

Lesson-9

Agriculture in India

Introduction-

India is an agricultural country 48.9% (as per Census 2011) of total population of India depends directly upon agriculture and we get 13.7% (year 2012-13) of total domestic production from agriculture. Agriculture in India is practiced mainly to earn livelihood in which farmer grows food crops for personal use on his land by using traditional methods. He sells the surplus and buys other things of his daily use. Commercial agriculture is practiced in the areas of fertile plains on big size land holdings. Due to the passage of time and circumstances agriculture in India has, undergone continuous changes in its form in different fields. That is why Indian agriculture has different forms today. These various forms can be classified on following basis:-

Different forms of agriculture in India

1. Types of Indian agriculture based on seasons-

Indian agriculture has been divided into three categories on the basis of various seasons-

1. Kharif crop
2. Rabi crop
3. Zayad crop

(a) Kharif Crop- Crops which are sown in June-July and harvested in October November. Rice, maize, millet, groundnut, moong, urad, sugarcane, soyabean, etc. are some of the major crops of this season. These crops depend on monsoon rain but these days crops are also sown with irrigation.

(b) Rabi Crop- Crops which are sown in

October-November and harvested in March-April. wheat, gram, barley, oilseeds, alsin, mustard, cuminseed, coriander, poppy, psyllium, are some of the major crops. Most of these crops are grown with irrigation.

(c) Zayad Crop- It includes green vegetables and fodder crops which are sown in February-April and harvested in June-July. Watermelon, gourd, bottle gourd, cucumber, etc. are grown in this season.

2. Types of Indian agriculture based on crops -

Food crops- Crops which are used for eating or as food like rice, wheat, maize, Jowar, millet, barley, and pulses etc.

Commercial crops- Crops which are used for commercial purposes or as raw material in industries. They are also known as cash crops which include- sugarcane, cotton, jute, tobacco, and oil seeds.

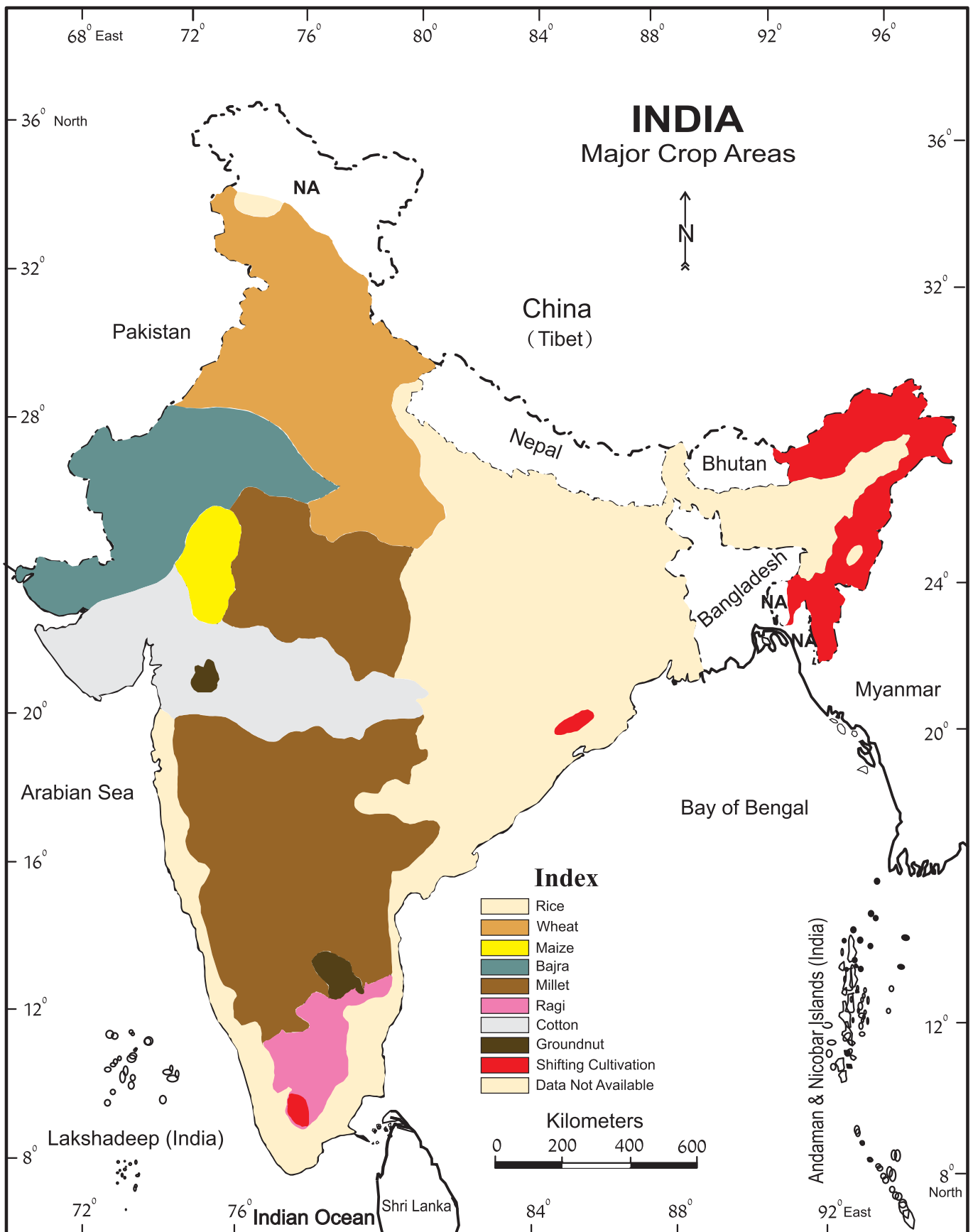
Plantation crops- These crops are grown in large plantations and are used as drinks and for industrial purpose like tea, rubber, cinchona, spices etc.

Garden crops- They include fruits and vegetables.

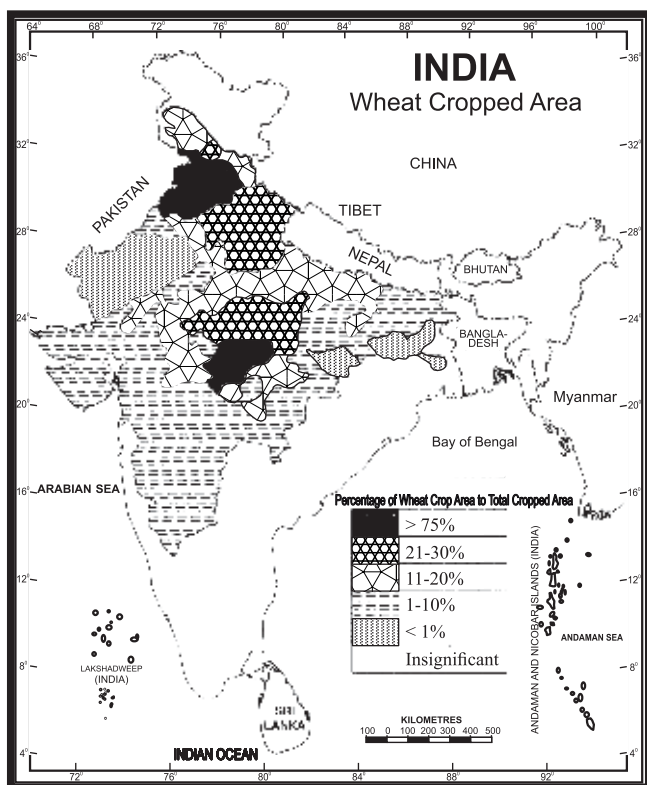
Major Food Crops of India:-

1 Wheat-

It is a **major** rabi crop of Northern India which is sown in temperate regions. It needs temperature between 10 and 25 and rainfall between 25 cm. and 75 cm. and light clayey soil is suitable for this crop. 70% of India's wheat is grown in Punjab (21%), Haryana (6.17%), Uttar Pradesh



Map 9.1 : Major crop areas of India

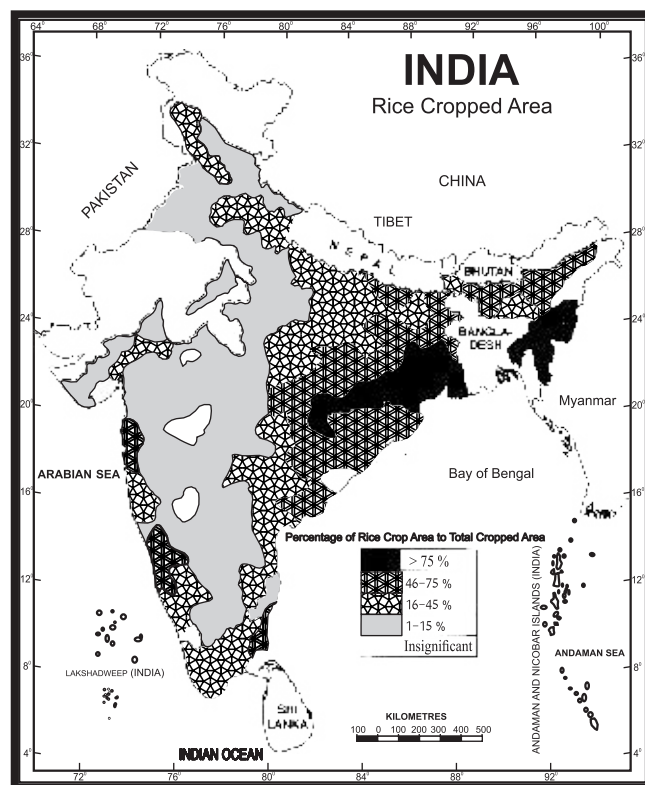


Map 9.2 : Wheat crop area in India

(32.68%), and other states like Madhya Pradesh, Rajasthan and Bihar. In Rajasthan, wheat is grown in Ganganagar, Hanumangarh, Alwar, Bharatpur, Jaipur, Kota. India is the third largest wheat producing country in the world after China and America. Due to Green Revolution in India today the country is self-reliant in wheat production because of increase in production, productivity and area under such crops.

2 Rice-

Rice is one of the major food crops in India. It is sown during rainy season in most parts of the country. That is why it is a major Kharif crop. Rice is grown in tropical regions where temperature is between 16°C and 27°C and rainfall between 100 and 200 cm. Clayey and alluvial soil near river basins is most suitable for production of rice. Rice in India is grown for the whole year according to seasons. Three crops of rice are grown in a year Aman (during winter), aus (during autumn) and boro (during summer). 86% production of rice is produced during monsoon that is why it has been kept under kharif crop. 90% of rice is grown in



Map 9.3 : Rice crop area in India

West Bengal (15%), Andhra Pradesh (14%), Uttar Pradesh (12%), Orissa, Bihar, Tamil Nadu, Madhya Pradesh and other states like Assam, Chhattisgarh, Jharkhand, Maharashtra, Punjab, Haryana etc. Rice in Rajasthan is grown in Ganganagar, Hanumangarh, Kota and with irrigation in Bundi in small quantity. India is the second largest country in rice production after China.

3 Maize-

It is a food crop as well as a commercial crop which provides raw material for industries manufacturing starch and glucose. It is also used as food grain. It is second major kharif crop after rice in India. It was brought in India by Portuguese in 17th century. Maize needs temperature between 12 and 35 and rainfall between 50 and 100 cm. It requires deep soil with nitrogen where water is drained easily, 60% of maize in country is grown in Andhra Pradesh (19.3%) Karnataka (16.78%), Rajasthan (10.34%), Uttar Pradesh (10%), Gujarat (7%), Madhya Pradesh and Punjab. Maize in Rajasthan is grown in Kota, Bundi, Baran, Jhalawar, Udaipur,

Dungarpur, Banswara, Chittore, Ajmer, Ganganagar and Hanumangarh.

4. Bajra-

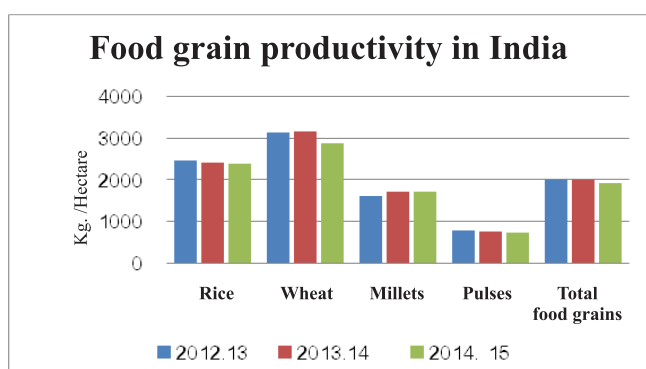
In India, Bajra is an important food crop in millet category after Jowar. It is grown in warm and dry climate between June and October. It is a Kharif crop. Bajra is sown in the areas of temperature between 25°C and 35°C and rainfall less than 50 cm. and light soil with proper water drainage. It can also be grown in all types of soils. Out of the total Bajra production in the country 85% is grown in Rajasthan (42%), Maharashtra (20%), Gujarat (12.5%) and in Uttar Pradesh (11%) and rest in other states like Andhra Pradesh, Madhya Pradesh, Karnataka and Punjab. In Rajasthan, Bajra is grown in Jaipur, Barmer, Jaisalmer, Bikaner, Sikar, Ganganagar, Jhunjhunu, Alwar, Jaipur and Jalore districts. India is at first place in bajra production in the world.

Major Pulses grown in India-

Most of Indian population is vegetarian. That is why pulses are used as source of protein. Pulse crops are sown because they also maintain the fertility of the soil. In India, pulses are mainly grown in Kharif season but some amount of this is also grown in Rabi season. Peanut, gram lentil etc. are grown in Rabi season. In pulse production, gram-pulse is one-third of total pulse production in India. Gram is grown mainly in plain areas of North India in Punjab, Haryana, Rajasthan, Uttar Pradesh and West Bengal. Gram in Rajasthan is grown in canal irrigation areas of Ganganagar, Hanumangarh and Bikaner. Good amount of gram production also received from Andhra Pradesh and Maharashtra states. After gram, arhar is the second major pulse crop which is sown with jowar, other millet and mustard. It is grown in Maharashtra, Uttar Pradesh, Karnataka, Bihar, Madhya Pradesh and Andhra Pradesh.

Production of food grains in India

Agricultural crops	Area (in Lakh Hectare)			Production (in Million Tonnes)			Productivity (Kilograms per hectare)		
	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
Rice	427.54	441.36	438.56	105.24	106.65	104.8	2461	2416	2390
Wheat	300.03	304.73	309.69	93.51	95.85	88.94	3117	3145	2872
Millets	247.57	252.2	241.49	40.04	43.29	41.75	1617	1717	1729
Pulses	232.56	252.13	230.98	18.34	19.25	17.2	789	764	744
Total Food grains	1207.7	1250.42	1220.72	257.13	265.04	252.69	1996	2010.5	1933.75



Diag. 9.1 : Food grain productivity in India

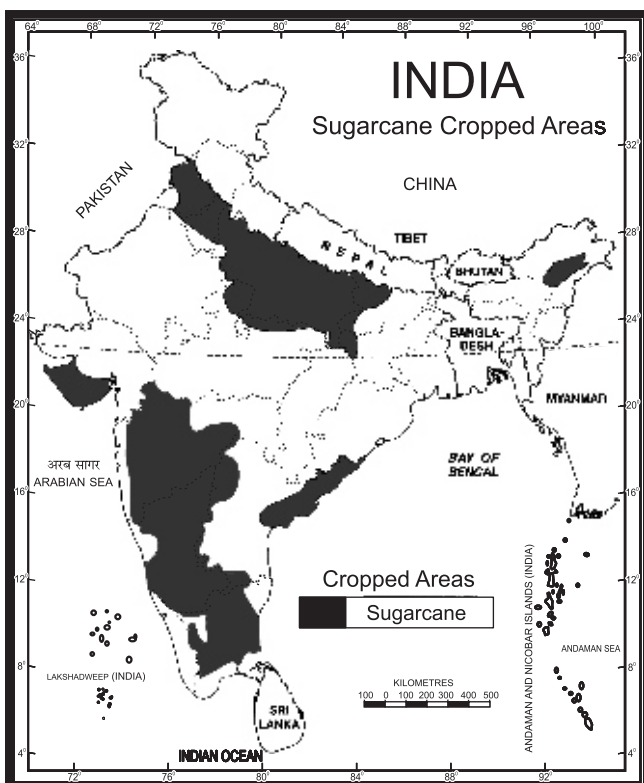
Moong and urad are grown with jowar, millet and cotton in peninsular parts of India. Rajasthan is at first place in moong and bajra production in India. Here moong is grown in semi-arid desert areas of Jalore, Nagaur, Jodhpur and Pali. In the same way Urad is sown in Hadoti areas of Kota, Bundi, and Jhalawar, Chittor, Udaipur and Bhilwara in Mewar and Banswara in Southern Rajasthan. Lentil-Pulse is grown with Rabi crops in Eastern Rajasthan like Alwar, Bharatpur and Dholpur.

Major Commercial/Cash Crops of India

Cash crops in India are grown in one-fourth part of total agricultural land. These crops are not only the source of income for farmers but also provide raw material to the industries. Sugarcane, cotton, oilseed, jute and tobacco are major commercial crops.

1. Sugarcane-

Sugarcane is a plant of Indian origin and descendant of bamboo family. It holds first place in commercial crops. India is at first place in sugarcane production and producing area in the world. India produces 50% sugarcane of the world. Sugarcane is grown in tropical regions of India. Sugarcane needs temperature between 15°C and 30°C and rainfall between 100 and 200 cm. Clayey, moist soil of river basin is most suitable for sugarcane. North India has large sugar-producing areas but South India produces more sugarcane because the humid climate of South helps in increase quantity of sugarcane. Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra



Map 9.4 : Sugarcane crop area in India

Pradesh, Haryana, Punjab, Bihar and Gujarat are major sugarcane producing states in India. Sugarcane in Rajasthan is grown in Udaipur, Ganganagar, Bhilwara, Chittor and Bundi. Sugarcane is used in making sugar, jaggery, and alcohol.

2. Cotton-

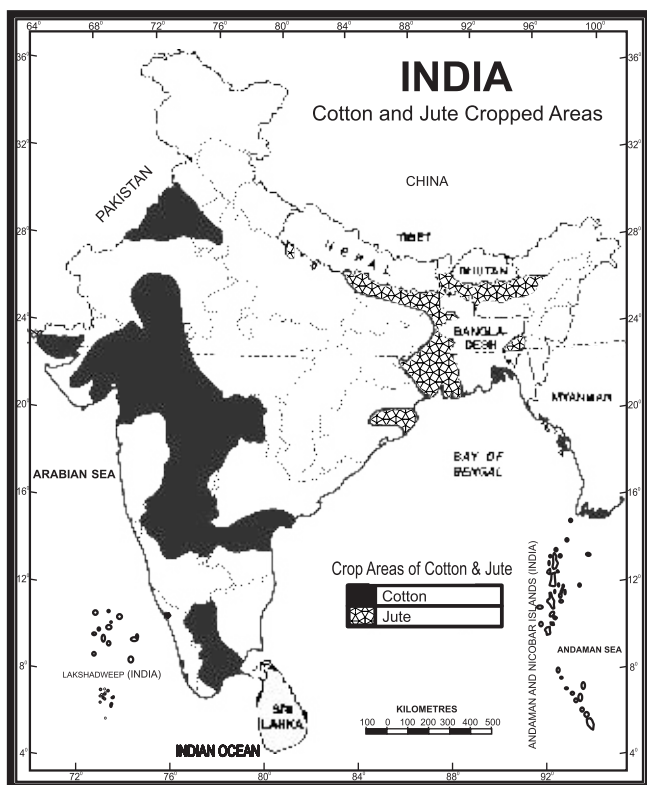
Indians had knowledge of making cotton textile from cotton since ancient times. Cotton is grown on 6.7% part of total agriculture land. Cotton in India is grown in Kharif season. It needs temperature between 20°C and 35°C and rainfall between 75 and 100 cm. Deep black soil with lime and potash is considered suitable for cotton. Three varieties of cotton are grown in India :-

- (1) **Long and thin fiber cotton (American cotton) :** In India, 50% of total production of cotton is of this type only. This is grown in Punjab, Haryana and Rajasthan.
- (2) **Medium fiber cotton :** In India, 40% of total production of cotton is of this quality only. It is grown in Gujarat, Maharashtra, Haryana, Andhra Pradesh, Karnataka and Tamil Nadu.
- (3) **Short fiber cotton :** It is 10% of total production of cotton and is grown in small quantity in almost all the states of the country.

In area and production of cotton Gujarat stands on first position, Maharashtra second and Andhra Pradesh is at third place. Punjab and Haryana are also important cotton producing states. Production of cotton is less than demand so India imports cotton from America, Sudan, Kenya and Egypt. In Rajasthan, cotton is grown in Ganganagar, Hanumangarh, Bikaner, Kota, Bundi, and Jhalawar.

3. Jute-

Jute is an important fiber crop of India. The stem of jute plant is used in paper industry and the fibers part is used in making ropes and other articles. Warm tropical wet climate is necessary for the growth of jute plant. In India, West Bengal is a



Map 9.5 : Cotton and Jute crop area in India

leading producer of jute and about 60% of the total jute production of India is received from this state. Assam, Bihar, Jharkhand, Uttar Pradesh and Tripura states are also important for jute production.

4. Oilseeds-

Edible oil is extracted from the seeds of oilseed crops. India produces about 10% oilseed production of the world. Oilseed crops are grown both in Rabi and Kharif seasons. The major oilseed

crops in India are groundnut, mustard, sesame, sunflower, alsi, castor and soyabean. Groundnut and mustard form 80% of total oilseed production.

Groundnut-

It is a crop of Brazil origin. India produces about 30% of total groundnut production of the world. It is sown in Kharif season. In India 45% oilseed crops are of groundnut only. About 85% production of groundnut in the country is received from Gujarat (first), Andhra Pradesh (Second), Tamil Nadu (third), Maharashtra and Karnataka states. In Rajasthan, groundnut is grown in Chittore, Swaimadhopur, Bhilwara, Jaipur, Ganganagar, Bikaner, Hanumangarh, and in irrigated areas of Rajasthan canal.

Mustard-

India produces about 70% Mustard of the world and 35% of total oilseed production of the country is taken from mustard only. About 85% of mustard is grown in northern India. Rajasthan is ranked first in mustard production in India and it produces 41% mustard of the country. It is also grown in Uttar Pradesh (second), Madhya Pradesh (third), Gujarat, Punjab and Haryana. In Rajasthan, It is grown in Alwar, Bharatpur, Jaipur, Hanumangarah, Gangnagar, Swaimadhopur, Bhilwara, Bikaner and irrigated area of Rajasthan canal.

Other Oilseed Crops-

Castor oil is used as lubricating agent in machines and also used in soap manufacturing and

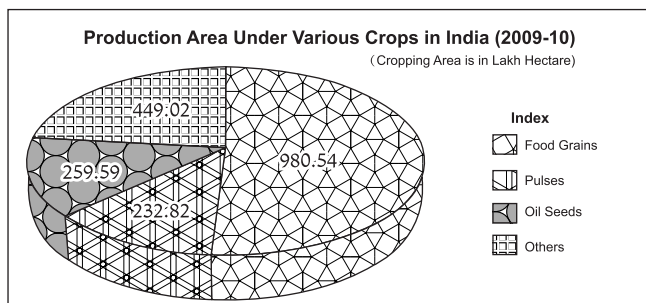
Production of Cash Crops in India

Agricultural Crops	Area (in Lakh Hectare)			Production (in Million Tonnes)			Productivity (Kilograms per Hectare)		
	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
Oilseeds	264.84	280.51	257.27	30.94	32.74	26.68	1168	1168	1037
Sugarcane	49.99	49.93	51.44	341.20	352.14	359.33	68254	70522	69857
Cotton	119.77	119.60	130.83	34.22	35.90	35.48	486	510	461

(Note : One bale of cotton weight is 170 kg and its production is shown in this table in lakh bales)

(These figure are taken from Annual Report (2015-16) of Ministry of Agriculture, Government of India.

leather tanning works. In India, Gujarat and Rajasthan are the leading producers of castor oil which produces 65% and 25% of the total castor production respectively. In India, 70% Soyabean is produced in Madhya Pradesh only and 20% in Maharashtra and 10% in Rajasthan.



Diag. 9.2 : Production area under various crops in India

Contribution of Agriculture in Indian Economy-

1. A Source of Employment-

Agriculture directly provides employment to 56.6% population in India. It also provides indirect employment to agriculture based occupations like animal husbandry, fish farming, and forestry. It also provides raw material to industries, which is an indirect source of livelihood for a large population.

2. Contribution in Gross Domestic Production-

There has been great contribution of agriculture and its allied activities in gross domestic production in India. It was 55.11% on prices of 1993-94 in 1951 which reduced to 44.26% in 1990. During 2007-08. It was 17.8% on prices of 1999-2000 and it reduced to 15.35% on prices of 2011-12 in 2015-16. The reason of this downfall was rapid industrial development in secondary and tertiary sectors.

3. Contribution in Foreign Trade-

India contributes 2.07% in export of agriculture production in the world. India is the tenth largest country in the world in export of agriculture production. It is fourth biggest sector of total export. It exports products like tea, sugar, oilseed, tobacco, spices, fresh fruits and basmati

rice. It also includes other agriculture products like jute textile, poultry where as food grains and edible oil are included in imports.

4. Supply of Raw Material for the Industries-

Various agriculture based industries like textile industry, sugar industry, vegetable oil industry, jute industry, rubber industry and spice industry get their raw material from agriculture.

5. Market for Industrial Products-

60% population of India resides in rural areas which is dependent on agriculture. This sector provides market for agricultural equipments like tractor harvestors, cultivation equipments, fertilizer and pesticides.

If we assess Indian agriculture, we will find that it is the backbone of Indian economy. It is also a source of income and employment. Production falls due to dependence of agriculture on monsoon, which is indefinite and irregular with havoc of flood and droughts. If we want to develop agriculture in India, we will have to change the ancient way of its production. We will have to remove illiteracy and abolish poverty, only then development of agriculture and condition of farmers will improve.

Important Points

1. 54.6% of Indian population still earns its living from agriculture and its allied activities at present.
2. Agriculture in India has been divided in three categories on the basis of seasons.
3. Rice and Wheat are the main food grain crops of great northern plains of India.
4. Commercial crops- The crops which are used as raw material for industries on seasonal basis. They are known as cash crops.
5. Production, productivity, production area of wheat in India has increased due to Green Revolution.
6. Crops are provided water in artificial manner to retain moisture in soil which is called

irrigation.

7. Three crops of rice are grown in India Aman (during winter), aus (during autumn) and boro (during summer).
8. Maize is used in three ways as food, fodder and industrial use. It is second largest Kharif Crop after rice in India.
9. Production of sugarcane is highest in South India due to humid climate.
10. Cotton with long thin fiber (American cotton) which is 50% of total production grown in Punjab, Haryana and Rajasthan known as 'Narma'
11. 41% of mustard of the country is grown in Rajasthan. The Eastern plains of Rajasthan are highest in mustard production.

5. Describe the contribution of cotton as a cash crop.
6. Describe millet crop.

Essay Type Questions-

1. Mention the contribution of pulse-crops in Indian agriculture.
2. Describe the role of agriculture in Indian economy
3. Classify agriculture on the basis of their methods in India.
4. Describe food crops in India.

EXERCISE

Very Short Answer Type Questions-

1. In how many forms is Indian agriculture divided on the basis of seasons?
2. Which crops in India are known as garden crops?
3. What do you mean by cash crops?
4. How many crops of rice are grown in India?
5. In which districts is dry farming practised?
6. What do you mean by irrigated agriculture?
7. Which states produce cotton the most?
8. What do you mean by 'narma'?

Short Answer Type Questions-

1. Classify the agriculture crops in India on the basis of their consumption?
2. Describe the maize crop.
3. Mention the contribution of mustard in oilseed crops.
4. Describe zooming farming.