farmers and other sections of the rural society on a more liberal basis. In December of that very year, lead bank scheme was introduced under this scheme, in each underbanked district, one of the banks was assigned the responsibility of taking various steps, for meeting the credit requirements of agriculture and other priority sectors of that district.

But the share of commercial banks did not expanded much and even in 1971, the share of the commercial banks in total rural credit was only 2.2%.

The next important step to increase the share of institutional credit in total rural credit was the setting up of five regional Rural Banks on Oct. 2, 1975. These banks were expected to provide credit to weaker section of the rural society like small and marginal farmers, agricultural labour and artisan.

A major push for the expansion of rural credit came with the setting up of National Bank of Agriculture and Rural Development in July 1982. Its establishment gave great fillip to the expansion of institutional sources of rural credit.

During 1990s, some new schemes were introduced for the expansion of institutional credit in rural areas. These schemes did not imply to the setting up of new financial

institutions. But rather existing institutions were to implement these schemes. In January 2006, banks were permitted to utilise the services of self help groups and other civil society organisations as intermediaries for providing financial and banking services to rural people.

A scheme for group lending for landless agricultural workers and tenants is also proposed to be introduced shortly.

The government also has now made it compulsory for the scheduled banks to extend 18% of their total credit to the agricultural sector. The objective is to increase in flow of institutional credit to rural areas.

#### **16.4.2 Achievements in Rural finance**

**1. The expansion of base :** The results of the measures has been quite encouraging. At present there are about 112350 primary agricultural co-operative credit societies in India as against to 90081 on June 30, 1988. The number of branches of the commercial banks in rural areas increased from 1833 in 1969 to 30754 in June 2006. The number of regional rural banks also increased from 5 in 1975 to 196 in 2004.

**2. Greater flow of Institutional Credit :** The efforts to expand the basis of institutional credit yielded satisfactory results. Whereas the co-operatives have advanced loans, to the agriculture sector, to the extent of Rs. 203 crore in 1961, these increased to Rs. 34363 crore in 2009-10. A similar progress was witnessed in the flow of credit from the commercial banks to the agricultural sector. While these banks advanced loans to agricultural sector to the tune of Rs. 212 crore in 1969 these increased to Rs. 139733 crore in 2009-10. The Regional Rural Bank too have increased their operations in term of financial assistance to the rural people. During 2009-10, the loans advanced by them amounted to Rs.22132 crore. In 1977-78 there banks have advanced loans for Rs.52.7 crore only.

It may be pointed out that though the expansion of institutional credit extended to the agriculturists has been a continuous one after the setting up of NABARD, it has not been consistent through out. Its rate of growth in real term was much higher between 1980-90 when compared with period 1990-2001. Its rate of growth was 10.56% per annum during the former period while it fell to 6.7% during the latter period. According to Sidhu

and Gill, while the full bloom in green revolution was the main reason for higher growth rate of institutional credit during the 1980s, the deceleration of agricultural growth during the 1990s was the main reason for the fall in its growth rate during that period. As a matter of fact, the populist measures like loan mela which were followed during the 1980s were also responsible for a greater flow of institutional credit to rural areas during that period.

Another fact about the flow of credit to the rural sector is that till 1990, the co-operatives were the main source of institutional finance in the rural area. During 1990s the amount of credit extended by the commercial banks surpassed that extended by the co-operatives. According to Namboodri, while in 1992-93, the share of co-operatives in the institutional finance for the rural area was 62%, it declined to 34% in 2002-03. In 2005-06 the share of co-operatives fell down to 24.8%. Role of commercial banks in rural finance has become still more significant after 2004. During 2009-10 the loans advanced to the farmers by the commercial banks were of the order of Rs.139733 crore.

Many economists have termed such as expansion of total institutional credit in rural areas as quite praise worthy. According to Y.S.P. Thorat, Chairman NABARD during the period 1970-75, the annual growth rate of institutional credit in rural areas was 7% and it exceeded not only the annual growth rate of GDP during this period but also exceeded the real annual rate of growth of public agricultural capital formation (3%), real rate of private agricultural capital formation (4%) and real rate of growth of agricultural input spending (6%). The implication of these comparison is to emphasise the fact that growth of institutional credit in rural India has definitely strengthened those factors which are basically responsible for the growth of Agriculture.

### **Need for some Corrective Measures**

Despite a satisfactory expansion of institutional credit in the rural sector, we find that still some reforms are needed in the system of institutional finance. Some of the necessary reforms are as follows :

**1. Need for change in the direction of flow of credit :** Quantitative expansion of credit is not an end in itself. It is means to an end. And, the end is the development of

the economy. Economic development implies use of more physical inputs and services necessary for additional production. Credit comes to the help of those who do not have their own means to purchase these inputs and services but want to participate and benefit from the development process. As such one can say that quantitative expansion of institutional credit, will make sense only when it covers those segments of the economy which need it for development purpose.

**2. Greater flow of credit to small farmers :** According to world bank and quiet a number of the economists, the small and marginal farmers are keen to adopt the modern technology as the large farmers. However it has been found that small and marginal farmers generally fail to get as much institutional credit as they require for purchasing modern inputs. The insufficient security offered by the small farmers, the possibility of failure to repay the loans on time by these farmers because of uncertain and low returns from agriculture and the possibility of loan waivers, being announced for such farmers, restrict the flow of institutional credit to them. As a matter of fact, not only are the banks hesitant to lend to small and marginal farmers, even the small farmers themselves generally avoid to borrow from a bank because a high cost of transaction of small loan. Some is the case with the credit extended by the co-operative institutions to these farmers. A survey conducted by the world bank and NCEAR confirms the inadequate access of the small and marginal farmers to the institutional credit.

Anjani Kumar (2007) and others have pointed out that the share of small and marginal farmers in institutional credit was not commensurate with their share of total cultivating household. They have also found out that the Kisan Credit Cards had been issued more liberally to large farmers when compared with those issued to small and marginal farmers.

With regard to the flow of institutional credit to small and marginal farmers and other weaker sections of the rural society, it has been suggested that the lending institutions should evolve some other methods of risk management as these people cannot offer adequate security for loans advanced to them.

**3. Flow of credit to the sector allied to agriculture :** For some time past, the scenario in the agriculture sector has been changing. Diversification of crop production into non-foodgrains like vegetables and fruits and into the sectors allied to agriculture



like animal husbandry, forestry and fishing have become mainstay of governments agricultural policy. All this implies more funds for purpose of grading and standardization. For processing and for facilitating more flow of goods to the markets. Credit flow for post harvesting activities is also necessary.

**4. More credit flow to areas with underdeveloped agriculture :** Balanced regional development of agriculture is another constituent of government's agriculture policy. Although agriculture in southern, central and the north-western region of the country has been experiencing development at one time or the other, agriculture in the eastern and north-eastern regions has remained backward throughout this period. The latter zonal need more institutional credit for their development. There is need to divert the flow of institutional credit to latter group of state, as mentioned above.

#### **16.5 LET US SUM UP**

NABARD has played prominent role in the field of rural finance from extending finance for the agricultural development, to rural infrastructure development in rural area and for various innovative measures. As a result there is significant increase in the flow of institutional credit. But there is need to considers some loop holes in the flow of such credit.

#### **16.6 LESSON END QUESTIONS**

- Q.1. Explain the role of NABARD in rural and Agricultural development.
- Q.2. How the performance of NABARD and improved, since its inception in the area of rural credit?
- Q.3. Give a review of progress of institutional credit in rural areas after independence.
- Q.4. Is the progress in the area of rural finance is satisfactory? Which reforms are needed?

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## **RURAL TO URBAN MIGRATION AND MARGINALISATION**

### **STRUCTURE**

- 17.1. Introduction
- 17.2. Objectives
- 17.3. Marginalisation of Rural Labour
  - 17.3.1. Reasons/Causes for Marginalisation of Rural Labour
- 17.4. Rural to Urban Migration : Meaning Extent and Factors
  - 17.4.1. Meaning and Extent of Rural to Urban Migration
  - 17.4.2. Factors responsible for rural to urban migration
- 17.5. Let us Sum Up
- 17.6. Lesson End Questions

### **17.1 INTRODUCTION**

Existence of small farmers in overpopulated and underdeveloped economies is a common phenomenon. Excessive population depending mainly on agriculture has resulted in the creation of small farms in such economies. Such small result in small holding, low and subsistence income of the farmers and low asset qreation resulting in marginalisation of rural labour.

## 17.2 OBJECTIVES

After going through the lesson the student will be :

1. Able to know the reason for the marginalisation of rural labour.
2. Able to get an understanding to the rural to urban migration.
3. Able to know about the structure and extend of migration in India over a period of time.
4. Be able to get the idea of the factors responsible for rural to urban migration.

### 17.3.1 Reasons for Marginalization of Rural Labour

India is agricultural dominated economy with nearly 52% of labour force is still engaged in Agriculture. As fact as labour force in rural area is concerned it is engaged most in agriculture sector or some non-agricultural activities which are characterised by low return. There is widespread concern in the country about the stagnation in agricultural production. Marginalisation of rural labour stands for their subsistence living standard, lower assets value and they are at the state of poverty and helplessness. The spate of suicides by agricultural producers in different parts of the country is the manifestation of conditions of rural labourer. The main reasons for their marginalisation are:

1. **Population explosion and small holding size.** The work force in agriculture was 97.2 million in 1951 and this rose to 1185.2 million in 1991. Also number of agricultural labour rose from 27.3 million in 1951 to 74.6 million in 1991. With the expansion of population burden on land holding has increased resulting in fragmentation and sub-division of land. It has increased the no. of small and marginal farmers in India. The majority of the agricultural workers are either small and marginal farmers or landless labourers.
2. **Wages and Income.** Agricultural wages and family income of agricultural workers are very low in India. First Agricultural labour enquiry reported that per capital annual income of agricultural labour families was meagre Rs. 104 in 1950-51 and the second agricultural labour enquiry reported a further deterioration in condition further deteriorate with per Capita annual income declined to Rs.99.4 in 1956.67 and the average income of agricultural labour

household to Rs.437. Though the agricultural wages increased over the time real wages to did not increase due to rise in prices. Thus leaving the agricultural labour in marginised condition.

**Employment and Working conditions.** The rural labour has to face problem of unemployment and underemployment Particularly in the rural areas. In the farm sector they remain unemployed for a substantial part of the year because there is no work on the farms and alternative source of employment either do not exist or very scarce. Even in the non-Agricultural activities in rural areas, they are substantially under paid than their counterparts in urban or semi-urban areas.

**Indebtedness.** Because of the low level of their income, agriculture workers have to borrow or seek debts off and on. However because of their extreme Poverty, they are not in a position to provide any security. Being illiterate they do not go for institutional sources. Also Institutional agencies are also not much interested in giving loans to such classed due to fear of loss and default. So, they have to seek credit from non-institutional sources like money lenders, who charge high interest rate. If fact debt of agricultural labourers passes from generation to generation.

**Gender disparity in Wages.** In rural sector female agricultural workers are generally forced to work harder and are generally underpaid than their male counterpart. Such bias against female workers exist in most of the dryland areas. Work distribution also increases such disparities as high paying works are assigned to male workers. At many places, wages paid to female workers are even less than the minimum wages.

**High Incidence of child labour.** Incidence of child labour is high in India. It is estimated that one third of the child workers in Asia are in India. Child employment benefits the employers but adversely affects the poor as a class. The poor are made worse-off as employment of children bring down the wage level. Moreover children employed as workers are deprived of education and skills. As a result, their future potential income remain low.

**Small size of holding.** The small holdings obviously mean a small income as compared with that of the large farmers. In India, the average size of the operational holdings was 2.0 hectare according to 1976-77 census and was 1.33 hectare according to 2000-01

census. About 73% of operational holdings in India were below 2 hectare in size in 1976-77 and number of such holdings has increased further. Many empirical studies suggest that not only is the cultivation on a small farm non-viable but it will also face difficulties in adopting the latest agricultural technology.

**Low Educational Level :** Low educational standard of the small farmer is also responsible for their marginalisation. This affects the process of skill formation on small farms rather adversely. Education of farmers and agricultural development have a high degree of correlation. It may be pointed out that relatively larger extent of illiteracy has been one of the reasons due to which surplus labour on marginal and small farms has not been able to find jobs in the non-farm sector. This further adds to their marginalisation.

**Increase in migrant labour.** Green revolution significantly increased remunerative wage employment opportunities in pockets of assured irrigated areas while employment opportunities nearly stagnated in the vast rain fed semi-arid areas. There is large flow of migrant labour from the latter to the former areas. Even in areas of abundant labour supply, employers prefer rural migrants workers because of the greater control that can be exercised on such labour without any social responsibility. Sometimes migrant labours are subjected to exploitation and paid less than prevailing wage rate.

**Conclusion.** In conditions to above mentioned factors there are many other factors add to the marginalisation of labourers like land ownership, employer-employee relationship, casualisation of labourers etc.

## **17.4 RURAL TO URBAN MIGRATION**

Migration is a universal phenomenon since the time immemorial. It plays an important role in moulding social, economic and structural characteristics of the population of the country. There is no place or time in which migration does not occur. The United Nations (UN) defined migration as a form of geographical and spatial mobility between one geographical unit and another. It involves change in residence from place of origin or departure to place of destination or arrival. National sample survey organisation (NSSO) defined migration as a household member whose last usual place of residence (UPR) any time in the past was different from the present place of enumeration was considered as migrant member in household. Thus permanent or semi-permanent change in the place of residence of India is a basic characteristic of migration. Around

21th of the total urban growth in the third world is accounted by rural to urban migration. Migration is an important livelihood strategy in India. Accelerated movement of people from rural area in search of employment has been an important feature of labour market. Among the four types of migration direction wise i.e. rural to rural, rural to urban, urban to urban, urban to rural among these rural to rural migration dominates the seenaio of migration in India. During the decale of 1961-71, rural to rural migration accounted for 62.66% of total internal migration. The rural to urban migration is the second most important stream of migration after rural to rural type. After liberalisation, the rural to urban migration has increased. The rural to urban migration rates are defined as the gross decadal inflow of population from rural area to urban area as percentage of total urban population. About 40% of migration is towards urban region or areas. Within UTs and north east region 70% of migration is towards urban region. But the passage of time, volume of rural to urban migration has increased due to widening gap between rural and urban areas especially in developing regions. However rural to urban migration has shown a gradual increase with its share in total migration rising from 16.5% to 21.1% between 1971 to 2001. According to census 2001, the total number of rural urban migration whose duration of residence was 1-4 years in urban areas was 10.14 million.

**Table 1. Rural to Urban Migration**

<b>Year</b>	<b>R-U Migration Cost% of total Migration</b>	<b>No. of Migrants R-U (in million)</b>
1961-71	15.19%	10.98 mn
1971-81	19.46%	15.73 mn
1981-91	20.78%	16.77 mn
1991-2001	21.74%	20.5 mn

**Source.** Migration Table Government of India

The NSSO's 64th round survey on employment and unemployment and migration particular during 2007-08 have pointed out that among migrant majority of them, found to be moving within the state. It is highest in top most popular states in the country. State with outflow of migrant are U.P, Bihar, Chattisgarh, Madhya Pradesh and those with highest inflow of migrants are Maharashtra, Delhi, Punjab Haryana and Gujarat. All the UTs in India have the highest percentage inflow with Chandigarh showing highest value at 41%. With respect to international migration Bangladesh is the top contributing countries with a sizeable proportion of its migrants coming to India.

Magnitude of male migration rate was far lower than female migration rate. With respect to women migration 351 women (per 1000 person) were migrated from rural areas in 1980, the ratio has increased to 398 in 1988, 401 in 1993, 426 in 2000 and 477 in 2008. On an average 410 and 403 women (per 1000 persons) have migrated from rural to urban area respectively in India during the period of 25 years. In case of male migrant only 54,69,65,74 and 72 male per 1000 persons have migrated during the same period. Marriage is the most prominent reasons of migration among women whereas male migrate due to employment related reasons.

**Table 2 Migration Rate (Per 1000) for each State / U.T. (Rural)**

State/U.T	Male	Female	Male + Female
Andhra Pradesh	88	473	282
Arunachal Pradesh	11	5	8
Assam	26	227	120
Bihar	12	379	189
Chattisgarh	70	531	295
Delhi	282	407	339
Goa	120	296	212
Gujarat	53	572	299
Haryana	41	593	298
H.P	153	592	378

State/U.T	Male	Female	Male + Female
J and K	24	329	174
Jharkhand	10	308	156
Karnataka	80	474	273
Kerala	195	459	333
M-P	30	533	268
Maharashtra	98	572	329
Manipur	6	5	6
Meghalaya	38	29	33
Mizoram	107	114	110
Nagaland	62	92	76
Orissa	43	511	280
Punjab	74	571	288
Rajasthan	46	541	312
Sikkim	195	414	300
T.N.	79	354	220
Tripura	57	163	110
Uttarakhand	151	539	344
U.P.	26	501	256
West Bengal	45	512	272
A and N Island	508	562	533
Chandigarh	710	628	672
Lakshdeep	320	239	281
Daman and Diu	484	536	503
All India	54	477	261

**Pattern, Form and Characteristics of Labour Migration :** Four broad patterns of internal migration are : (i) Rural to rural migration, (ii) Rural to urban migration, (iii) urban to urban migration, (iv) urban to rural migration within these different streams rural to rural and rural to urban migration have been the predominant pattern of migration. The forms of labour migration can broadly be schematized as (i) permanent, (ii) circular or seasonal and (iii) commuting. Within these different forms, seasonal/circular and



commuting migration is predominant. The nature of contemporary labour migration can be examined at various levels depending on the degree and extent of vulnerability to which the migrant labour is exposed such as (i) Migration for survival, (ii) Migration for subsistence, (iii) Sponsored migration, (iv) voluntary migration.

The incidence of internal migration is found to be directly related to the process of economic development and it seems to have a causal relation with the degree of integration with the global economy. Census of India reveals that in 2001 total number of persons that has internally across the state of India is almost double of that of 1971. Presently almost 30% of India.

Population is away from their place of birth. Again across the states it has been seen that relatively less developed states have higher proportion of rural-urban migration compared to relatively developed states.

#### **Some facts and figures about migration**

- (i) The Constitution of India (Art. 19) gives the right to all citizen to “move freely throughout the territory of India, to reside and settle in any part of the territory of India.”
- (ii) Inter migration in India constituted a large population : 309 mn internal migrants or 30% of the population [Census of India 2001] and further to 326 mn or 28.5% of population (NSSO 2007-08).
- (iii) Migration in India is primarily of two types (1) Long term migration, resulting in relocation of an individual or household, (2) Short term or seasonal migration involving back and forth movement between a source and destination. Most short term migrant belong to socially deprived groups such as SC/ST have limited assets, resources and education.
- (iv) Out of the total migrants 70.7% are women. Marriage is the main reason for female migration in both rural and urban area 91% of rural female migrants and 61% of urban area 91% of rural female migrants and 61% of urban female migrants (NSSO 2007-08).
- (v) Migration for employment related reasons is given the prominent reason of male migration i.e. 29% rural male migrants and 56% of urban male migrants (NSSO

2007-08).

- (vi) Lead source states : U.P., Bihar, Rajasthan, M.P., Andhra Pradesh, Chhattisgarh, Orrisa and Tamil Nadu.
- (vii) Key destination states : Delhi, Maharashtra, Gujarat, Haryana, Punjab and Karnataka.

#### **15.4.2 Factors responsible for Rural to Urban Migration**

The factors influencing rural to urban migration are varied and complex. In the early times, migration from rural to urban areas was largely on account of non-economic factors such as social, physical, demographic and communication factors. In the recent times with the decline in mortality rates which resulted in rapid population growth in rural areas, young people have shown a tendency to look for jobs in the cities. Improved transportation, urban oriented education, impact of cinema, radio and television have also induced migration of people from rural to urban areas. The main cause of heavy influx of rural migrants in urban areas are either due to the repulsive forces operating in rural areas or due to attractive forces working in urban areas. The important factors affecting migration are:

- 1. Push from subsistence Agriculture.** In India, Agriculture is a subsistence activity with small and marginal holding size small and marginal holding do not offer productive employment to all the adult members of the household. Also agricultural occupations are seasonal and wages are not enough for subsistence. Therefore they look for some other work in their nearby area or villages which is not easily available due to neglect of industrial and business activities. Therefore they migrate to cities due to push factor.
- 2. Urbanisation.** Urbanisation creates new prospects of employment and modernisation. Urbanisation results from continuous process of development and has emerged as an important factor responsible for rural to urban migration especially in post independence era. Study by Jhour (1986) has analysed that region having high rural to urban male migration rates were those depicting rapid development of mining, industrial activities and service sectors. Study also find that regions with high inter state rural to urban male migration also experience high rate of urbanisation in recent decades.

**Employment.** Employment has been the main reason of migration since long time. The economic motivated migration accounts for 82.3% of the male migrants and only 5.7% of female migrants. Employment amounts to 27.5% of the total migration and 49.0% of male migrants. In 1981 among the rural to-urban migrants, employment was the most cited reason by male migrants (47.5%) followed by family move (23.5%) and education (8.1). Even for the female work participation rate of migrant women is higher than non-migrant women.

**Education.** Education though qualitatively is very significant social factor and the wide ranging impact of education is possibly the most important matter to be considered in inducing rural urban migration. It has been observed that Propensity to migrate increases with education. It accounts for 10.2% for male and 4.3% of female rural to urban migration. Together it constitutes 7.3% of the total rural to urban migration. This segment of migrants constitute boys and girls belonging to affluent families but for poor villages it is very expensive to send their children to cities for higher education so, quantitatively its proportion to total rural-urban migration is low.

**Marriage.** Among social factors affecting migration marriage is an important one. It constitutes 20.7% of the total migration and 41.3% of the female migration. It is a type of obligatory migration in which a girl moves to her husband's place after marriage. It is highly female selective due to patrilocal marriage system prevalent in the most parts of India including 0.8% of male migrants who migrated for marriage.

**Business.** Business is another important economic factor which also provides momentum to rural-urban migration stream. Among the states and union territories the higher proportion of the migration for business has been found in UT of Daman and Diu. The proportion of migration for business purpose is high among males in all states and UTs of the country than that among females. It causes 3.3% of rural urban migration among male and 0.4% among female. Together it constitutes 1.9% of the rural-urban migration.

**Migration with household** is also an important social factor affecting migration. It covers 29.1% of the total rural urban migration.

Poverty and rural indebtedness is an important reason of rural to urban migration. To pay high interest on their loans taken from non-institutional sources, rural people have

to migrate.

**Conclusion.** This migration is affected by social and economic factors like marriage, education, work/employment, Business etc. In addition to it other factors like poverty, wage differences, medical facilities etc. also affect rural to urban migration.

### **Push and Pull factors of Migration**

#### **Push Factors**

- Not enough job
- Few Opportunities
- Primitive Conditions
- Desertification
- Famine/Drought
- Poor Medical Care
- Loss of Wealth
- National Disaster
- Pollution
- Poverty
- Landlords

#### **Pull Factors**

- Job opportunities
- Better living conditions
- Political or religious freedom
- Enjoyment
- Education
- Better Medical Care
- Security
- Family links
- Industry

### **17.5 LET US SUM UP**

Marginalisation of holding is a chronic problem in the developing economies which causes subsistence living and disguised unemployed. Associated with this problem is the rural to urban migration which causes congestion and other associated problems in urban areas. There is need to provide adequate employment opportunities in rural area so as to curb this increasing trends of rural to urban migration providing urban amenities in rural areas may also be a solution.

### **17.6 LESSON END QUESTIONS**

- Q.1. Explain the reason for the marginalisation of rural labour.
- Q.2. Explain the nature, pattern and structure of rural to urban migration.
- Q.3. Explain the factors responsible for rural to urban migration.

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## **AGRICULTURAL GROWTH IN INDIA**

### **STRUCTURE**

18.1. Introduction

18.2. Objectives

18.3. Agriculture Growth : Trends and Variations

18.3.1. Recent Trends in Agricultural Growth in India

18.3.2. Inter-regional variations in growth of output

18.3.3. Inter-regional variations in growth of productivity.

18.4. Cropping Pattern : Trends and Determinants

18.4.1. Trends in Cropping Pattern

18.4.2. Determinants of Cropping Pattern

18.5. Supply of Inputs

18.5.1. Irrigation

18.5.2. Seeds

18.5.3. Fertilisers

18.6. Let Us Sum Up

18.7 Lesson End Questions

## **18.1 INTRODUCTION**

In this lesson, the student will go through the trends in agricultural growth in India over the years. Till the third five year plan, agriculture growth was moderate. But with the introduction of HYVP, the agriculture growth shows spectacular increase in all the crops. This lesson also deals with the variations in growth of output and productivity at the regional level and shift in cropping pattern in India. During 1950s areas under food crops dominate the area under non-food crops but this proportion has changed presently. Though in percentage terms still the food crops dominate. The factors which changed this scenario are Natural factors, economic factors, historical factors, social factors and Government Policy. The success of HYVP was due to the better supply of inputs like irrigation, fertilizers, seeds.

## **18.2 OBJECTIVES**

After going through the lesson the student will:

1. be able to understand Path of Agricultural growth overtime and variations therein.
2. know about inter-regional variations in the growth of output and productivity.
3. get familiarize with reasons prominent in determining inter-regional variations in productivity.
4. learns about shift in cropping pattern in India and factors affecting it.
5. know about changes in supply of inputs, like seeds, fertilizers, irrigation, over time and growth in their supply.

## **18.3 AGRICULTURE GROWTH : TRENDS AND VARIATIONS**

### **18.3.1. Recent Trends in Agricultural Growth in India**

Agriculture has always been the backbone of the Indian Economy. It provides employment to around 60 percent of the total work force in the country. The importance of agriculture sector can be viewed from the fact that in 1950-51, the contribution of agriculture sector to the GDP was 56.5 percent However, this contribution has declined over the

years. In 2012 -13 the contribution of agriculture sector to GDP was 13.7 percent. The growth of agriculture sector is very essential to raise the income level of the farmers. It is also important from the fact that the growth of agriculture sector is important for the growth of industry sector. The growth of agriculture sector have seen many ups and downs since 1951. In 1951-52; the annual growth rate of Agriculture was 3.50 percent and that of Agriculture, Forestry and fishing was 3.3 percent. In 1961-62, the growth rate of Agriculture was 3 percent. Between 1951-52 to 1975-76, agriculture growth rate was negative in the years 1952-53, 1954-55, 1955-56, 1957-58 , 1965-66, 1975-76. In the year 1973-74, agriculture growth rate was highest 32.3 percent. We will discuss the progress of agriculture during the last 60 years. We will discuss the tremendous progress, the country has achieved since the first plan even though the targets fixed in each plan might have not been fully met. Between 1950-51 and 2009-10, production of foodgrains had increased by 4.3 times production of oilseeds by 5 times, sugarcane by 4.9 times and cotton by over 8 times. The increase in production of wheat has been really spectacular by 13.5 times. During the first decade of planning [1951-61] when the First and Second Five Year Plans were implemented, the annual rate of growth in agriculture was 3.3 percent. During the next two decades of planning in 1961-81, despite spectacular progress achieved under the new agricultural strategy and IADP and HYVP, the overall progress in agriculture was dismal; the annual average rate of growth decline to 2.2 percent and 1.7 percent respectively.

But conditions improved during the fourth decade of planning i.e. (1981-91). The growth rate in the 1980s was highly respectable i.e. 3.9 percent. The compound growth rate for the period 1991-2001 was 2.8 percent. Since then, specially during 2002-03, agricultural production declined deeply - negative growth rate of 7 percent. There was some improvement in agricultural growth but much lower than the targeted 4 percent per annum. The tenth plan fixed a target rate of growth of 4 percent in agriculture to achieve 8 percent rate of growth in GDP. Indian agriculture growth was merely 2.1 percent during the Tenth Plan. The Eleventh Plan revised the target of 4 percent for agriculture sector. The growth rate of agriculture was 3.3 percent during the eleventh plan. In the 12th Five Year Plan the growth target for agriculture was set at 4 percent. The growth rate of agriculture sector during the first year of 12th Five Year Plan i.e. in

2012-13 was 1.4 percent.

### **18.3.2. Inter Regional Variation in Growth of Output**

HYVP was initiated on a small area of 1.89 million hectares in 1966-67 and even in 1998 -99 it covered 78.4 million hectares which is only about 40 percent of the gross cropped area. Naturally the benefits of the new technology remained concentrated in this area only. Moreover it remained limited to wheat for a number of years, its benefits mostly accrued to areas growing wheat. These were the regions of Punjab, Haryana and Western, U.P. As a result, the benefit of new technology was limited to wheat and the north-west region of the country. However, gradually the new technology spread to rice and some other crops and its geographical coverage extended from the north-western region to many other parts of the country.

During 1962-65 to 1980-83, all states in the north western region in particular Punjab and Haryana, registered high growth rates of agricultural output. The rate of growth of agricultural output in Punjab was as high as 5.58 percent per annum while that of Haryana was 3.74 percent per annum. As a result the rate of growth of agricultural output in the north-west region was much higher than in other regions. In the eastern region except for Assam the growth performance of other states was rather modest with Bihar recording a rate of growth of only 0.27 percent per annum. In the central region, the crop output was hardly influenced by the new technology and agricultural output in that region was characterised by sharp weather-induced year to year fluctuations. In the southern region, all states, except Tamilnadu were able to register medium growth rates of output.

The period from 1980-83 to 1990-93 marks a turning point in India's agricultural development. At the all India level, the growth rate of crop output accelerated from 2.24 percent per annum in 1962-65 to 1980-83 to 3.37 percent per annum during 1980-83 to 1990-93. During the period of 1980s agricultural growth permeated to all regions in India. An important development was acceleration of growth in the eastern region. In West Bengal the growth rate increased to 5.98 percent per annum during 1980-83 to 1990-93. Bihar and Orissa also recorded an acceleration in their output growth rates. The central region also recorded an accelerated growth during this period.



This acceleration was due to the increase in irrigation in both the region. The growth rate in the Southern region accelerated from 1.82 percent per annum during 1962-65 to 1980-83 to 3.41 percent per annum during 1980-83 to 1990-93. According to Sawant and Achutan, the main reason for this was the faster growth of non-foodgrains. The performance of almost all non-foodgrains in all the four states in this region during 1980-83 to 1990-93 was satisfactory and far better than of foodgrains as a whole and also than their own performance in their earlier period.

Agricultural growth during 1990-93 to 2003-06 reflects the impact of economic reforms on agricultural performance. i.e. deceleration in agricultural growth rate. At the all-India level the output growth decelerated from 3.37 percent per annum during 1980-81 to 1990-93 to only 1.74 percent per annum during 1990-93 to 2003-06. At the regional level, during the same period, the growth rate of agricultural output decelerated from 3.55 percent per annum to 1.58 percent per annum in the north-western region, from 3.61 percent per annum to 1.00 per cent per annum in the eastern region, from 3.27 percent per annum to 3.15 per cent per annum in the central region and from 3.41 per cent per annum to only 0.48 per cent per annum in the southern region. All states, except Gujarat and some extent Maharashtra registered a sharp decline in their output growth rates. Gujarat registered massive increase in the rate of growth of agricultural output from first 0.90 percent per annum during the period 1980-83 to 1990-93 to 5.33 per cent per annum during the period 1990-93 to 2003-06.

The period since 2005-06 has seen remarkable recovery of agricultural growth. Andhra Pradesh, Gujarat, Maharashtra, Arunachal Pradesh, Chhattisgarh, Jharkhand, Karnataka, Manipur, Mizoram, Rajasthan and Tripura have all recorded a 5 per cent plus growth rate in agriculture. In addition, Assam, Haryana, Madhya Pradesh and Tamilnadu have recorded 4 per cent plus growth rate in agriculture. According to Ramesh Chand and Shinoy Parappurathu, this recovery could be attributed to a conscious hike in public and private investment and a substantial growth improvement in terms of trade in favour of the agriculture sector.

### **18.3.3 Inter-regional Variation in growth of productivity**

Agricultural productivity both of food crops and non-food crops has certainly gone

higher since the inception of plans in India. Except a few abnormal years, agricultural productivity has tended to rise almost consistently overtime, though the rise has been relatively more in case of food crops. Overall agricultural productivity between 1950-51 to 2006-07 has increased by 3 per cent per annum. Productivity shows the relationship between inputs and output. The agricultural productivity can be studied under two heads:

- (a) **Agricultural productivity per worker.** In India, the productivity per worker is not only low but also differs from one state to other. The labour productivity is only Rs.1213 per worker on the average for India as a whole. It is highest in the state of Punjab. It is Rs. 3195 in Punjab, Rs.1236 in U.P., Rs.2922 in Haryana, Rs.2072 in Kerala, Rs. 1707 in Assam and Rs.1819 per worker in West Bengal. It is clear from the above that there are large variation in agricultural productivity per worker as we move from one state to another. The per worker labour productivity is low in India as compared to some developed countries. In India, per worker productivity forms 1/23 of that of U.S.A. and Japan and 1/21 of that in U.K. The low level of per-worker productivity is an indicator of backward agriculture. India's agricultural productivity of worker is a little more than one thirty fourth i.e 1/34 th of West-Germany and less than one twentieth of England. The stagnation in agricultural productivity has resulted due to the increasing prices of agricultural produce, disapproving many theories of price production complexes and imperfect food distribution. However, productivity per worker for India was Rs. 1,213 while it was 18,120 for Japan, Rs. 19,264 for U.S.A., Rs. 27,690 for West Germany.
- (b) **Agricultural productivity per Hectare.** Over the period 1950-51 to 2012-13, yield per hectare of all food grains has increased by more than three and a half times from 552 kgs per hectare in 1950-51 to 2125 kgs per hectare in 2012-13. The most significant increase has been recorded by wheat with its yield increasing from 665 kgs per hectare to as high as 3,118 kgs per hectare in 2012-13. Productivity of rice has also increased significantly in recent decades from 1,123 kgs per hectare in 1970-71 to 2,462 kgs per hectare in 2012 -13. Jowar and Bajra recorded much slower rates of growth in productivity. i.e from

655 kgs per hectares in 1950-51 to 862 kgs per hectare in 2012-13 of Jowar and that of Bajra from 288 kgs per hectare to 1214 kgs per hectare during the same period. Most disappointing has been the performance of pulses. Infact the productivity of pulses in 2000-01 was at the same level as in 1960-61. However, the productivity rose somewhat to 694 kg per hectare in 2011-12 and further to 786 kgs per hectare in 2012-13. Due to the adoption of hybrid maize varieties and Bt cotton in recent years, the productivity of maize and cotton has increased substantially. The productivity of maize rose from 1822 kgs per hectare in 2000-01 to 2478 kgs per hectare in 2011-12 and to 2522 kgs per hectare in 2012-13. Over the same period the productivity of cotton rose from 190 kgs per hectare to as high as 488 kgs per hectare. If we consider the entire period of planning, we find that the average yield per hectare of pulses has grown by less than one percent annually on an average since the 1950s. As a result of increasing population, India has been forced to import large quantities of pulses over the years to meet the increasing domestic demand requirements. The productivity of oilseeds rose from 481 kgs per hectare in 1950-51 to 810 kgs per hectare in 2000-01 and 1169 kgs per hectare in 2012-13.

Now, we will discuss the all-India compound growth rates of yield of crops for the entire period of planning. The rate of growth of productivity of wheat doubled from 1.3 percent per annum in 1967-68 to 1980-81 to 2.6 percent per annum in 1980-81 to 1989-90. It was due to the adoption of HYV seeds in the irrigated areas in certain regions of the country i.e. Punjab, Haryana and Western Uttar Pradesh. The productivity of rice increased from 1.5 percent per annum in 1967-68 to 1980-81 to 3.2 percent in 1980-81 to 1989-90. The growth rate of productivity of oilseeds increase from 0.7 percent per annum to 2.4 percent annum during the same period. The growth rate of productivity of pulses was negative i.e. 0.7 percent per annum in 1967-68 to 1980-81 which was positive i.e. 1.6 per cent per annum in 1980-81 to 1989-90. After registering impressive performance during 1980s, the rate of growth of productivity decelerated in the economic reform period. The rate of growth of productivity of food-grains fell from 2.7 percent per annum in 1980s to 1.5 percent per annum in the 1990s and stood at 2.1 percent per annum in the first decade of the present century. If we consider all the crops together, the rate of growth of productivity fell from 2.6 percent per annum in

1980s to 1.3 percent per annum in 1990s and stood at 3.3 percent per annum during the period 2000-01 to 2012-13.

#### **18.4. CROPPING PATTERN SHIFT IN INDIA**

##### **18.4.1. Cropping Pattern in India**

Cropping Pattern means the proportion of area under different crops at a point of time, changes in this distribution over a period of time and factors determining this change in distribution. In India, cropping pattern is determined by natural factors like rainfall, climate and soil conditions. Apart from this, technological factors also played an important role. This is proved when with the adoption of High Yielding Varieties programme in the mid-1960s, area under wheat increased significantly, Area under oilseeds has also increased due to the introduction of various programmes by the govt. in recent years so that the production of oilseeds should be increased. What type of cropping pattern India have can be viewed from the following facts—

- (1) Food crops including cereals, millets, pulses, vegetables and fruits cover nearly three-fourths of total cropped area. Out of the total area under foodgrains a large proportion is occupied by cereals. In 1950-51 out of the total area of 97.3 million hectares under foodgrains as much as 78.2 million hectares i.e. 80.4 percent was under cereals. In 2012-13, of the total area of 120.2 million hectares under foodgrains, the area under cereals was 96.7 million hectares i.e. 80.4 percent. This means that the area under pulses was only about 19-20 percent of the total area under foodgrains both in 1950-51 and 2012-13.
- (2) Rice is the most important food grains crop in India. In 1950-51, it was grown on 30.8 million hectares i.e. 31.6 percent of total area under foodgrains which increased to 42.4 million hectares i.e. 35.3 percent of total area under foodgrains in 2012-13. This shows that rice is grown on more than one-third of the total area under foodgrains. In recent years area under rice has increased in almost all the states.
- (3) After rice, the second important foodgrain crop in India is wheat. In 1950-51, it was sown on 9.8 million hectares i.e. 10 percent of the area under food grains which was increased to 29.7 million hectares i.e. 24.7 percent of the area under

foodgrains in 2012-13. This improvement in the area under wheat was due to green revolution during the mid 1960s. Area under wheat has risen considerably in Punjab, Haryana, Uttar Pradesh and Bihar.

- (4) In case of coarse cereals, the combined area under jowar, bajra and maize declined in percentage from 28.6 in 1950-51 to 20.5 in 2012-13 which is disappointing. High yielding varieties can yield three to seven times more than traditional varieties but most of them are location-specific and are susceptible to pests and diseases. Moreover, low rate of profit, low value status and restricted demand as they are produced and eaten by poor people restrict their absorption capacity for yield-enhancing high cost inputs like chemical fertilisers. Coarse cereals also face competition from superior cereals like rice and wheat which in some areas are available at prices lower than that of coarse cereals.
- (5) Area under oilseeds was 10.7 million hectares in 1950-51 and in 1985-86, it was 19 million hectares. To meet the domestic requirement of edible oils, the govt. had to import considerable quantities of oilseeds in early 1980s. To achieve self-sufficiency in edible oils, the government launched a number of programmes in 1980s—National Oilseeds Development Project (NODP) in 1985-86, Technology Mission on Oilseeds (TMO) in May 1986 and Oilseeds Production Thrust Programme (OPTP) in 1987-88. As a result of these programmes, area under oilseeds increased rapidly from 19 million hectares in 1985-86 to 26.25 million hectares in 1998-99 and then it started falling and in 2003-04, it was 23.7 million hectares. In 2012-13, area under oilseeds stood at 26.5 million hectares.
- (6) In commercial crops, the area under sugarcane increased from 1.7 million hectares in 1950-51 to 2.8 million hectares in 1995-96 and 5.1 million hectares in 2012-13. Area under cotton rose from 5.9 million hectares in 1950-51 to 12 million hectares in 2012-13. The area under jute and mesta increased from 0.6 million hectares in 1950-51 to 0.9 million hectares in 2012-13.

The above discussed points show that the cropping pattern in India has undergone significant changes during the period of planning. First, with the introduction of new

technology during the mid 1960s, area under wheat has increased both in absolute and relative terms. Second, area under coarse grains and pulses considerably shrunk. Third, with the launching of the Technology Mission on Oilseeds during the mid-1980s, the area under oilseeds expanded significantly.

#### **18.4.2 Factors Determining Crop-Pattern**

The crop-pattern of any country is due to a number of factors which can be classified into the broad categories:

- (1) **Natural Factors.** These are the most important factors determining crop-pattern and relates to the physical characteristics and natural endowments of a region. Nature of soil, type of climate, extent of rainfall, etc. will determine the basic crop-pattern of a region over a period of time. In area having sufficient rainfall and water logging the most appropriate crop is rice since it can withstand water. In areas having low rainfall and small availability of water supply, the choice will naturally be jowar and bajra as these crops require small quantity of water.
- (2) **Economic Factors.** relates to prices of agricultural commodities, income of farmers, size of holdings, availability of agricultural inputs, nature of land tenure etc. Increase in prices of a certain crop consistently for some years relative to other crops can induce the farmers to shift over to that crop. For example, farmers growing pulses and inferior cereals like jowar, bajra and maize have been tempted to shift over to the production of wheat in recent years on account of price factors and also on account of the higher productivity potential of new high yielding varieties of wheat. Size of holdings also effect the crop-pattern as small farmers give first priority to food crops because they are more interested in fulfilling their food requirements. On the other hand, large farmers may devote a part of their land for growing cash crops. Availability of agricultural inputs like seeds, fertilizers, irrigation, etc. also affects the crop pattern to some extent.
- (3) **Historical Factors.** In some areas, certain crops are grown for necessity and then the cropping pattern is maintained through the years. Historical pattern of

land tenure also plays its role. If the land is divided into a number of small plots with ownership vested in numerous small and marginal farmers, the tendency will be to grow food crops. On the other hand, if ownership vested in large farmers, the tendency will be to produce more cash crops.

- (4) **Social factors.** The type of social environment, customs, traditions, outlook towards material things etc. also influence crop-pattern to some extent. In the pre-Independence period, the outlook of a majority of farmers was very narrow and they were bound by traditions. Therefore the same crop pattern was continued to be adopted by successive generation. But after independence, gradual changes in social awareness and social consciousness are emerging which are in turn making farmers more and more responsive of different crops.
- (5) **Government Policy.** Cropping pattern was also affected by the policies of the government relating to different crops, exports, taxes, subsidies, supplies of input, availability of credit etc. In the pre- independence period, cropping pattern was determined exclusively by other factors as government had a very restricted scope to play in the agricultural sector. However, after independence government play a very important role with regard to the policies of expansion of irrigation facilities, determination of agricultural prices, support prices and a host of other policies that have contributed towards the changing crop-pattern.

## **18.5. SUPPLY OF INPUTS**

“The secret of rapid agricultural process in the under-developed countries is to be found much more in agricultural extension, in fertilisers, in new seeds, in pesticides and in water supplies than in altering the size of the farm, in introducing machinery or in getting rid of middlemen in the marketing process”–W.A.Lewis.

### **18.5.1 Irrigation**

Increase in agricultural production and productivity depends very much on the availability of water. In areas where rainfall is plentiful and well-distributed over the areas, there is no problem of water. But this is not the case everywhere. The availability of irrigation facilities is highly inadequate in India. In 1950-51, gross irrigated area as percentage of

gross cropped area was only 17 percent. Despite massive investments on irrigation projects over the period of planning, gross irrigated area as percentage of gross cropped area was only 44.3 percent in 2006-07 which is 85.8 million hectares out of 193.7 million hectares. It means even now 56 percent of gross cropped area depends on rains. It is for this reason Indian agriculture is called 'a gamble in the monsoons'.

### **Irrigation Potential and Sources of Irrigation.**

India has vastly increased its irrigation potential after Independence. It increased from 22.6 million hectares in 1950-51 to 102.8 million hectares in 2006-07 which implies an increase of 355 percent. The utilisation has also increased by more than three and a half times that is from 22.6 million hectares over the same period. However, as against the ultimate irrigation potential of 139.89 million hectares, the actual utilization in 2006-07 was only 87.2 million hectares which is only 62.3 percent of the potential. This shows that by proper planning and concerted efforts it is possible to increase the area under cultivation substantially. It will help in increasing the agricultural production and productivity.

The sources of irrigation in India can be divided into the following (i) Canals, (ii) Wells and Tubewells, (iii) Tanks and (iv) Other sources. Approximately 25.9 percent of the irrigated area in India is watered by canals. This includes large areas of land in Punjab, Haryana, Uttar Pradesh, Bihar and parts of Southern States. Canals irrigated area had increased from 8.3 million hectares to 15.5 million hectares in 2005-06. Even then, its relative importance has come down from 40 percent to 25.9 percent. Wells are now spread over large areas of Punjab, Uttar Pradesh, Bihar, Rajasthan and Tamilnadu. Well irrigated area has increased from 6 million hectares in 1950-51 to 35.4 million hectares in 2005-06 accounted for nearly 58.8% of the total irrigated area as compared to only 29 percent in 1950-51. During this period, it is well irrigation particularly tube well irrigation which has made the most spectacular programs. In 1960-61, only 0.1 million hectares were irrigated by tubewells, but by 2000-01, over 16 million hectares were served by tubewell irrigation. Tubewells account for 28 percent of total irrigated area. Taken together, canals and wells watered 85.7 percent of net irrigated area in 2005-06. Tank irrigation is resorted mostly in Tamilnadu, Andhra Pradesh and parts of West Bengal and Bihar. Rivers of the South do not flow all the year round. Therefore, tanks are constructed for storing water in rainy season which is used for irrigation purposes.



In 2005-06, 3.3 percent of the net irrigated area was watered by tanks.

### **18.5.2. Fertilizers**

Indian farmers use only one tenth the amount of manure that is necessary to maintain the productivity of soil. Accordingly, proper use of manure and fertilizers alone can considerably enhance the productivity of soil. Indian soil is deficient in nitrogen and phosphorous and this deficiency can be made good by an increased use of fertilizers. In order to meet the increasing demand for agricultural commodities, larger quantities of fertilizers should be used for intensive cultivation. The use of fertilizers in Indian agriculture has received a boost after the initiation of the High Yielding Varieties Programme (HYVP) in 1966. This is a package programme where in due emphasis has been given to the use of chemical fertilizers.

### **Production, Consumption & Import of Fertilizers**

The production of fertilizers has increased by leaps and bounds in the post-independence period. For example, the production of fertilizers rose from a mere 39,000 tonnes in 1951-52 to 11.86 million and in 2005-06 it was 15.6 million tonnes which further increased to 16.3 million tones in 2009-10. However despite increase in production India has to import a large quantity of fertilizers to meet the local demand. Thus in, 1970-71, it had to import a total of 629 thousand tonnes of fertilizers which was 28.9 percent of total consumption. In 2008-09, the imports stood at 10,151 thousand tonnes which was 40.8 percent of total consumption. However, it had declined in the year 2009-10 to 8,123 thousand tonnes as a result of increase in domestic production.

As far as the consumption of fertilizers is concerned it was a meager 66,000 tonnes in 1952-53. The advent of the HYVP in 1966 completely changed the picture and consumption of fertilizers shots up substantially. For instance in 1990-91 it rose to 125 lakh tonnes and in 2008-09 stood at 249 lakh tonnes and further in 2009-10 it stood at 262 lakh tonnes. However, there are wide inter-state differences in per hectare fertilizer consumption. The per hectare consumption of fertilizers in 2006-07 was only 46.7 kg in Orissa against 209.2 kg in Punjab. The average for the country was 112.7 kg in the same year. In fact, the five states of Punjab, Haryana, Uttar Pradesh and Tamilnadu together account for a little less than half of the total fertilizers consumption

in the country. Moreover the rainfed areas which constitute about 60 percent of the cultivated area account for only about 20 percent of the total fertilizer consumption.

It is generally admitted that increased use of fertilizers can add substantially to foodgrains production. For instance, it has been estimated that 40 to 60 kgs per hectare can yield an additional 30 to 45 million tonnes of foodgrains. Keeping this in view, the Tenth Plan talks of strengthening efforts to increase fertilizer use particularly in the states, where its consumption is low, by providing adequate marketing infrastructure.

### **18.5.3. Seeds**

Under the new agricultural strategy, special emphasis has been placed on the development and widespread adoption of High Yielding varieties of seeds. Though the government had been paying attention to induce qualitative improvements in seeds ever since the initiation of planning process in the country yet the real impetus to these efforts was given by the adoption of new agricultural strategy in the Kharif season of 1966. In Mexico, Prof. Norman, Borlaug and his associated developed new varieties of wheat which were early maturing, highly productive and disease resistant during the 1960s and these varieties were imported and planted in selected regions of India having adequate irrigation facilities. In 1966-67 area under High Yielding Varieties (HYV) of seed was a meager 1.89 million hectares. In 1970-71 only 15.7 million hectares of land had been brought under HYV seeds which rose to 43.1 million hectares in 1980-81. During 1990-91, the area under high yield varieties of seeds was 62.9 million hectares which rose to 121.9 million hectares in 2000-01.

Production of improved seeds and especially high-yielding varieties of seeds was encouraged on the farms of the centre and the state governments and by registered seed growers. Besides, Indian Council of Agricultural Research, Punjab Agricultural University at Ludhiana, G.B. Pant Agricultural University at Pantnagar and several other research institutes were engaged in the task of developing new hybrid varieties suitable to Indian conditions and in adopting imported varieties to Indian requirements.

Introduction of such high-yielding varieties of wheat depends crucially on the availability of fertilizers, adequate water supply; pesticides and insecticides. Therefore, they have to be launched in the form of a package programme. Because of their dependence on

irrigation, they could be adopted only in areas having proper irrigation facilities. Area under High Yielding Varieties of seeds which was a meagre 0.54 million hectare in 1966-67 rose to 7.86 million hectare in 1971-72 and 24 million hectares in 1998-99. The rapid expansion of the area covered under HYV would be clear from the fact that wheat area covered under HYV was 87.2 percent in 1998-99 of the total area under the crop. HYV area as a percentage of total cropped area was 95 percent in the case of jowar, 76.9 percent in the case of bajra, 73.7 percent in the case of rice but only 58 percent in the case of maize in 1998-99.

As far as the distribution of certified quality seeds is concerned, it increased from 25 lakh quintals in 1980-81 to 179 lakh quintals in 2007-08 and 215.8 lakh quintals in 2008-09 and is anticipated to have increased further to 257 lakh quintals in 2009-10. The HYVP has been taken up for five crops. Among these the most striking success has been achieved in wheat. The average yield of wheat was 827 kg/ha in 1965-66 which excelled to 2671 kg/ha in 2006-07. With high yielding strains the yield have been high in Punjab, Haryana, Western U.P. plains and Northern parts of Gujarat; Elsewhere, the yields have been low. The major factor which triggered the wheat revolution in Satluj-Yamuna plains was the introduction of high yielding, nitrogen responsive strains from Mexico. As regards the other crop production, yields have been rather low. As against the average yield of 862 kg/ha of rice, it increased to 2127 kg/ha in 2006-07 in India. The yield increased due to the increasing area under improved strains. The productivity of coarse cereals also increased but at slower pace. The national average yield was 483 kg/ha which went up to 1193 kg/ha in 2006-07.

## **18.6 LET US SUM UP**

To conclude, we can say that agriculture sector has achieved spectacular growth during the planning period. Though it was less than the targetted growth rate. There was inter-regional variations in the growth of output. Northern region shows much better growth rate as compared to other regions. This was due to the reason that HYVP was initiated in the Northern region i.e. Punjab, Haryana and Western Utter Pradesh. Same is the case with productivity. Punjab was the highest productivity followed by Haryana and others. Cropping pattern has shifted over the years. Area under commercial crops has increased due to its increased price a number of factors influence this cropping pattern.

Inputs like seed, fertilizers and irrigation also contributes towards this.

### **18.7 LESSON END QUESTIONS**

- Q.1. Discuss the trends in agriculture growth in India.
- Q.2. Discuss the inter-regional variations in growth of output and productivity.
- Q.3. What is the role of different inputs towards agriculture growth?
- Q.4. Is the cropping pattern shift in India? What are various factors which influence shift in cropping pattern?

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## **FOOD SECURITY IN INDIA**

### **STRUCTURE**

- 19.1. Introduction
- 19.2. Objectives
- 19.3. Concept of Food Security
- 19.4. Public Distribution System (PDS)
  - 19.4.1. Concept of PDS
  - 19.4.2. Flaws in PDS
  - 19.4.3. Revamped PDS
  - 19.4.4. Targetted PDS
- 19.5. Status of ICDS and MDMs
  - 19.5.1. ICDS
  - 19.5.2. MDM
- 19.6. Let Us Sum Up
- 19.7. Lesson End Questions

### **19.1 INTRODUCTION**

Even though self-sufficiency of food production has been achieved, the population still lacks access to balanced food. It is a matter of concern that even though cereal production has kept pace with the increasing requirements and average per capita

intakes of cereals have remained satisfactory, there have been a fall in the per capita consumption of pulses...”

—Ninth five Year Plan (1997-2002)

## **19.2 OBJECTIVES**

After going through the lesson the student will:

1. Be able to understand the concept of food security.
2. Understand the role and working of Public distribution system (PDS) in food security and flaws in its operation.
3. Get familiarize with modifications in PDS like Revamped PDS and Targetted PDS
4. Learn about the role of ICDS and MDM in food security

## **19.3 FOOD SECURITY IN INDIA**

The Indian planners, right from the beginning, realised the need to attain self-sufficiency in foodgrains as one of the important goals of planning. It was also realised by India's First Prime Minister Jawahar Lal Nehru. When India suffered very severe droughts during 1965 and 1966, the then American President, Lyndon Johnson, restricted food aid to monthly basis under the P.L. 480 programme. This was done to force India not to condemn American aggression in Vietnam. The Government of India under Prime Minister Indira Gandhi went in for seed-water-fertiliser policy popularly known as the green revolution. This policy ushered in a revolution in food production in India and dispensed with foodgrains imports altogether. India achieved self-sufficiency in foodgrains by the year 1976 and since then, Indian imports of cereals have remained negligible (except in 2006-07). Progress on food grains front reveals the following—

- (i) Food grains production had increased from 51 million tonnes to 218 million tonnes more than four fold increase in the production of food grains between the period 1950-51 and 2009-10
- (ii) The various components of cereal production indicate that where as cereals accounted for 84 percent in foodgrains in 1950-51, their share has increased to 94 percent in 2009-10, the share of pulses, however, has declined from

16 percent to just 6 percent during the same period.

- (iii) Within cereals, the share of the two "superior" cereals-rice and wheat-which was only 53 percent in 1950-51 had improved to 78 percent in 2009-10. During the same period the share of coarse cereals had declined from 30 percent to 16 percent. This indicates that even the weaker sections favour rice and wheat as against coarse cereals they normally consumed earlier.

During 1950-51, annual net imports were of the order of 4.1 million tonnes and increased to 10.3 million tonnes during 1965-66. They were around 6.4 million tonnes per year during 1966-71. They declined thereafter and since 1976, food imports were negligible. After 1995-96, India became a net exporter of cereals during 2009-10 was 7.2 million tonnes. Also the per capita availability of cereals and pulses indicates an over-all improvement in per capita availability of food grains from about 395 grams per day to 445 grams between 1951 and 2010. This has two components cereals and pulses. The per capita availability of cereals increased from 334 gms to 444 gms, but the availability of pulses has declined deeply from 61 grams per day to 37 grams per day indicating the growing poor quality of food.

The per capita consumption of coarse cereals declined from 116 gms per day in 1950-51 to 90 gms per day in 1997-98—a fall of nearly 25%. Obviously, while moving towards food grains security, India has succeeded in terms of cereals, but has miserably failed to increase the production of pulses consistent with the needs of a growing population.

### **Concept of Food Security**

“Food Security implies access by all people at all times to sufficient quantities of food to lead an active and healthy life”. P.V. Srinivasan points that this requires not just adequate supply of food at the aggregate level but also enough purchasing capacity with the individual households to demand adequate levels of food. As far as the question of 'adequate' supply' is concerned, it involves two dimensions. i) the quantitative dimension-the overall food availability in the economy should be sufficient to meet the demand. ii) the qualitative dimension the nutritional requirement of the population are properly looked after. And as far as the question of 'enough purchasing capacity' is

concerned it involves the introduction of employment generation programmes so that the income and purchasing power of the people increases. To tackle the quantitative and qualitative aspects of the food security problem, the Government of India has relied on the following three food - based safety nets. (1) Public Distribution system (PDS), (2) Integrated child development services (ICDS). And (3) Mid Day Meal (MDM). As for as the issue of providing purchasing power to the people is concerned, various employment programmes have been introduced from time to time.

#### **19.4. PUBLIC DISTRIBUTION SYSTEM [PDS]**

##### **19.4.1 Concept of PDS**

This has been the most important food based safety net introduced by the Government of India.

**Objectives :** the basic objective of the public distribution System in India is to provide essential consumer goods at cheap and subsidised prices to the consumers so as to protect them from the impact of rising prices of these commodities and maintain the minimum nutritional status of our population. To run this system the government resorts to levy purchases of a part of marketable surplus with traders/millers and producers at procurement prices. The grain mainly wheat and rice thus procured, is used for distribution to the consumers through a network of ration fair price shops and for building up buffer stocks. In addition to food grain, PDS as also been used in India for the distribution of edible oils, sugar, coal, kerosene, and cloth. The most important items covered under PDS in India have been rice, wheat, sugar, and kerosene. Coarse grains like Jowar, Bajra, Maize etc. virtually do not figure in the PDS as their combined sales have amounted to less than 1 percent of the total PDS sales. Pulses which is an important source of protein for the poor, have had a share of less than 0.2 percent in the total PDS sales.

PDS in India covers the whole population as no means of direct targetting are employed. The criterion is to issue ration cards to all those households that have proper registered residential addresses. The number of fair price shop (FPS) has increased over the years from 0.47 lakh at the end of 1960 to 3.12 lakh in 1984 and is presently 4.74 lakh. PDS distributes commodities worth more than Rs. 30,000 crore annually to about 160 million



families and is perhaps the largest distribution network of its kind in the world. The quantities supplied through the PDS outlets remained below 5 millions tonnes up to 1963, and they had gone up to 14 million tonnes by mid 1960s. Throughout the 1970s the quantities remained around 10 million tonnes during the 1980s, the average was around 16 million tonnes. The offtake from PDS outlets reached a peak level of 19.0 million tonnes in 1991-92 but thereafter tended to decline. The gap between allocation and offtake from the PDS increased both for rice and wheat but particularly for wheat. In 1991-92 the combined allocation of rice and wheat under PDS was 21.92 million tonnes while off take was 19 million tonnes which was 86.7 percent of allocation. In 2001-02 against the combined allocation of rice and wheat of 30.37 million tonnes under PDS, the off-take was merely 13.84 million tonnes which was just 45.6 percent of allocation. This reduced offtake become a serious cause of concern as unsold stocks in the PDS led to heavy handling and storage costs for the government agencies.

#### **19.4.2. Flaws in Food Security System or PDS**

The PDS in India has been criticised on the following grounds-

##### **1. Limited Benefit to Poor from PDS**

Many empirical studies have shown that the rural poor have not benefited much from the PDS as their dependence on the open market has been much higher than on the PDS for most of the commodities. Similarly, urban poor have also depended to a substantial extent on the open market to meet their consumption requirements. In a study on the effectiveness of PDS in reaching the poor, Kirti S. Parikh says, “The cost effectiveness of reaching the poorest 20 percent of households through PDS cereals is very small. For every rupee spent, less than 22 paise reach the poor in all states. Excepting in Goa, Daman and Diu where 28 paise reach the poor. This is not to suggest that PDS does not benefit the poor at all, but only to emphasize that this support is provided at high cost”.

##### **2. Regional Disparities in PDS Benefits.** There are considerable regional disparities in the distribution of PDS benefits. For example, in 1995, the four Southern States of Andhra Pradesh, Karnataka, Kerala and Tamilnadu, accounted for almost one-half (48.7 percent) of total PDS off take of food grains in the country while their

share in all India population below the poverty line in 1993 -94 was just 18.4 percent. As against this, the four Northern States of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh i.e. BIMARU states having as much as 47.6 percent of all India population below the poverty line in 1993 - 94 accounted for just 10.4 percent of all India off take of food grains for PDS in 1995.

3. **The Question of Urban Bias.** A number of economists have pointed out that PDS remained limited mostly to urban areas for a considerable period of planning while the coverage of rural was very insufficient. In an article published in 1984, P.S. George estimated that the offtake in the urban areas was about 85 percent of the total off take from the PDS. However using data available from the 42nd round of NSS, S. Mahendra Dev and M.H. Surya Narayana indicated that for most of the states, with the exception of West Bengal the urban bias may not be present. Infact, based on certain criteria they argued that the PDS is rural biased at the all-India level for rice coarse cereals.
4. **The Burden of Food Subsidy-**PDS is highly subsidised in India and this has put a severe fiscal burden on the government. Subsidy on PDS arises from the difference between the issue price and the economic cost of the FCI. From ₹ 662 crore in 1980-81 food subsidy rose to ₹ 2,850 crore in 1991-92 and further to ₹ 43,668 crore in 2008-09. In 1997, the government adopted the targetted PDS in which issue prices for BPL families were fixed at 50 percent of the economic cost of FCI while the issue prices for APL families were fixed equal to the economic cost. The drastic reduction in the issue prices for BPL families raised the subsidy burden considerably.
5. **Inefficiencies in the operations of FCI.** The Bureau of Industrial costs and price (BICP) of the government of India and some researchers have pointed out a number of inefficiencies in the operations of the FCI. The economic cost of FCI foodgrains operations has been rising on account of increase in procurement prices and other costs. For example, the economic cost of rice procurement went up from Rs. 497 per quintal in 1991-92 to Rs. 1790 per quintal in 2008-09. During the same period the economic cost of wheat procurement rose from Rs. 391 per quintal to Rs. 1393 per quintal.

6. **PDS Results in price Increases.** Some economists have pointed out that the operations of the PDS have, in fact resulted in an all round price increase. This is due to the reason that large procurement of foodgrains every year by the government actually reduces the net quantities available in the open market. Traders have indulged in speculation due to the low supplies in the market raising the food grains prices in the open market to unusually high levels. The dual market system-the PDS and the open market operates to the disadvantage of the poor.
7. **Leakages from PDS.** Another criticism of PDS relates to the problem of leakages from the system in the form of losses in the transport and storage and diversion to the open market. The major part of the leakages is due to diversion of foodgrains to the open market because of the widespread prevalence of corrupt practices. Instead of selling ration at subsidised rates shop-keepers sell them in the open market at higher prices.

#### **19.4.3 Revamped Public Distribution System. [RPDS]**

On 1st January, 1992 the Government of India launched a new scheme to revamp the public distribution system [PDS]. The Govt. has identified 1775 blocks falling in drought prone desert integrated tribal development project areas. The revamped PDS would cover nearly 16 crore people living in these identified areas. It was decided to issue new ration cards in these newly identified areas. Besides commodities like tea, soap, pulses and oil seeds, salts, are also envisaged to be distributed through PDS. It has been decided that about 11,000 new fair price shop (FPS) would be opened to cater to the basic needs of the people. The govt. has taken initiatives to open 1,000 additional godowns with a total storage capacity of 3,30,000 tonnes in these identified areas. Under this revamped PDS, these new initiatives have the following objectives.

- (i) It has been decided to make special efforts for effective reach of benefits to the families of the identified areas living below the poverty line.
- (ii) In these identified areas the delivery of commodities to the door step of the FPSs would be undertaken by the state governments wherever possible.
- (iii) To ensure a minimum availability of food grains per adult per month to the people of these identified areas.

- (iv) To ensure strict vigilance over the delivery system, vigilance committees would be formed at the FPS level for its proper supervision. These committees would check the receipts & actual amount of distribution of the commodities through FPS network.
- (v) In order to eliminate bogus ration cards, a routine check of these ration cards would normally be under taken & steps also be taken to issue new ration cards simultaneously.
- (vi) A time - bound plan be undertaken to meet infrastructural requirement i.e. opening of FPSs, storage capacities etc.

The govt. of India has announced the extension of the RPDS to 671 additional blocks. The extension of coverage to these additional blocks will be in line with the Prime Ministers announcement that additional blocks identified for implementation of the employment Assurance (EAS) will be brought under the RPDS. The Department of Rural areas & Employment has now finalised the list of 2446 blocks to be covered under the EAS programme. However, during 1995 - 96 RPDS has been extended to 200 more blocks.

### **Main Achievements of RPDS**

- (A) 1775 blocks have been identified in 23 states and four UTS under the scheme. These include blocks covered under various area specific programmes such as Desert Development programme (DDP) Drought Prone Areas Program (DPAP). The integrated tribal Development projects (ITDP) and certain designated Hill Areas (DHA) for implementing the RPDS.
- (B) 14,181 additional FPSs have been opened in the RPDS areas to improve its access to the consumers.
- (C) 3.86 million additional ration cards have been issued till now as a part of the scheme to issue ration cards to all households in the RPDS area.
- (D) Additional commodities of common use such as tea, iodised salt, pulses and soaps are being distributed through Public Distribution system outlets in the RPDS areas in most states.

- (E) Additional storage capacity worth 4,62,000 tonnes had been hired and 69,000 tonnes storage capacity created in these areas.
- (F) A scheme to deliver PDS commodities at the door step of FPSs has been introduced. About 55,000 FPS out of total number of 1,02,000 FPS in the RPDS areas have been covered under this scheme.
- (G) The most states have set up vigilance committees at the FPS level comprising women consumer activists and local consumer to ensure people's participation in monitoring of the PDS.
- (H) In order to increase the availability of food grain for distribution in the RPDS areas, an additional quantity of 2 million tons per annum from the central pool was earmarked by the centre with effect from June, 1992.

#### **19.4.4. Targetted Public Distribution System [TPDS]**

With a view to reducing the burden of food subsidy and targetting it better to the really needy people, the government of India adopted the Targetted Public Distribution System (TPDS) from June 1, 1997. TPDS aims at providing food grains to people below the poverty line at highly subsidised prices from the PDS and foodgrains to people above the poverty line at much higher prices. Thus, the TPDS adopted by the Government of India maintains the Universal character of the PDS but adds a special focus on the people below the poverty line (BPL). The key features of TPDS as adopted by the Government of India as follows:

- (1) **Targetting.** The most distinctive feature of the TPDS in relation to the previous policy is the introduction of the targetting by dividing the entire population into below poverty line (BPL) and above poverty line (APL) categories; The maximum income level for the population to be covered under BPL was kept at Rs. 15,000 per annum. Initially a quantity of 10kg of foodgrains per household per month was approved. Later on, this was raised to 25 kg per month. On April 1, 2002, the government raised this further to 35 kg per household per month.
- (2) **Dual or Multiple Prices.** The second distinguishing feature is that the PDS now has dual central issue prices—prices for BPL consumers and prices for APL consumers. A third price, introduced in 2001, is for beneficiaries of the Antyodaya Anna Yojna AAY. In March 2000, a major policy change occurred when it was

announced in the budget that central issue prices—that is, prices at which the FCI sells grains for the PDS to state governments will be set at 50 percent of the economic cost of FCI for BPL families and at 100 percent of the ‘economic’ cost for APL families. Later the prices for APL families were reduced. The Central prices are as follows-

- (i) ₹ 6.10 per kg of wheat and ₹ 7.95 per kg of rice for APL families.
- (ii) ₹ 4.15 per kg of wheat and ₹ 5.65 per kg of rice for BPL families, and iii) ₹ 2 per kg of wheat and ₹ 3 per kg of rice for families covered under AAY. Presently 2.50 Crore poorest of the poor families in the BPL category are covered under AAY.

- (3) **Centre-State Control.** A third important feature of the TPDS is that it has changed Centre-State responsibilities with respect to entitlements and allocations to the PDS. With the TPDS now, the size of the BPL population and entitlements for the BPL population are decided by the Central Government.

Total number of families covered under BPL and AAY is presently 6.52 crore. Allocations of food grains are made to these families at the rate of 35 kg per family per month. The total BPL and AAY allocations made during 2009-10 were 276.77 lakh tonnes. Comprising 181.05 lakh tonnes of rice and 95.72 lakh tonnes of wheat. Allocations of foodgrains under APL category in 2009-10 were 197.17 lakh tonnes.

## **19.5 STATUS OF ICDS AND MID DAY MEAL (MDM)**

### **19.5.1 Integrated Child Development Services (ICDS)**

Integrated Child Development Services (ICDS) launched in 1975 is a centrally sponsored scheme implemented by the ministry of human resource development. The Central Government is responsible for programme planning and operating costs while State Governments are responsible for programme implementation and providing supplementary nutrition out of their own resources. ICDS integrates supplementary nutrition with primary health care and informal education. It is one of the largest child intervention programmes in the world with a holistic package of six basic services for children upto 6 years of age and for pregnant and nursing mothers. These services are-

- (1) Supplementary feeding the ICDS provides to a child food ration for 300 days, containing 300 calories and 12.5 gms protein and to pregnant and lactating women food

ration containing 500 calories and 12-15 gms protein; (2) Immunization; (3) health check ups; (4) reversal services; (5) health and nutrition education to adult women; and (6) non-formal pre-school education to 3-6 years old. The programme is implemented through a chain of projects, each of which is located at a community block. Covering around 1,00,000 population in rural and urban areas and 35,000 population in tribal areas. The ICDS project located at a community block targets to provide food supplements to 40 percent of 17,000 children aged under six years and 40 percent of the pregnant and lactating women. ICDS is being implemented through one platform i.e. anganwadi centre. The staff includes Chief Development Project Officer, Supervisors, anganwadi workers and helpers.

The expenditure for running ICDS is currently met from three broad sources - (a) Funds provided by the Central government under 'General ICDS', used to meet expenses on account of infrastructure, salaries of ICDS staff, training, basic medical equipment, pre-school learning kits etc. (b) Funds allocated by state governments under their respective budgets to provide supplementary nutrition and (c) Funds provided under the Pradhan Mantri Gramodaya Yojana as additional Central assistance technically to be used to provide monthly take home rations to children in the 0-3 years age group living below the poverty line and in need of additional supplements.

Starting with a modest 33 blocks, ICDS has gradually expanded to 6,118 projects of which 5,659 projects with 7,48,229 anganwadi centres were operational by March 31, 2006. The coverage of ICDS has expanded steadily over the years. In March 1992, it had 1.7 crore beneficiaries. This number rose to 2.8 crore in June 1999. At the end of December 2007, 5959 ICDS projects and 9,32,000 anganwadis and mini-anganwadi centres were functional. The beneficiary count increased to 6.29 crore children and 1.32 crore pregnant mothers.

#### **19.5.2. Mid Day Meal (MDM)**

The National programme of nutritional support to primary education, commonly known as the mid-day meal scheme launched in 1995, is a nationwide Central scheme intended to improve the enrollment and regular attendance and reduce drop out in schools. It was also intended to improve the nutritional status of primary school children. MDM is the world's largest school feeding programme reaching out to about 11 crore children in over 12 lakh schools centres across the country. This scheme is implemented in all

states and Union territories. The scheme has been revised many times over the years in order to improve the quality of meal and ensure better infrastructure facilities. As envisaged in September 2004, the scheme aimed at providing cooked mid-day meal with 300 calories and 8-12 grams of proteins to all children studying in classes I-IV in Government and aided schools and alternate and innovative education centres. In addition to free supply of food grains, the scheme provided Central Assistance for (i) Cooking cost at the rate of Rs. 1 per child per school day, (ii) transport subsidy of Rs. 100 per quintal for special category States and Rs. 76 per Quintal for other States. (iii) Management, monitoring and evaluation costs at the rate of 2 percent of the cost of food grains, transport subsidy and cooking assistance and (iv) provision of mid-day meal during summer vacation in drought affected areas. In July 2006, the scheme was revised and assistance for cooking cost was raised to ₹ 1.80 per child per school day for north-eastern states and to Rs. 1.50 per child per school day for other states. In October 2007, the scheme was extended to cover children in upper primary classes i.e. VI to VIII initially in 3,479. Educationally Backward Blocks (EBBS). From 2008-09, i.e. with effect from April, 2008 the scheme covers all children studying in Government.

Local body and Government aided primary upper primary schools and the alternate and innovated education centers including Madersa and Maqtabas supported under Sarva Shiksha Abhiyan (SSA) of all areas across the country. The calorific value of a mid day meal at upper primary stage has been fixed at a minimum of 700 calories and 20 grams of protein by providing 150 grams of food grains per child per school day. The cooking cost was raised for primary to ₹ 2.29 per child and ₹ 4.03 for upper primary children from April 1, 2010. The allocation for mid day meal scheme was ₹ 5,348 crore in 2006 -07 which was raised to ₹ 9,440 crore in 2010-11. Allocation for MDM scheme in union budget for 2013 - 14 is ₹ 13.215 crore.

## **19.6 LET US SUM UP**

The Government of India were aware of the problem of food inavailability at the time of independence. The growing population raised the need of attaining self-sufficiency in food grain production. India adopted HYVP in 1966 which raised the foodgrain production particularly wheat and rice. After that the import bill of foodgrain goes down and India became self-sufficient. India is the only country which has the largest food safety net i.e. PDS. Through PDS, Govt. provides essential consumer goods at cheap and subsidised rates to the consumers. But there were some flows in the PDS and to



overcome it, the Govt. introduced RPDS and TPDS. So that it can provide the benefits to the actual beneficiaries (BPL families). Govt. of India also introduced ICDS and MDM schemes. These both schemes are child schemes which aim at increasing the enrolment ratio in the schools and to provide minimum calories to the students.

#### **19.7 LESSON END QUESTIONS**

- Q.1. What do you mean by the concept of food security and also state the present position of food security in India?
- Q.2. What is Public Distribution System? What are various flows in the Public Distribution System?
- Q.3. What steps have been taken by the Government of India to overcome these flows in Public Distribution System?
- Q.4. Write a short note on ICDS and MDM.

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## **CAPITAL FORMATION IN INDIAN AGRICULTURE**

### **STRUCTURE**

- 20.1. Introduction
- 20.2. Objectives
- 20.3. Capital Formation in Indian Agriculture
  - 20.3.1. Concept of Capital Formation
  - 20.3.2. Extent of Capital Formation
  - 20.3.3. Reasons for declining in Public Investment in India
- 20.4. Factors affecting Capital Formation
- 20.5. Subsidies on Agricultural Inputs and their Impact
  - 20.5.1. Power and Irrigation Subsidies
  - 20.5.2. Fertiliser Subsidy
  - 20.5.3. Impact of Subsidies
- 20.6. Let Us Sum Up
- 20.7. Lesson End Questions

### **20.1. OBJECTIVES**

Capital formation in agriculture is very essential for accelerating the growth of agriculture sector. Investment in agriculture leads to less growth of infrastructural facilities

like power, irrigation, market access, rural roads, cold storage. The decline in the share of the agricultural sector's capital formation in GDP from 2.2 percent in the late 1990s to 1.7 percent. In 2004-05 is a matter of concern. The declining share was mainly due to the stagnation or fall in the public Investment in irrigation, particularly since the mid 1990s. One more reason for this declining trend is the commitment towards WTO. The HYUP introduced in 1966 demanded a high priority to the supply of Inputs like irrigation, seeds, fertilisers, power. The Government of India subsidises these inputs so that it can be easily available to the farmers. The result of these subsidies is heavy fiscal burden on the government whereas its marginal cost to the farmer is zero. Moreover, it has number of other consequences too.

## **20.2. OBJECTIVES**

After going through the lesson the student will.

1. be able to understand the concept of capital formation.
2. know about the extent of gross capital formation and Public investment in Agriculture.
3. be able to know reasons of declining Public investment in Agriculture.
4. be able to describe the factors affecting capital formation in Agriculture.
5. know about different types of subsidies on Agricultural Input and their impact on Agriculture

## **20.3. CAPITAL FORMATION IN INDIAN AGRICULTURE**

### **20.3.1. Concept of Capital Formation**

When the economy of a backward country develops, the share of primary sector in GDP declines. The contribution of agriculture to GDP declines. This is reflected in case of India as the share of agriculture and allied activities in GDP at factor cost has registered a fall from 53.1 percent in 1950-51 to only 13.7 percent in 2013-14. However, this decline in GDP has not been accompanied by a declining labour force in agriculture and allied activities. In 1951, 69.5 percent of the working population was engaged in agriculture, now approximately 52 percent of the working population is

engaged in agriculture. The population of the country has been increasing at a rapid rate, the actual burden of the workforce on agriculture has increased. Thus, any decline in investment in agriculture has to be viewed with concern. This is so because the growth of infrastructural facilities determines the growth of a particular sector which ultimately depends on capital formation. Less investment in agriculture would mean less growth of infrastructural facilities like irrigation, rural roads, market, power, cold storage etc. and this would in turn affect agricultural growth adversely. The government investment was significant in boosting growth in agriculture. The role of the government was not only to raise investment but also induce private investment in agriculture. In the early stages of technology breakthrough and green revolution there was some improvement in private investment in farm assets like irrigation pumps, wells, tractors etc. Thereafter, private investment declined. Since 1980-81, there has been some buoyancy in private investment in agriculture from 70% to 82%. The rising trend in private investment probably reflects the improved incentives for agriculture and favourable change in the trade policy.

### **20.3.2. Extent of Capital Formation**

#### **Gross Capital Formation and Public Investment in Agriculture**

- (i) Total investment in agriculture was ₹ 14,836 crore in 1990-91 which rose to ₹ 17,304 crore in 1999-2000. Total investment in agriculture in 2004-05 was ₹ 76,096 crore and ₹ 1,46,578 crore in 2011-12.
- (ii) Public Sector investment in agriculture was ₹ 4,395 crore in 1990-91 and ₹ 4,221 crore in 1999-2000. In percentage terms, this meant a fall in the share of public investment in total investment in agriculture from about 30 percent to less than 25 percent. Thus, the share of private sector in total investment in agriculture rose from about 70 percent to 75 percent. The share of public sector investment in total investment in agriculture was only 15 to 25 percent from 2004-05 to 2011-12 implying that the share of private sector investment in total investment was as high as 75 to 85 percent.
- (iii) Gross Capital Formation (GCF) in agriculture (GCFA) was 9.9 percent of total GCF in 1990-91 and this fell drastically to only 3.5 percent in 1999-2000. This brings out clearly the total neglect of agriculture during the period of 1990s. The

share of GCFA in total GCF was 10.2 percent in 1999-2000 which fell to just 7.7 percent in 2004-05. The poor investment in agriculture is one of the main causes of slow growth in agriculture in recent years.

- (iv) The share of GCFA in public sector in total GCF in public sector shows similar trends. It was just 6.7 percent in 2005-05 and 4.7 percent in 2011-12.
- (v) The share of the agricultural sectors capital formation in GDP was only 2.8 percent in 1999-2000 and 2011-12.

This decline in public investment in agriculture is a serious cause of concern because of the potential negative impact on agricultural growth over the longer term. Gulati and Bathla have estimated that a 10 percent decrease in public investment leads to 2.4 percent annual reduction in agricultural GDP growth.

### **20.3.3 Reasons for declining Public Investment in India.**

Public Investment is a great disappointment. After showing an uptrend in the seventies public investment in real terms has generally declined. Public investment is a critical factor to capture capital formation in agriculture and sustain private investment. If the declining trend of public sector capital formation is not reversed, prospects of agricultural growth in the country are dim. The reasons for declining public investment in India are discussed below :

- 1. Increasing Subsidies Reduce Capital Formation.** The most important cause for the declining in public investment in agriculture is the diversion of resources from investment to current expenditure. A large portion of public expenditure on agriculture in recent years went into current expenditure in the form of increased subsidies for food and agricultural inputs. For example, agricultural subsidies rose from ` 50,771 crore in 2000-01 to ` 80,829 crore in 2005-06 and further to as high as ` 2,04,668 crore in 2008-09. Food subsidy alone is estimated at ` 92,000 crore in 2013-14 while fertilizer subsidy is estimated at ` 67,971.50 crore.
- 2. Under Pricing of Inputs.** A.Vaidyanathan argued correctly, not only is the high level of subsidies fiscally unsustainable, underpricing of inputs is a major cause of indiscriminate and wasteful use of these inputs, raising the costs of production and

contributing to degradation of land, pollution of water resources and over exploitation of ground water. The fiscal compulsions for reform in the input sectors are already very strong and will become even more compelling in times to come. According to Vaidyanathan, the political argument for reduction in subsidies in effect give recurring doles to producers of the inputs and to a small sector of the farming community thereby diverting massive amounts of resources from much-needed investments in expanding and improving economic and social infrastructure for the rural masses.

3. **Increased Public Expenditure on Rural Development Schemes.** One reason for declining public investment in agriculture is the increased and larger public expenditure on rural development schemes like Mahatma Gandhi National Rural Employment Guarantee Act. (MGNREGA), other rural development and poverty alleviation programmes.
4. **Lower allocation of Agriculture Research & Education.** It is important to note that public expenditure on agricultural research and education as a proportion of total expenditure on agriculture and allied sectors, which declined during 7th and 8th plans, increased significantly during the spending subsequent plan periods. However, public spending on agriculture research, education and extension is about 0.6-0.7 percent of agricultural GDP which is much lower than the international norm of 2 percent.
5. **Lower Allocation for Irrigation.** Of the total public sector investment, the allocation for major and medium sector irrigation project was 19% in the first plan and just about 5 percent in the Eighth plan. In the major states, the percentage of allocation horses around 15 percent of the total investment. This is clearly inadequate in the major and medium irrigation sectors. At the same time, government needs to pump in greater investment in developing minor irrigation facilities to provide benefits to larger agrarian community who otherwise are unable to benefit from major and medium irrigation schemes. Further, the decline in public investment invariably retards the creation of fresh irrigation potential.

**Conclusion.** Apart from above mentioned reasons, some of the reasons for slower growth in public investment in agriculture are—large expenditure incurred

on maintenance of existing projects, inordinate delays in completing the projects on hand, relatively lower allocation for irrigation; rural infrastructure and research, lack of effective credit support and credit infrastructure in rural areas and a belated growth in private investment. The demand-supply paradigm; the growing land scarcity and lopsided development are outward manifestation of stagnant capital formation in agriculture.

#### **20.4 FACTORS AFFECTING CAPITAL FORMATION IN INDIAN AGRICULTURE**

The determinants of private investments are fairly well identified in a behavioristic frame in investment literature. The results of many studies show that the past savings, asset holdings, area irrigated, productivity of land and priorities among investment opportunities are farm specific determinants of private fixed capital formation in agriculture. The availability of external finance and the user cost of capital are the policy variables. The policy support for institutional credit ; marketing and prices of farm inputs and output are effective instruments to promote private capital formation in agriculture.

The public investments have been usually treated as exogenous variables by scholars in their macro-modelling of the Indian Economy. Two factors that together determine the supply of investment funds to governments in India are-(i) net borrowings of the state; and (ii) financial surpluses emerging in revenue account of the state budgets. The third factor is the relative share of agriculture sector in total fixed capital formation in the entire Indian Economy on public account. It is a broad measure of overall government preference for agricultural investments vis-à-vis investments in other sectors.

It has been estimated that each additional rupee of net borrowing by the state resulted in about two-fifths of a rupees worth of fixed capital formation in agriculture on public account over the period 1960-92. It should amply manifest the priority, the government is attaching to agriculture in terms of public investment. However public investment will need to be stepped up further in diversified activities of agriculture to sustain its growth along the time path.

Apart from this, there are several factors which impede the flow and pattern of investment in agriculture, the major being :

- (i) Meagre growth in minor irrigation and farm mechanization, which are the major sub-sectors in agriculture ;
- (ii) Declining public sector investment in the basic infrastructure;
- (iii) Limited credit absorptive capacity ;
- (iv) Lack of effective mechanism for technology transfer and poor extensive services ;
- (v) Limited infrastructure for agro-processing, storage, warehousing, value addition and marketing.
- (vi) Restriction on purchases outside the mandis ;
- (vii) Weather aberrations and output price fluctuations ;
- (viii) Inadequate risk mitigation mechanism; and
- (ix) Absence of proper land records.

Besides there are several factors in particulars constraining the banking institutions in deployment of investment credit.

- (i) high transaction costs, (ii) structural deficiencies in rural credit delivery system resulting in limited outreach, (iii) issues relating to credit worthiness; lack of collateral or low as set base of farmers, (iv) low volume of loans associated with high risk, (v) high manpower requirement etc.

## **20.5 SUBSIDIES AND AGRICULTURE INPUTS**

Introduction of the high-yielding varieties Programme in the 1960s demanded a high priority to supplying-irrigation water and fertilisers to the farmers. These inputs are considered as critical inputs, the government tried to ensure that they were accessible and affordable. Subsidation of agricultural inputs thus became an important instrument of agricultural policy. Subsidy on fertilisers is provided by the central government while subsidy on water is provided by the state governments. Subsidy on water is divided into two parts-power subsidy and irrigation subsidy. Power subsidy is granted on power that is used to draw on ground water. Irrigation subsidy means subsidy on canal water



usage. Total subsidy on agricultural inputs was ₹ 33,591 crore in 1999-2000 which rose to ₹ 1,60,917 crore in 2008-09.

### **20.5.1 Power and Irrigation Subsidies**

The main reason for the high level of power subsidies is the pricing policy of the State Electricity Boards. In 2000-01, some states like Punjab and Tamilnadu were providing free power to the farmers. Some others were using a pure flat rate system. Irrespective of the capacity of pump sets. Gulati and Narayanan have estimated that the average revenue tariff from power supply to agricultural consumers in 2000-01 was only 28.42 paise per Kwh whereas the estimated average cost of supply of power to all sectors combined was as high as 303.86 paise per Kwh. This implies a subsidy of 275.44 paise on every Kilowatt hour supplied to agriculture. As far as the pattern of regional share in subsidies is concerned, the Western region (i.e. Rajasthan, Gujarat & Maharashtra) cornered as much as 48 per cent of the total power subsidies in the Triennium ending (TE) 2000-01 while the Southern region (i.e. Andhra Pradesh, Karnataka, Kerala & Tamilnadu) accounted for 27 percent of the total power subsidies. The total electricity subsidy in 1999-2000 was ₹ 6033 crore which rose to ₹ 27,489 crore in 2008-09.

On the other hand, irrigation subsidies arise because of the neglect of rational pricing for canal water. They can be calculated as the difference between the cost of supplying irrigation water to the farmers and what the farmers pay for irrigation water as its direct price. Gulati and Narayana have estimated that the pricing of canal water did not cover more than 20 percent of the operation and maintenance expenses in the mid 1990s. The irrigation subsidy in the year 1999-2000 was ₹ 1,11,96 crore which rose to ₹ 23665 crore in 2008-09.

### **20.5.2. Fertiliser Subsidy**

Fertiliser Subsidy is borne by the Centre. The need for fertiliser subsidy arises from the nature of the fertiliser pricing policy of the Government of India. This policy has been governed by the following two objectives-(i) making fertilisers available to the farmers at low and affordable prices to encourage intensive high yielding cultivation, and (ii) ensuring fair return on investment to attract more capital to the fertilizer industry. To fulfill the first objective, the government has been statutorily keeping the selling prices of

fertilisers at a largely static, uniformly low level throughout the country. This has helped in increasing the demand for fertilisers considerably over the years. For the second objective, the Government under the Retention Price scheme fixed a fair ex-factory retention price for various products of different manufacturers which allowed for reimbursement of reasonable cost of production including a margin of profit at 12 percent of net worth if the factory utilised 90 percent of the installed capacity from the second year of the plant and achieved certain norms with regard to consumption of raw materials, utilities and other inputs. The difference between the retention price and the selling price was the subsidy paid by the government. For imports, the subsidy is equal to the difference between the cost of imported raw material and the selling price. Fertiliser Subsidy was ₹ 505 crore in 1980. It rose to ₹ 4,562 crore in 1993-94 and to ₹ 13,800 crore in 2000-01 & further to ₹ 70,010 crore in 2011-12. Fertilizer subsidy 2013-14 is estimated to be ₹ 67,972 crore. Infact farmers pay only 25 to 40 percent of the actual cost & the rest of the cost is borne by the Government in the form of a subsidy, which is reimbursed to manufacture importers.

### **20.5.3. Impact of Subsidies and Agricultural Inputs power and Irrigation Subsidies**

The most important consequence of rapidly increasing power and irrigation subsidies is the heavy fiscal burden. The marginal cost of power to the farmer is almost zero. This power pricing frame - work provides what Gulati and Narayanan term. 'Perverse incentives' to the farmers leading to excessive and inefficient use of power. Cheaps pumps are used that consume up to 30 percent more electricity than the more efficient ones. The rate at which exploitation has preceeded is likely to make ground water increasingly more scare in coming years. As for has the question of actual beneficiaries from power subsidy is concerned, the following points are important to note-. (i) the whole method of calculating power subsidy to agriculture, is defective as the very basis of calculating power consumption in agriculture is defective. (ii) because power is used for drawing water for irrigation, the water- intensive crops account for a significant portion of the subsidies , and iii) large farmers have benefited more from power subsidies as compared with small farmers.

As for as the irrigation subsidies are concerned, low price of canal water induces

inefficient use of surface water and its over exploitation. It also leads to the problem of waterlogging and salinity. Moreover, as a result of underpricing of surface water, the farmers at the head tend to indulge in intensive watering of their fields leaving the tail enders with sparse supplies leading to inequity apart from lowering productivity per unit of water used.

### **Fertiliser Subsidy**

**Increase in Fertiliser Prices :** In a bid to cut down burgeoning burden of fertilizer subsidies the union budget for 1991 - 92 presented by the Finance Minister on July 24, 1991 increased the wholesale prices of fertilizers by 40 percent. In addition to this price of low analysis nitrogenous fertilizers were also decontrolled. But in August, 1991 previous price increase in controlled fertilizers were rolled back to 30 percent. and small and marginal farmers were exempted from the increase. In order to compensate the farmers for the rise in fertilizer price the government raised the procurement minimum support prices of crops of Kharif 1991 season. Urea, the most consumed fertilizer is subsidized under the New Urea Pricing Scheme, where phosphatic and potassic fertilizer which are decontrolled, are covered under the concession scheme. The price of urea was increased by 10 percent from April 1, 2010 [On the recommendations of the Joint Parliamentary Committee on Fertilizers, urea prices were reduced by a further 10 percent and prices of phosphatic & potassic fertilizers were decontrolled in August 1992].

**Imbalance in Fertilizer Consumption.** The government's price policy for fertilizers over the years has created a lop-sided nutrient price structure. This has led to distorted and lopsided pattern of application of urea, phosphate & potash. The ideal average Nitrogen [N], Phosphate [P] and potash [K] ratio use in India is 4:2:1. As against this, the ratio in India in 1991-92, was 5:9:2:4:1. However, due to the distortion, in fertilizer pricing policy which made nitrogen much cheaper vis-a-vis phosphate and potash. The ratio become 9.7:2.9:1 in 1993-94 and stood at 10:2.9:1 in 1996 -97. This imbalance in NPK consumption implying excessive use of urea had adverse environmental effects and aggravated soil fertility problems. However the imbalance has been considerably rectified in recent years. The NPK ratio is 4.7:2.3:1 in 2010-11. The ratio deteriorated in 2012 -13 to 8.2:3.2:1.

**Reducing Burden of fertilizer subsidy.** Fertilizer subsidy was initiated to encourage increased use of fertilizers by all farmers. At the same time the industry was guaranteed a reasonable return on investment through the retention price scheme [RPS]. RPS provided a cushion to the industry against 'external shocks'. However, being a cost-push scheme, RPS resulted in high cost fertilizers, excess payments to industry & no incentive to be cost efficient. All this led to very high marginal cost of urea production in the country at ₹ 11,000 to ₹ 12,000 per cent while the import parity price was between ₹ 5,000 to ₹ 6,000 per cent. In fact as feared by the Fertilizer Prices Committee, the RPS created a vested interest in proving costs rather than in reducing them in claiming escalations rather than in finding ways means of containing costs."

**Fertiliser use efficiency.** The fertiliser use efficiency on average is reported to be 33 per cent for N, 15 per cent for P, and 20 per cent for K & micronutrients. Even with the best management practices, it has not been able to achieve more than 50 percent for N, 30 per cent for P and 50 per cent for K. It is now being argued that application of bio fertilisers along with chemical fertilisers can increase the fertilisers use efficiency. It is also necessary to arrange for an adequate network of laboratories to test the quality of fertilisers. Moreover, as emphasised in the state of Indian Agriculture, 2012-13. Report due to the harmful effects of chemical fertilisers & the benefits of organic produce in terms of health & nutrition, it is necessary to encourage organic farming.

## **20.6 LET US SUM UP**

To conclude, we can say that there is need to raise capital formation in agriculture sector both public and private. Public share in capital formation is declining where as private share in capital formation is stagnant. On the other side, if we talk about subsidies on agricultural inputs, there is a need to pass the cost to the farmers so that they cannot over exploit the natural resources which they are doing in the absence of it. The overexploitation of ground water and excess use of urea due to its lower price is a matter of concern which needs immediate action on the part of the Government.

## **20.7 LESSON END QUESTIONS**

- Q.1. What is capital formation? What is the extent of capital formation in Indian Agriculture?
- Q.2. State the various reasons which are responsible for declining capital formation in Indian Agriculture?
- Q.3. List the factors which affects capital formation in Agriculture.
- Q.4. Write a short note on subsidies on Agricultural inputs and their impact.

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## **FOREIGN TRADE AND AGRICULTURAL DEVELOPMENT**

### **STRUCTURE**

- 21.1. Introduction
- 21.2. Objectives
- 21.3. Current Status of India's Agricultural Foreign Trade
- 21.4. Agricultural Trade Policy Framework
  - 21.4.1. Trends in Agricultural Exports
  - 21.4.2. Commodity Wise Exports
  - 21.4.3. Trends in Agricultural Imports
  - 21.4.4. Commodity Wise Imports
- 21.5. Let Us Sum Up
- 21.6. Lesson End Questions

### **21.1 INTRODUCTION**

Sound agricultural development is essential to achieve overall economic progress of our Country. For a big country like India, which has an expanding population of over one billion to feed, agriculture is the source of food and nutritional security Unlike the situation in Industrilized Countries where agriculture is by and large a food processing machine,farming in India is the backbone of its rural livelihood security system.This sector not only provides livelihood and support to 52 percent of our population but it

also generated 13.2 percent of total GDP in 2012-13. The agricultural sector has been playing an important role in international trade also. The most important aspect of the agricultural export is that majority of the agricultural products are not foreign exchange earners and the import content is either nil or negligible. World Trade Organisation regime has opened new opportunities for export of agricultural commodities from developing countries like India.

## **21.2 OBJECTIVES**

After going through the lesson the student will:

1. Be able to understand the status of India's Agricultural trade.
2. Learn about the trends and growth in Agricultural exports.
3. Learn about the trends and growth in Agricultural imports
4. Know about the Agriculture Trade Policy Frame Work

## **21.3 CURRENT STATUS OF INDIA'S AGRICULTURAL FOREIGN TRADE**

The Indian agricultural sector with the significant share in GDP plays a major role in the employment generation especially in the rural sector. In the aftermath of Agreement on Agriculture under the aegis of W.T.O. It has significant potential as a net foreign exchange earner. The main approach of the Government Policy has been to Control trade in a manner to ensure adequate availability of essential food items to consumers at reasonable prices and to protect farmers from foreign competition. The Objectives of export and import policy with respect to agricultural foreign trade is given as under.

- (1) **Exports.** To maximize agricultural exports in order to ensure remunerative prices to the farmers and boost foreign exchange earnings, keeping in view the prime consideration of sufficient availability of essential commodities to the domestic consumers at reasonable prices.
- (2) **Imports.** To regulate imports, Keeping in view the domestic demand and supply conditions, indigenous production, export potential and consideration of foreign exchange.

Specific policy in respect of principal agricultural commodities as contained in EXIM Policy 1997-2002 is given below.

- (i) **Rice.** Export is allowed freely without any restrictions now
- (ii) **Coarse-grains.** Exports are allowed upto a quantitative ceiling of 50,000 MTs. During 1997-98
- (iii) **Wheat and wheat Products.** Export of wheat banned now, but export of wheat products whether in bulk or in consumer packs, be allowed within an overall quantitative ceiling of 0.5 million tones.
- (iv) **Pulses.** Export is permitted against a license subject to a quantitative ceiling but export in consumer packs are freely allowed.
- (v) **Hybrid Jowar.** The export of hybrid jowar is freely allowed.
- (vi) **Oilseeds.** (a) The exports of HPs groundnut and sesame seeds are freely allowed for the year 1997-98 b) The export of castor seeds is allowed freely.
- (vii) **Tobacco.** Export is free without any restrictions for both (a) Un-manufactured and (b) manufactured
- (viii) **Spices.** Export is free without any restrictions.
- (ix) **Cashew** Export is free without any restrictions.
- (x) Horticultural Floricultural and fresh vegetable products.

Exports are free without any restriction.

## 21.4 AGRICULTURE TRADE POLICY FRAMEWORK

The planning process in India has been found guilty of neglecting the foreign trade sector in general and agriculture trade in particular. A projection of balance trade was expected than no significant increase in export earning could be expected in the short run. There was what has been called 'export pessimism' with respect to exports. The Theoretical underplaning for export persimison was provided by Prebisch in the context of the deteriorating Terms of Trade. R. Nurske argued that the agricultural exports of the



developing countries face inelastic demand. Within the trade sector too, agricultural exports were neglected by India. Whatever increase was to be there was expected and hence encouraged in the manufacturing sector. In this period, the idea was to export only those agri-products which were surplus in the economy. On agri-import front India had a policy of allowing those imports where the domestic production was falling short of the domestic demand. Thus while agri-exports were high, they were not expected to have a bright future and dependence on agri-imports increased as the food security situation deteriorated from the mid-1960s.

It is true that in the post-war period most of the increase in world trade occurred in manufacturers. However, over a period of time the reluctance to trade in agricultural commodities has declined. With agriculture Surplus, some of the developed countries liked agriculture to be included in WTO. This was an opportunity for developing countries to liberalise their agri-trade as they had comparative cost advantage in case of some of crops due to weather conditions and lower labour cost.

After Liberalization in 1991 and signing of WTO in 1995 India became a part of the Agreement on Agriculture (AOA). Over the years more policy measures were introduced which removed, the quantitative restrictions on agricultural imports, the role of canalising for imports was reduced but licensing for many agricultural exports continued, non tariff barriers were converted into tariff barriers. There was large scale withdrawal of export incentive schemes. The AOA has mainly focussed on Market Access, domestic support commitments, export subsidy commitments, sanitary and phyto sanitary measure etc. over a period of time India has to open up its agricultural sector and allow more imports. However, even in a more liberalised environment, India has basically followed the policy of allowing imports when domestic production has fallen short of the demand.

#### **21.4.1 Trends in Agricultural Exports**

The contribution of agricultural and agro based industries is a quite significant portion of the total exports from the country. Agricultural exports accounted for 13.5% of total exports of the country in the year 2012-13. Over the years, the share of agricultural exports in total exports has been declining on account of diversification of country's export basket and falling international prices of agricultural products. The share of agricultural exports in total national exports have from remained higher than the share

of imports in total national imports. since 1990-91. Total agricultural imports were ` 1205.86 crore in 1990-91 which increased to ` 25018.46 crore showing about 21 folds increase during 1990-91 to 2006-07. While the increase in total imports was 20 folds during the same period. In percentage terms, the percentage of agriculture imports to total national imports was 2.79 percent in 1990-91 which increased to 2.90 percent in 2006-07. It was only after 2003-04 the percentage of agriculture imports of total imports started declining.

The share of agriculture exports in total national exports have increased from ` 6019 crore to ` 221130 crore showing a 37 fold in exports during 1990 - 91 to 2012 -13 while the total exports increased from ` 32558 crore to ` 1635261 crore in 2012 - 13 showing a 50 fold increase during the period 1990 -91 to 2012 -13.

Indian agriculture has in increasingly been open to global agriculture with the ratio of agricultured exports and imports as a percent of agricultural GDP rising from 4.9 percent in 1990-91 to 12.7 percent in 2010-11. This is still low as compared to the share of Indian's total exports and imports as a percent of India's GDP at 55.7 percent. India is a net exporter of agricultural commodities with agricultural exports constituting 13.5 percent of India's total exports. However, the share of agricultural exports in India's overall exports has been declining from 18.5 percent in 1990-91 to 13.5 percent in 2012-13. India's share in world exports has increased from 0.5 percent in 1991 to 0.8 percent by 2002. Share of exports in India's GDP increased from 7.13 percent to 23.48 percent in 1990 and 2008, while the share of imports in GDP rose from 8 percent to 29 percent in the same period. Even though the exports sector plays a significant role in the domestic economy by contributing close to 25 per cent to India's GDP (in 2009), its contribution to world exports continues to remain minimal, at a mere 1.5 percent of world exports in 2009. Between 1991 and 2009. India's share in world exports rose from 0.56 to 1.52 percent.

#### **21.4.2 Commodity-wise Exports**

The range of agricultural exports is as diverse as the prevalent agro-climatic conditions of the country. Among exports, cereals, oils, oilseeds and oil meals, pulses, horticulture based products, fresh and in processed form, jute and cotton, dairy and dairy products, poultry, meat and meat products are regularly exported to many countries. About 26

percent of agricultural exports is being contributed by the marine products alone. Marine products in recent years have emerged as a single largest contributor to the total agricultural exports from the country though the percentage share of marine products exports in agriculture exports declined to 15 percent of exports of agriculture. Cereals, mostly Basmati and non-Basmati rice, oil meals, tea, coffee, cashew and spices, are other prominent products each of which accounts for nearly 5 to 10 percent of the country's total agricultural exports. In recent years, agricultural exports have annually grown by over 15 percent due to higher exports of rice, cotton and soyabean amongst other commodities. The exports of tea in 1990-91 was ₹ 1070 crores which increased to ₹ 1789 crore in 2000-01 which further increased to ₹ 3354 crore in 2010-11. In 2011-12 it stood at ₹ 4079 crores which further increased to ₹ 4677 crore in 2012-13. On the other hand if we talk about exports of coffee it was ₹ 332 crore in 1991-92 which increased to ₹ 1185 crore in 2000-01. In 2010-11 the exports of coffee increased to ₹ 3010 crore which increased to ₹ 4535 in 2011-12 and ₹ 4713 crore in 2012-13. In case of foodgrains, the exports of rice in 1990-1991 was 462 crore and it increased to ₹ 2932 crore in 2000-01 which increased to ₹ 11586 crore in 2010-11. In 2011-12 the exports of rice was ₹ 24109 crore and in 2012-13 it stood at ₹ 33808 crore. The exports of wheat in 1990-91 was ₹ 31 crore which increased to ₹ 415 crore in 2000-01. In 2010-11 it was ₹ 1crore which was due to EXIM policy of 1997-2002 in which exports of wheat was banned. But in 2011-12 the exports of wheat was increased to 1023 crore which further increased to ₹ 10488 crore in 2012-13.

The exports of cotton raw including waste in 1990-91 was ₹ 846 crore which declined in coming years but in 1993-94 it was ₹ 654 crore which declined again. In 1996-97 it was ₹ 1575 crore which declined in the later years. In the year 2005-06, the exports of cotton raw was ₹ 29.04 crore and ₹ 6108 crore in 2006-07 which increased to ₹ 8865 crore. It further declined in the year 2008-09 but further increased to ₹ 9537 crore in 2009-10 and ₹ 13160 crore in 2010-11. In 2012-13 it was 198.13 crore as compared to ₹ 21624 crore in 2011-12. The exports of tobacco was ₹ 263 crore in 1990-91 and ₹ 867 crore in 2000-01. In 2010-11 it was ₹ 3985 crore and stood at ₹ 5036 crore in 2012-13. The exports of cashew was ₹ 447 crore in 1990-91 and ₹ 2054 crore in 2000-01. In 2010-11, it was ₹

2853 crore which increased to ₹ 4097 crore in 2012-13. The export of spices was ₹ 234 crore in 1990-91. And it increased to ₹ 1618 crore in 2000-01. In 2010-11 it was ₹ 8043 crore and ₹ 15319 crore in 2012-13. The export of oil meals was ₹ 609 crore in 1990-91 and in 2000-01 it was ₹ 2045 crore which increased to ₹ 11070 crore in 2010-11 and further increased to ₹ 15822 crore in 2012-13. The exports of perishable goods *i.e.* fruits and vegetables was ₹ 213 crore in 1990-91 and ₹ 843 crore in 2000-01. In 2010-11 it was ₹ 4905 crore which increased to ₹ 6736 crore in 2012-13. In fruits and vegetable, there was a 32 fold increased in the period 1990-91 to 2012-13. The exports of Marine products was ₹ 960 crore in 1990-91 and ₹ 6367 crore in 2000-01. It was ₹ 11917 crore in 2010-11 and increased to ₹ 18833 crore in 2012-13. During the period 1990-91 to 2012-13 there was a 20 fold increase in exports of marine products.

#### **21.4.3. Trends in Agricultural Imports**

Trade in agriculture in India has largely depended on residuals. India exported if surplus existed and imported during deficits. Therefore agricultural trade in India is expected to be highly fluctuating. The policy of reforms of the 1990s more or less eliminated the bias against agriculture by lowering industrial tariffs and correcting for the overvalued exchange rates which lead to an improvement in the terms of trade in favour of agriculture. This was followed by a calibrated liberalization of agri-exports and imports. After 1996-97 value of exports started sprinkling as international prices started falling. Due to falling international prices imports into the country became more attractive and were facilitated due to liberalization of imports followed due to WTO commitments. This way the net earnings from agriculture trade in the post WTO period dropped to a very low level. The post WTO period showed increase in ratio of imports to GDP whereas ratio of exports to GDP to export for agriculture sector followed small decline. This shows that post WTO period has been adverse to export but favourable for imports. This pattern shows sharp contrast with the first five year of reforms period when share of exports in GDP experienced sizeable increase. However, during post WTO period (1995-2008) the average share of edible oils increased to 45.4 percent in India's agricultural imports. But the share of other items, *i.e.* pulses, cashew nuts, sugar, wheat and cereal preparations.,

diminished marginally. India's agricultural imports on an average during post-WTO period. The major items, whose imports have been increased during post-WTO period, were edible vegetable oils, spices, raw cotton and raw jute. The share of these four items in India's agro imports increased from 18.1 percent during pre-WTO period to 54.6 percent during post-WTO period on an average per annum. In fact, edible oils constituted more than 50 percent in India's agricultural imports during 1998-2004, except 2001-02. The major items, whose share has been increased during post-WTO period, were rice other than basmati, pulses, wheat, spices, groundnuts, guar gum meal, castor oil and sugar. On the other hand, the share of agricultural products in India's global imports during post-WTO period has been increased to 6.1 per cent on an average per annum as compared to 4 percent during pre-WTO period. The major items whose share has been increased in India's global imports during post-WTO period, were edible oils raw cotton and spices. Thus it is revealed that during post-WTO period India's global agricultural exports have diminished marginally rather her global agricultural imports have been increased, India's agricultural imports as a share of its total imports have also risen from 1.7 percent in 2000 to 2.6 percent in 2009, which could be partially attributed to a sharp increase in the imports of edible oils over the same period.

The total imports of India in 1990-91 was ₹ 75751 crore which increased to ₹ 230873 crore in 2000-01. In 2010-11, the total imports of India was ₹ 1683467 crore which increased to ₹ 2345463 crore in 2011-12 which further increased to ₹ 2673113 crore in 2012-13. This data shows that during the period 1990-91 to 2012-13, the total imports of India have 35 fold increase.

#### **21.4.4 Commodity-wise Imports**

As we have discussed earlier, the most items of Agricultural imports in India are cereals and cereal preparations, Edible oils, Pulses, sugar. The most important item among these is the import of edible oils. The import of cereal and cereal preparations in the year 1990-91 was ₹ 182 crores which was ₹ 1211 crores in the year 1998-99 but decline in the subsequent years that is ₹ 962 crores and ₹ 87 crores in the year 1999-2000 and 2000-01 respectively. The import of cereal and cereal preparations was highest in the year 2006-07 i.e ₹ 5996 crores. but decline in the subsequent years. In

2007-08 it was ₹ 2839 crores which declined to ₹ 545 crores in 2010-11 & ₹ 453 crores in the year 2012-13. The import oil in the year 1990-91 was ₹ 326 crores which declined in the subsequent years but in the year 1994-95 it started increasing continuously upto the year 2004-05 and then it declined in the next year. The reason for this is that the international prices and inadequate production of oilseeds at home. From 2007-08 onwards it has been increasing continuously. In 1994-95 the imports of edible oils was ₹ 624 crores which increased to ₹ 5977 crores in the year 2000-01. In 2010-11 it was ₹ 29860 crores and in the year- 2012-13 it stood at ₹ 61106 crores. The import of pulses in the year 1990-91 was ₹ 481 crores which has increased to ₹ 499 crores in the year 2000-01. During this period i.e from 1990-91 to 2000-01, the import of pulses was highest in the year 1997-98 which was ₹ 1195 crores. In the year 2010-011. the imports of pulses stood at ₹ 7150 crores. which increased to ₹ 8931 crores and ₹ 12739 crores in the year 2011-12 and 2012-13 respectively. The imports of sugar was ₹ 9 crores in the year 1990-91 and ₹ 1 crore in the year 1991-92. In the year 1992-93, there was no imports of sugar. The imports of sugar was ₹ 2283 crores in 1994-95 & after that it declined in the earning years. In 2000-01, the imports of sugar was ₹ 31 crores and in 2009-10, it stood at ₹ 5966 Crores which declined to ₹ 2790 crores in 2010-11. In 2011-12 it was ₹ 314 Crores which increased to ₹ 3072 Crores.

To conclude we can say that bringing in reforms to streamline domestic markets and expanding the infrastructure and institutions to connect local markets with national and global markets, will go a long way in improving India's competitiveness and the benefits from trade liberalization.

## **21.5 LET US SUM UP**

Indian economy adopted a strategy of export promotion and import substitution but in case of agriculture, India has to import food grains as India was not self-sufficient. But after 1966 India become self-sufficient in foodgrains and reduce its imports. After 1990-91 India's share in agricultural exports has increased as compared to India's share in agricultural imports. This may be due to the fact that India's agriculture has been increasingly open to Global agriculture. The commodities which has largest share in agriculture exports are marine products, cereals, rice, oilmeals, tea, coffees, cashew and

spices. The largest of items in agricultural imports includes edible vegetable oils, spices, raw cotton and jute, sugar. Infact, oilseeds, alone has a share of 50 percent.

## **21.6 LESSON END QUESTIONS**

- Q.1. Discuss about India's Agriculture Trade Policy Framework.
- Q.2. Discuss in detail the trends in Agricultural Exports and Commodity Wise Export.
- Q.3. Discuss about the trends in Imports of Agriculture Commodities.
- Q.4. Is the share of India in world agriculture exports changed?

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## **GLOBALISATION, WTO AND INDIAN AGRICULTURE**

### **STRUCTURE**

- 22.1. Introduction
- 22.2. Objectives
- 22.3. Globalisation and Indian Agriculture
  - 22.3.1. An Overview
  - 22.3.2. Problems of Indian Agriculture
  - 22.3.3. Prospects for Indian Agriculture
- 22.4. WTO and Indian Agriculture
  - 22.4.1. WTO's Agreement on Agriculture
  - 22.4.2. Impact of WTO
  - 22.4.3. Negative Impact of WTO
  - 22.4.4. Positive Impact of WTO
- 22.5. Let Us Sum Up
- 22.6. Lesson End Questions

### **22.1 INTRODUCTION**

India has opened its economy in the 1990's. In this lesson, the student will come to know about the opening up of the Indian economy in the 1990s the problems faced



by the Agriculturists after its opening and what are various prospects which India can avail of the growth rate of agriculture sector has declined in the post reform period when compared with pre-reform period. There was a decline in employment plan outlay to agriculture sector, India products becomes costly in the International market as Indian agriculture is labour intensive and makes less use of machinery. India was originally a member of GATT. When GATT was replaced by WTO, in 1995. India was its member also.

Agriculture was outside the preview of GATT till 1995 but it was brought in by the Uruguay round. As India was WTO's member. India has to reduce tariffs on agricultural commodities. It leads to a number of problems as with the reduction in subsidies, inputs are now available to the farmers at higher price which ultimately increases the cost of production and price of the products and they find it difficult to sale it in the market where cheap products are available. It leads the farmer to commit suicide as they were dependent completely on agriculture. There are other problems too but it does not mean that WTO brings only problems for the Indian agriculture. It has a positive side too. The export of products in which India has a comparative advantage has increased. Moreover there are other fields in which India can lead as India is the largest and second largest producer of a number of commodities.

## **22.2 OBJECTIVES**

After going through the lesson the student will :

1. know about the concept of Globalisation and its implication for Indian Agriculture in terms of problems and prospects.
2. know about WTO's Agreement on Agriculture and its implication for India.
3. be able to describe the impact of WTO on different aspects of Indian Agriculture.
4. be able to understand the position of India as WTO member.

## **22.3 GLOBALIZATION OF INDIAN AGRICULTURE**

### **22.3.1 An Overview**

Globalization is a new buzz word that has come to dominate the world since the nineties of the last century. Globalization can be simply defined as "The Expansion of Economic activities across political boundaries of native states". Globalization refers to the increase in the movement of finance, inputs, outputs information and science across vast geographic areas. Globalization aims at the integration of the domestic economy with the Global economy and the optimum utilization of growth potential. The process of Globalization has revolutionized world. Agriculture and allied sector, which are directed to improve the efficiency, productivity and cost competitiveness. Globalization has brought in new opportunities to developing countries. Greater access to developed country market and technology transfer hold out promise improved productivity and higher living standard. The negative aspect of globalization is that a great majority of developing countries remain removed from the process. Till the ninties the process of globalization of the Indian economy was contained by the barriers of trade and investment. Liberalization of trade, Investment and financial flows initiated in the nineties has progressively lowered the barriers to competition and hastiness the peace of globalization. The 1990's have witnessed a significant shift in the Macroeconomic Policy Environment around the global including India. India also acceded to the World Trade Organization (WTO) Agreement in order to integrate its economy with the global trade.

**Globalization and WTO.** Under the WTO agreement major instruments of the reforms initiated in farm sector in the 1990s are (a) Gradual withdrawal of the State Intervention in Agricultural markets, particularly grain trading b) reduction in tariff rate on imports of food items and reductions in price controls. (c) gradual elimination of the quantative restrictions on exports (d) encouraging the private sector participation both in output and input trading e) Liberalization of food and agriculture products has allowed the dumping of highly subsidized agricultural products from North to South. These reforms are primarily aimed at Improving the competitiveness of agriculture to exploit new export opportunities in the global market (b) to encourage agricultural diversification towards high value crops thereby increasing farm income and the availability of more

foodgrains thus augmenting food security addressing malnutrition (c) to accelerate growth in Agriculture to ultimately eradicate poverty in the country.

However growth rate per year in agricultural sector was less in 1990s than in 1980s in India. The relative prices of cereals which were declining since the 70's have started increasing since the mid 90's and endangering the economic access of the poor to the staple food. In India today development issues are inexorably interwined with globalization and structural adjustment, with economic climate altering drastically, a contradictory situation is developing. On the one hand, there is developed India that has got the benefits of Globalization and on the other hand, there is an underdeveloped India which is still very backward and remains poor and this gulf is widening day by day.

### **22.3.2 Problems of Indian Agriculture**

India opened up the economy in the early nineties following a major crisis that led by a foreign exchange crunch that dragged the economy to close to defaulting on loans. The response was a slew of domestic and external sector policy measures partly prompted by the immediate needs and partly by the demand of the multilateral organizations. The new policy regime radically pushed forward in favour of a more open and market oriented economy. The Indian tariff rates reduced sharply over the decade from a weighted average of 72.5% in 1991 - 92 to 24.6 in 1996 - 97. Though tariff rates went up slowly in the late nineties it touched 35.1% in 2001 - 02. India is committed to reduce tariff rates. Peak tariff rates are to be reduced to the minimum with a peak rate of 20 percent. A global comparison shows that India is now the fastest growing just after China. This is major improvement given that India's growth rate in the 1970's was very low at 3% at GDP growth in countries like Brazil, Indonesia, Korea, and Mexico was more than twice that of India. Though India's average annual growth rate almost doubled in the eighties to 5.9%, it was still lower than the growth rate in China, Korea, and Indonesia.

**Globalization and Poverty.** According to the agricultural growth analysis, annual growth rate has been declined from 3.9% to 2.6 % in the Pre and Post reform period respectively. The growth rate of food grains during 1980 - 90 was 2.9 % whereas it declined to 1.4 % during 1996 - 2006. Similarly there was a decline in growth rate of non foodgrains

from 4.3% to 1.8% during the same period. Average foodgrains available per Indian in 1951 was 470 grams per day or 167 kilos per year. Whereas in 1991 it was 175 kilos. In post reforms period gradually reduced to 154 kilos per year or 445 grams per day. In 2005 likely pulses per head in 1951 is 61 grams whereas in 1991 it rises to 75 grams. Again in 2005 it decline to 32 grams per head.

**Decline in Employment.** Growth rate in agricultural employment in rural areas was 1.38% during 1983 to 1993 -94 which was decline to 0.12% during the post reform period of 1993 - 94 to 2005 - 06, the growth rate of employment in agriculture in the urban areas also have shown a considerable decline with 1.54% in pre-reform period & 3.7 % in post reform period. The plan outlays in agriculture and its allied activities have been gradually declined during the plan period from 14.9% in the first plan to 5.2 % by the 10th plan. This clarifies that the Govt. has withdrawn its support from the agriculture sector development. Thus the impact of globalization in our agrarian sector has worsened the plight of agricultural workers to an alarming degree. The share of agriculture in our GDP has declined from 54.56 % in 1951 - 52 to 27.87 % in 1999 - 2000 almost a 50 % reduction. In 2013 - 14, it contributes 14.1% to GDP and provides employment to 58% of the workforce. The limitations are severely affecting the capacity of Indian agriculture to compete in global market. Characterized by low & stagnating yields, a very large proportion of marginal, small and semi and semi medium holdings, a high proportion of landless labour households, and highly concentrated and food-oriented cropping system. All Indian agriculture would therefore be facing serious challenges, both internal & external in the process of fulfilling WTO commitments.

The all-India Agriculture Workers Union [AIAWU] has decided to explain the situation to the millions of our agriculture workers. Most of them are illiterate, backward and poor, and have no idea of the mechanism of exploitation and miseries, which the rich countries are heaping on them through their philosophy of globalization and its insidious methods. It is thus clear that if the AIAWU fails to organize these agricultural workers and raise their consciousness, they cannot unite and fight against the ends of globalization, much less defeat its pernicious policies on our soils.

### **22.3.3 Prospects of Globalisation for Indian Agriculture**

India has to concentrate on five important areas or things to follow to achieve the goals. The areas like technological entrepreneurship, new business openings for small and medium enterprises, importance of quality management, new prospects in rural areas and privatization of financial institutions. The manufacturing of technology & management of technology are two different significant areas in the country. There will be new prospects in rural India. The growth of Indian economy very much depends upon rural participation in the global race. After implementing the new economic policy the role of villages got its own significance because of its unique outlook and branding methods. For example processing and packaging are the one of the area where new entrepreneurs can enter into a big way. It may be organized in a collective way with the help of co-operatives to meet the global demand. Agricultural products are of two kinds-foodgrains and non-foodgrains, the foodgrains contribute 75 % of the total agricultural production.

To date, export of agricultural commodities from India is restricted to about a score of commodities. These traditional exports lines can show much better performance if the handicaps are removed. Briefly, globalization presupposes a certain minimal level of liberalization and restructuring of the domestic economy. In recent years, attempts have been made to export fruits, flowers & dried flowers as also semi- perishable and perishable vegetables. In the early years, they appeared to give good results but are facing serious difficulties now. These finer agricultural commodities have to meet very high and rigid standards of size, colour, taste etc. Major players in the field like Israel, South Africa, Chile are able to meet these standards, thanks to the high level of investment and technology. India is facing challenge in traditional export items, the challenge is not from the developed countries but from the developing countries; major imports of vegetable oils are from the developing countries (Malaysia and Indonesia), and India has done well in export of high value products to the developed countries. Exports of raw products like cotton, wheat, sugar, coffee and tea is likely to become very competitive and India would be required to relook into the benefit of promoting export of these commodities. Export prospects are brighter with soybeans, oilseeds, oil meal and cake, fruits and vegetables and fruit preparations. Thus, export prospects are seen with high value products, horticultural products, processed products, marine products

and rice, provided global competitiveness in costs and quality is maintained in domestic production marketing and supply.

## **22.4 WTO AND INDIAN AGRICULTURE**

World Trade Organization was established on January 1, 1995. It replaced GATT. WTO is much wider in scope and coverage. Agriculture was kept outside the purview of GATT till 1995. However, Uruguay Round has succeeded in bringing agriculture on the main track of GATT and agriculture trade is now firmly within the multilateral trading system.

### **22.4.1 Agreement on Agriculture [AOA]**

All the members countries of WTO are committed to follow set of rules embodied in WTO, AOA which covers :

- (i) **Tariffication.** It means conversion of all non - tariff barriers on trade such as import quota into tariffs. Tariffs bindings are to be reduced under this agreement. Developed countries were to reduce their tariff bindings over a period of six years (1995 - 2000). Developing countries are to reduce their bindings over a period of 10 years (1995 - 2004). Least developed countries are exempted from tariff reduction.
- (ii) **Market Access.** Where tariff bindings are too high, current market access has to be maintained as the amount of exports to other countries at preferential tariff rates. However, market access provisions do not apply when the commodity in questions is a traditional staple in the diet of a developing country.
- (iii) **Domestic Supports.** WTO member countries are subject to following obligations on domestic support to their agriculture. However, there are many issues under the AOA which are considered against the interests of developing countries like India. Firstly, the minimum access for import of primary goods flouts the basic rule of promoting free trade under WTO agreement. Secondly, distortions emerge from inequity in domestic subsidy discipline due to different base positions. The developed countries are heavily

subsidized countries and are allowed to retain up to 80% of their subsidies but developed countries can subsidize their farmers not more than 10% of the total value of agricultural production. Hence, the domestic support by developed countries need to be reduced substantially in absolute terms. Thirdly, India has argued that for low income countries market access domestic support discipline should be such that their food requirements are met from domestic sources. The volatile international market can get transmitted to the domestic economy and can affect the prices of foodgrains & food entitlement of the poor. Fourthly, developing countries face highest tariff rates which include the major agricultural staple foods, cereals, meat, sugar, milk, butter, cheese as well as tobacco products and cotton.

- (i) **Green Box Support.** It is given on items which have minimal impact on trade. e.g. pest and disease control, market intelligence, it is an exempted support.
- (ii) **Blue Box Support** It is product limiting subsidy and pertains mainly to the developed countries. It is exempted from reduction commitment under WTO.
- (iii) **Special and differential treatment box support.** It includes investment subsidy to agricultural sector far from development work like land levelling, shallow wells etc.

#### **22.4.2 Impact of WTO on Indian Agriculture**

We will study the impact on WTO on Indian agriculture under two heads.

#### **22.4.3 Negative Impact of WTO**

The negative impact of WTO means the problem /obstacles or hurdles which the Indian Agriculture face on account of WTO. It includes:

- (1) **Export Competition.** WTO member countries are obliged to reduction commitments of their direct export subsidies. Developed countries are to reduce the volume of subsidized agricultural exports by 21% and the value of subsidies by 36 % of the average base period 1986 - 88 within six years.

Developing countries are to reduce the same by 14 % and 24 % respectively within 10 years. In case of oilseeds, there was a marked increase in the growth rates of area, production and yield during, the eighties (1980 -81 to 1991 - 92) as compared to the preceding period (1967-68 to 1980-81). It was mentioned above that this crop group was favoured by the market but an even more powerful influence on the performance of oilseeds since the mid eighties has been the Technology Mission and the market intervention operations by the public agencies. A heartening feature of the growth in oilseeds production has been that it occurred in the agriculturally backward areas of states. In comparison with oilseeds, the performance of pulses which received little policy attention has been quite modest though, possibly in response to the market signals, some improvement in pulses did take place in the eighties while their production and yield had actually decreased, during the preceding period in the wake of the surge in the production of wheat. In the case of cotton, its area decreased in the eighties but there was a market rise in the growth rate of its yield and production between the 'Green revolution' decade & the eighties. Like oilseeds, cotton also benefited from policy interventions to help its production as well as marketing though, considering the decline in its area during the eighties, the interaction between the policy support & the favourable market has apparently been much more effective in certain selected areas and not uniformly in all cotton growing regions. As regards tariffication there is misconception that India is reducing import duties an agricultural product under WTO commitments. As a matter of fact, the actual imports duties on a variety of agricultural products are lower than the tariffs under WTO.

With export expansion of a country, if quantity export share increases more than share in export value in world export, it will lead to unfavourable terms of trade for the exporting nation. Contrary to India's expectation from WTO AOA, the situation reversed from 1997 - 2002. The tempo of growth in agricultural exports of India could not be sustained after 1996. Agricultural exports of India took a down turn during 1997 - 2002 in absolute terms. From 2002, we find revival in India's agricultural exports.



- (2) **Agrarian crisis.** Agriculturists in general and the small & marginal farmers in particular have been the worst sufferers from the onslaught of globalization & WTO with more than 40 % of agricultural lending even today coming from the non - institutional sources charging between 30 -40 % interest per annum. They are committing one of the human tragedies suicides. A decline in the share of agriculture in the National income from over 50 % during the 50s to less than 15 % today may be a sign of structural transformation but the question today is whether Indian agriculture will be able to meet the new demands placed upon it by liberalization, privatisation, globalization (LPG) with traditional farming and contributing plight of the farmers the answer is an almost no. The challenges to input-output management in agriculture posed by globalization have to be properly understood and faced. This is crucial because the challenges permeate not only the growth & stability of agriculture per se but also its implications on the livelihood of the people via food & nutritional requirements, environmental and employment concerns etc.

With globalization and liberalization have increased the commercial proposition of this sector, it is facing a number of challenges with regards to technology, infrastructure, price & competition. There is declaration of output & acceleration of vulnerability of farmers to poverty. Modernization without moderation has led to a crisis situation in Indian agriculture. Some of the indicators of the crises are :

- (1) Based on the Structural Adjustment Programme the govt. has been reducing its investment in agriculture
- (2) The fundamental difference between agriculture & industry is being ignored viz whereas capital is elastic in supply, land is inelastic. There is no level playing field while manufacturing & services sectors are virtually pampered, the rural sector that feeds the masses is practically disregarded. Even thousands of farmers' suicides could not fetch such a soothing concern to the agriculture sector in our agrarian economy.

- (3) Unemployment in the agricultural sector has been a bane during the reform period as agriculture was not profitable due to the fall in the price of farm products. When the number of people employed in the primary sector and the area under cultivation decreased it caused a decline in rural employment. According to NSSO, the annual rate of growth of employment in the rural areas was 2.07% in 1987-94 while it declined to a mere 0.66 percent in 1993-2000.
- (4) Farmer's suicides an-all India phenomenon emanating largely from severe indebtedness has pushed Indian agriculture to a critical condition. The NSSO report released in 2005 states that 1 in 2 households are in debt and only 10 percent of the debt was incurred for non production purposes. Also, 32.7 percent of farmers still depend on money lenders. The National Crime Records Bureau reports that between 1997-2005 1,56,562 farmers committed suicide. Nearly 60 of them took place in the 4 progressive states, viz. Maharashtra, Andhra Pradesh, Karnataka and Madhya Pradesh. More than 20 percent of the suicides have taken place in Karnataka. The cases in Punjab are also rising. Many, however, do not still consider this a crisis. Their lack of seriousness and the lukewarm response to the problem point to this reality.

Indian small farmers are like mustard seeds in front of the farmers of the developed countries. They have not been able to cope even with new IT, BT for agriculture of the contract farming & the like. If the world needs real prosperity it should not fall apart. We can't afford to have a biased growth : rural versus urban, developed countries versus developing countries.

#### **22.4.4 Positive Import of WTO on Indian Agriculture**

We will discuss the positive import of WTO on Indian agriculture from the following points :

- (1) **Raising the production of Foodgrains.** India has been experiencing the increase in the production of foodgrains particularly after the inception of new agricultural strategy. Annual growth rate of 2.08 percent was recorded during

seventies. Annual growth rate of 3.5 percent in foodgrains in eighties is the hallmark of the green revolution that enabled the country to become self-sufficient in foodgrains. The decade of ninties could not maintain this pace and annual growth rate has fallen to 1.7 percent. Total production of foodgrains has increased from 176.39 million tonnes in 1990-91 to 204.25 million tonnes in 2000-01. It is felt that if a country maintains 4 percent growth rate in agricultural production, then after meeting its domestic demand it can export the surplus amount of foodgrains to the foreign countries.

- (2) **Increasing Trend in Horticultural Output.** The diversity in physiography, climate and soil characteristics enables India to grow a large variety of horticultural crops which includes fruits, vegetables, spices, cashewnuts, coconut, cocoa, arecanut, root & tuber crops, medicinal and aromatic plants etc. India is the largest producer of fruits and second largest producer of vegetables. Total production of fruits has increased from 29.0 mt in 1990-91 to 46.9 mt in 1996-97. Total production of vegetables has increased from 67.29 mt in 1994-95 to 80.8 mt in 1996-97. India is the largest producer of cashewnut. Total production of cashew has increased from 3.7 lakh tonnes in 1991-92 to 4.3 lakh tonnes in 1996-97. With the increase in the production of fruits, vegetables & other horticultural products, the value of exports of these products has continuously been increasing. Total value of exports of fruits, vegetables & pulses was recorded to be ₹ 1,029 crore in 1997-98 against ₹ 216 crore in 1990-91. The value of exports of fruits & vegetables alone stand at 414 crore in 1996-97. Thus the horticultural exports of the country contributes nearly 25 percent of the total agricultural exports.
- (3) **Diversification of Agriculture.** Agriculture is not only meeting the demand for foodgrains but also needs of development. In recent years, agricultural sector has been diversified to produce commercial crops and horticultural crops viz etc. fruits, vegetables, spices, cashew, arecanut, coconut & floricultural products like flowers, orchards etc. dairy & other animal husbandry products. Thus, there is an ample scope for the development of agricultural sector both in terms of increased production and trade.

- (4) **Increase in floricultural Output.** About 31,000 hectares of land spread over Karnataka, Tamilnadu, Andhra Pradesh & West Bengal are under flower production. Since the inception of liberalization, commercial farming of floricultural activities has been increasing gradually. The demand for Indian cut flower is increasing continuously in the international market. Total value of exports of cut flowers has increased from ₹ 28.7 crore in 1994-95 to ₹ 60 crore in 1996-97. Presently, India is having a wide prospect of export of floricultural products which is expected to be of ₹. 200 crore ending 1999-2000.
- (5) **Agricultural Exports.** Another important emerging trend of agriculture is the increasing volume of agricultural exports. Agricultural exports are playing an important role in expanding economic activities alongwith generating employment opportunities. The new Export-Import Policy 1997-2002 has provided an ample opportunities for increasing the volume of agricultural exports. Accordingly, the total value of agricultural & allied exports of India has increased from ₹ 6295.2 crore in 1991-92 to ₹ 23,691 crore in 1997-98 i.e. 18.8 percent of country's total exports. India has the potential to export atleast 2 million tonnes of rice. In order to tap the future potential, Indian exporters are required to improve their processing & packaging facilities to meet international quality standard.
- (6) **Food Processing.** Economic liberalization has made ample scope for the development & expansion of food processing industry in India. Fruits and vegetables being a perishable in nature are facing a huge loss worth ₹ 3000 crore every year. In order to prevent such loss, the National Horticulture Board (NHB) is making necessary steps for providing infrastructure for the packing, storage & transportation of horticultural products. It also provides employment opportunities in export business. The Govt. is also offering necessary incentives by exempting the industry from excise duty. In order to invite foreign capital into this industry the Govt. has permitted 51 percent foreign equity partnership & also offered prompt approval of foreign technology transfer to the food processing industry of the country. Production of processed fruits & vegetables grew by about 13 percent in 1994 but declined to 5.2 percent in 1997-98. However the exports of processed fruits & vegetables are estimated to increase to ₹ 889 crore in 1998-99 as compared to ₹ 745 crore in 1997-98.

- (7) **Growing volume of Subsidies.** Volume of Subsidies granted to agriculture, in respect of fertilizer, irrigation and electricity charges etc. has been increasing in our country. Agricultural subsidies provided by the Central Govt. are estimated at ₹ 22,025 crores in 2000-01 as compared with ₹19,644 crores in 1997-98. Out of this total, amount of about 75 percent is allocated in the year of fertilizer and foodgrains.
- (8) **Growing trend of Investment in Agriculture.** Agriculture sector is experiencing a growing trend in the volume of its investment during the post liberalization period. But the volume of public sector is declining. Volume of total investments in agriculture has increased from ₹ 15,845 crores in 1990-91 to ₹ 22,915 crores in 2000-01. The share of public sector investment had declined from Rs. 27.6 percent (₹ 4854 crore) in 1993-94 to 21.0 percent (₹ 4416 crore) in 2000-01. On the other hand, the share of private sector investment in agriculture has increased considerably from 71.8 percent (₹ 11,377 crore) in 1993-94 to 81.0 percent (Rs. 18769 crore) in 2000-01.
- (10) **Institutionalization of Agricultural Credit.** The wave of liberalization has encouraged the institutional agricultural credit. In the initial stage of post independence period, Indian farmers were depending too much on unorganized sources of agriculture credit who charged exorbitantly higher rate of interest. But with the flow of agricultural credit mainly through commercial bank credit provided by various agencies has increased from ₹ 16,494 crore in 1993-94 to ₹ 30,976 crore in 1999-00. Thus the farmers are showing interest to collect loans from institutional sources & the recovery of agricultural advances has also increased from 56 percent in 1993-94 to 63 percent in 2000-01.

Apart from the above mentioned points, there are some other points also like Rising productivity of Agricultural resources, developing agriculture in Backward area, Developing New Biological techniques are also the areas in which the benefits of Economic liberalization and WTO can be reaped.

## 22.5 LET US SUM UP

There seems to be no turning back from WTO. Hence nations must move forward

with unity towards prosperity. Given the importance of agriculture in the national economy, it is imperative to step up the growth rate of agriculture. New policy initiatives and actions are to be taken to make Indian farmers proactive whether in research, ploughing or sowing, reaping or reinvesting. Access to land & other resources also should become liberal. Quality inputs with timely supply, finance and insurance are required to bring healthy practices in farming. Value- added agriculture must be promoted with new demands for food processing and are likely drastic fall in consumption of tobacco products. If drastic reforms are not implemented in agriculture sector it would not be possible to revive output growth on sustainable basis and mitigate rural distress & backwardness. Gunnar Myrdal long ago said that if a country's agriculture is backward, the economy is also likely to remain backward. Good governance in agriculture is needed to meet the risks, uncertainties and challenges and avoid further crisis. It will ensure empowerment, efficiency and equity in the agriculture sector.

## **22.6 LESSON END QUESTIONS**

- Q.1. What do you mean by Globalisation ? Also write problems and prospects for Indian Agriculture.
- Q.2. Discuss the various agreements of WTO on Agriculture.
- Q.3. Discuss the Positive and Negative impact of WTO on Indian Agriculture.
- Q.4. In which way, according to you, has WTO influenced India?

### **SUGGESTED FOR FUTHER READINGS**

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**Note :**

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