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METHODS TO INCREASE THE PRODUCTION OF RICE IN INDIA

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Methods to Increase the Production of Rice in India

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Abstract – Rice is the most important food crop of India covering about one-fourth of the total cropped area and providing food to about half of the Indian population.

This is the staple food of the people living in the eastern and the southern parts of the country, particularly in the areas having over 150 cm annual rainfall. There are about 10,000 varieties of rice in the world out of which about 4,000 are grown in India.

Rice is life for thousands of millions of people. In Asia alone, more than 2,000 million people obtain 60 to 70 per cent of their calories from rice and its products. Recognizing the importance of this crop, the United Nations General Assembly declared 2004 as the “International Year of Rice” (IYR).

Keywords: - Rice, Crop, Rainfall, Variety

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INTRODUCTION

The theme of IYR—“Rice is life” reflects the importance of rice as a primary food source, and is drawn from an understanding that rice-based systems are essential for food security, poverty alleviation and improved livelihood.

Rice is grown under varying conditions in India from 8° to 25° N latitude and from sea level to about 2,500 metre altitude. It is a tropical plant and requires high heat and high humidity for its successful growth. The temperature should be fairly high at mean monthly of 24°C. It should be 20°- 22°C at the time of sowing, 23°-25°C during growth and 25°-30°C at the harvesting time. The average annual rainfall required by rice is 150 cm.

It is the dominant crop in areas of over 200 cm annual rainfall and is still an important crop in areas of 100-200 cm rainfall. The 100 cm isohyet forms the limit of rice in rainfed areas. In areas receiving less than 100 cm annual rainfall, rice can be grown with the help of irrigation, as is done in Punjab, Haryana and western U.P. About 40 per cent of rice crop in India is raised under irrigation.

However, it is the temporal distribution of rainfall, rather than the total amount of annual rainfall which is more decisive. The rainfall should be fairly distributed throughout the year and no month should have less than 12 cm of rainfall. Lesser amount of rainfall is required as the harvesting time approaches.

The fields must be flooded under 10-12 cm deep water at the time of sowing and during early stages of growth. Therefore, the fields must be level and have low mud walls to retain water. This peculiar requirement of rice makes it primarily a crop of plain areas. Rice grown in well watered lowland plain areas is called wet or lowland rice.

In hilly areas, the hill slopes are cut into terraces for the cultivation of rice. Such a cultivation in which the hill slopes are cut into terraces is called terraced cultivation. The supply of water to the hill terraces is not as much as in the plain areas and the rice grown in hilly areas is called dry or upland rice.

Rice can be grown on a variety of soils including silts, loams and gravels and can tolerate acidic as well as alkaline soils. However, deep fertile clayey or loamy soils which can be easily puddled into mud and develop cracks on drying are considered ideal for raising this crop.

Such soil requirements make it dominantly a crop of river valleys, flood plains, deltas and coastal plains and a dominant crop there. High-level loams and lighter soils can be used for quick maturing varieties of rice. Black lava soil is also useful for rice cultivation.

Rice culture is not much suited to mechanization and is called ‘hoe-culture’. Most of the work in preparing the seed-bed, in broadcasting seeds, or in transplantation of plants from nurseries to the fields,

in harvesting and in winnowing operations is done by human hand. Thus it is a labour intensive cultivation and requires large supply of cheap labour for its successful cultivation.

It is, therefore, primarily grown in areas of high population density which provide abundant labour and at the same time, offer ready market for its consumption. In most rice producing states, labour is locally available but in Punjab and Haryana, rice cultivation mainly depends upon the migrant labourers from Bihar and eastern U.P.

METHODS OF RICE CULTIVATION:

Following methods of rice cultivation are practiced in India.

1. Broadcasting method:

Seeds are sown broadcast by hand. This method is practiced in those areas which are comparatively dry and less fertile and do not have much labour to work in the fields. It is the easiest method requiring minimum input but its yields are also minimum.

2. Drilling method:

Ploughing of land and sowing of seeds is done by two persons. This method is mostly confined to peninsular India.

3. Transplantation method:

This method is practiced in areas of fertile soil, abundant rainfall and plentiful supply of labour. To begin with, seeds are sown in nursery and seedlings are prepared. After 4-5 weeks the seedlings are uprooted and planted in the field which has already been prepared for the purpose. The entire process is done by hand. It is, therefore, a very difficult method and requires heavy inputs. But at the same time it gives some of the highest yields.

4. Japanese method:

This method includes the use of high yielding varieties of seeds, sowing the seeds in a raised nursery-bed and transplanting the seedlings in rows so as to make weeding and fertilizing easy. It also involves the use of a heavy dose of fertilizers so that very high yields are obtained. The Japanese method of rice cultivation has been successfully adopted in the main rice producing regions of India.

RICE CROPPING SEASONS:

Rice is grown almost throughout the year in hot and humid regions of eastern and southern parts of India where two to three crops in a year are not uncommon. But in the northern and hilly parts of the country, the winters are too cold for rice cultivation and only one

crop is grown in those areas. Table 24.1 gives the period of sowing and harvesting the rice crop.

Table 1 Rice Cropping Seasons in India

Crop	Local name	Sowing	Harvesting	Percentage of area	Percentage of Production
Autumn (Kharif)	Aus or Kar	May-June	Sept-Oct.	39.4	43.91
Winter (Rabi)	Aman, Sali or Karthika	June-July	Nov.-Dec.	54.2	48.79
Summer (Spring)	Boro or Dalua	Nov.-Dec.	March-April	6-4	7-24

PRODUCTION:

It is interesting to note that the rate of increase in production is much higher than the rate of increase in area under rice cultivation. This is due to the increase in yields as a result of better inputs and farm practices.

Thus, there has been a modest gain in extent of cultivated area but a substantial gain in yield and production. Increased irrigation facilities in drier areas, reclamation of waterlogged soils and introduction of new high-yielding strains crops (particularly in Punjab, Haryana and Tamil Nadu) made this possible.

There was a record production of 93.3 million tonnes in 2011-12. Yield also reached at the highest level of 2,077 kg/hectare. But unprecedented drought conditions in 2012-13 resulted in sharp decline in production, area and yield of rice in India. However, a modest recovery was made in 2013-14.

In spite of the spectacular progress, our yield of 2,051 kg per hectare (2013-14) is much lower compared to 3,600 kg in China, 4,770 kg in America, 6,246 kg in Japan and 6,556 kg in Korea. This means that there is still vast scope for increasing production. This will have to be done by increasing yields because scope for increasing area under rice crop is negligibly small.

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