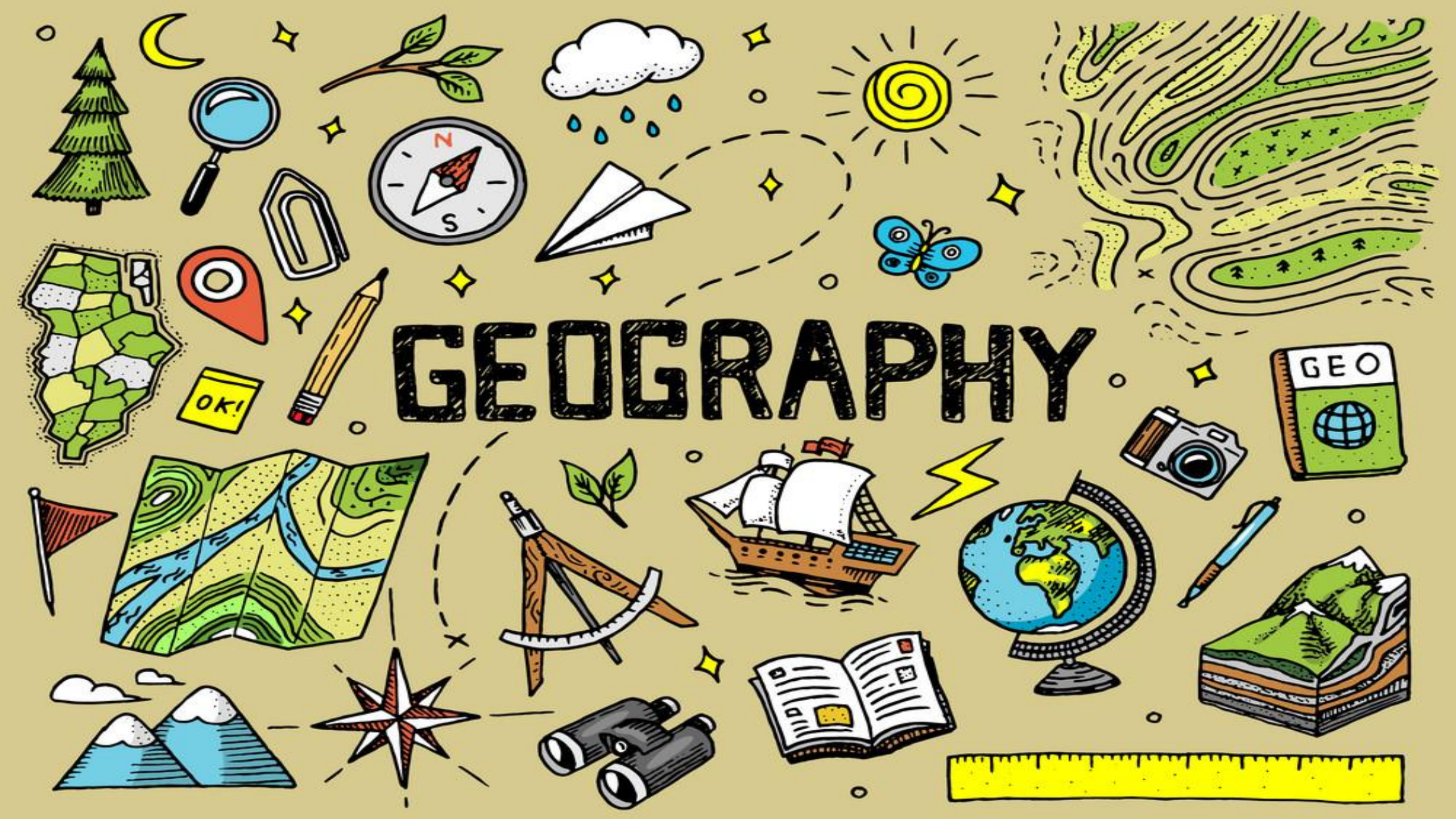
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rickshaw-paint.net

WATER

MANURE

FERTILIZER

TRUCK

AGRICULTURE

Chapter 4 - Class 10

AGRICULTURE

- **Agriculture** is the process of producing food, feed, fiber and many other desired products by the cultivation of certain plants and the raising of domesticated animals (livestock).
- It is a PRIMARY ACTIVITY
- It produces RAW MATERIAL FOR INDUSTRIES.

Agriculture in India

- India is an agriculturally important country.
- Agriculture produces most of the food that we consume.
- Agriculture also produces raw materials for various industries.

Did you know ?

- India is second in the world in crop output, next to China.
- 1.4 million square-kilometers of land in India is under cultivation.
- Agriculture is India's biggest economic sector and employs 52.1% of total work force .

Indian Agriculture – Some other facts

- Total geographical area – 328.73 million hectares
- 306 million hectares data is available.
- Net sown area – 46.48%
- Produce 51 major crops.
- Provide food to 1 billion people.
- Indian agriculture is famous for its bio-diversity
- Provide raw material to industries.
- India rank second worldwide in farm output.
- Contributes to 1/6th of the export earnings.
- Major crops– Rice, Wheat, Jute, Cotton, Pulses etc.

- **FARMING** IS GROWING CROPS OR KEEPING ANIMALS BY PEOPLE FOR FOOD AND RAW MATERIALS. FARMING IS A PART OF AGRICULTURE.

Types of Farming

Over years, cultivation methods in India have changed significantly depending upon the characteristics of physical environment, technological know-how and socio-cultural practises.
Farming varies from subsistence to commercial farming.

At present, in different parts of India, the following farming systems are practised:

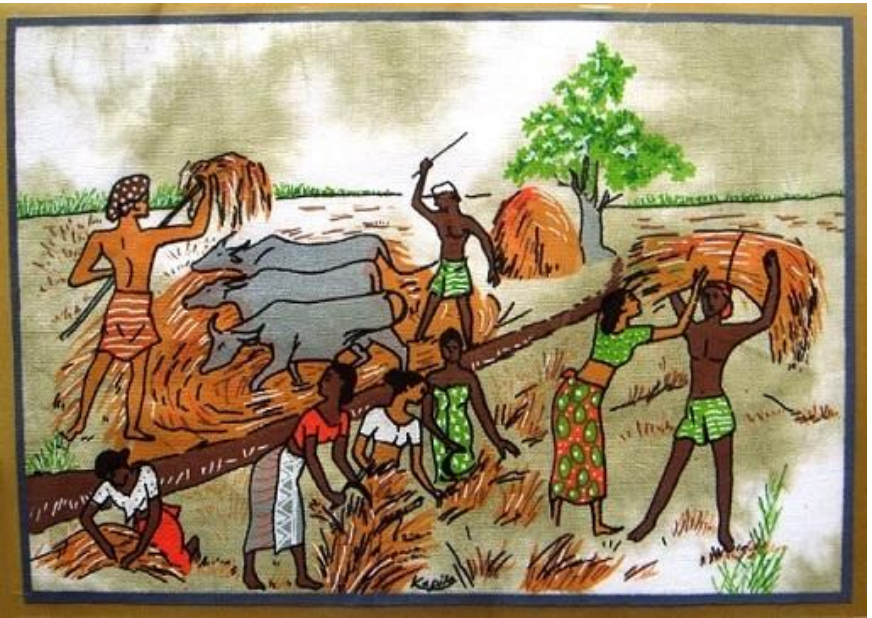
- Primitive subsistence farming
- Intensive subsistence farming
- Commercial farming

Did you know ?

Agriculture is the largest livelihood provider in rural India.

TYPES OF FARMING

PRIMITIVE SUBSISTENCE FARMING



INTENSIVE SUBSISTENCE FARMING

COMMERCIAL FARMING

THE MAIN TYPES OF AGRICULTURE IN INDIA

SHIFTING AGRICULTURE / SLASH & BURN / JHUMMING

SUBSISTENCE AGRICULTURE

EXTENSIVE AGRICULTURE

INTENSIVE AGRICULTURE

PLANTATION AGRICULTURE

MIXED FARMING

COMMERCIAL FARMING

Primitive Subsistence Farming

This type of farming is still practised in few places in India. It is practised on small patches with the help of primitive tools like hoe, dao and digging sticks, and family or community labour. This type of farming depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions.

It is also called "slash and burn" cultivation. Farmers clear a patch of land and produce crops to sustain their family. When soil fertility decreases, the farmers shift and start cultivating in the same way on a fresh patch of land. This allows nature to replenish the fertility of the soil. Productivity in this type of farming is low as fertilisers or modern inputs are not used.

Primitive Subsistence Farming

- Practiced on small patches of land.
- Involves family/community labour.
- Uses primitive tools such as hoe, digging sticks etc.
- Predominance of manual labour.
- Dependent on rainfall for irrigation.
- Artificial fertilizers and technology is not used.
- **Slash and burn agriculture:** It is a primitive system of farming in which a piece of land is cleared of vegetation by slashing and burning and is then cultivated.

Different Names of Slash and Burn Farming:

Slash and Burn Farming in India	
Name	**Regions**
Jhumming	Assam, Meghalaya, Mizoram and Nagaland
Pamlou	Manipur
Dipa	Bastar (Chhattisgarh) and Andaman & Nicobar Islands
Bewar or Dahiya	Madhya Pradesh
Podu or Penda	Andhra Pradesh
Pama Dabi or Koman or Bringa	Orissa
Kumara	Western Ghats
Valre or Waltre	South eastern Rajasthan
Khi	Himalayan belt
Kuruwa	Jharkhand

Terms used for shifting cultivatión in different parts of the worlds

	Terms	Country or Region
Asia	Ladang	Indonesia, Malaysia
	Jumar	Java
	Ray	Vietnam
	Tam-ray, Rai	Thailand
	Hay	Laos
	Hanumo	Philippines
	Chena	Sri lanka, Japan
	Karen	Korea
	Taungya	Burma
	Bewar, dhya, dippa, erka, jhum, kumri, penda, pothu, podu	India

Country	Jhumming Cultivation
Mexico	Milpa
Central America	Milpa
Venezuela	Conuco
Brazil	Roca
Central Africa	Masole
Indonesia	Ladang
Vietnam	Ray
India	Jhumming

Intensive Subsistence Farming

This type of farming is practised in areas of high population pressure on land. It is labour-intensive farming, where high doses of biochemical inputs and irrigation are used for obtaining higher production.

Though the right of inheritance leading to the division of land among successive generations has rendered land-holding size uneconomical, the farmers continue to take maximum output from the limited land in the absence of alternative source of livelihood. Thus, there is enormous pressure on agricultural land.

Did you know ?

12% of world's farm land is in India.

INTENSIVE SUBSISTENCE FARMING

- Aims at maximum possible production on limited farmland.
- Caters the need of the farmer's family and local market.
- Small land-holdings, preliminary mechanization.
- Capable of raising one crop in a year.
- Practiced in thickly populated regions.
- Regions- Punjab, Uttar Pradesh, Madhya Pradesh, parts of Rajasthan.
- Crops- Wheat, rice, millets.

INTENSIVE SUBSISTENCE AGRICULTURE

- In densely populated East, South and Southeast Asia, most farmers practice intensive subsistence agriculture.
- Intensive subsistence farmers waste virtually no land.
- The typical farm is much smaller than elsewhere in the world.
- Because the agricultural density is so high, families must produce enough food for their survival from a very small area of land.

Primitive Subsistence farming	Intensive Subsistence farming
1. It is practised on small patches of land. 2. Primitive tools like hoe, dao and digging sticks, and family or community labour are used. 3. In this type of farming, farmers depend on the monsoons and natural fertility of the soil. 4. Land productivity in this type of agriculture is low.	1. It is practised on bigger land holdings. 2. Modern inputs like HYV seeds, chemical fertilisers, insecticides, etc., to obtain higher productivity are used. 3. In intensive subsistence, irrigation facilities like tubewells and canal irrigation is used. 4. Land productivity is high as it is meant for commercial purposes.

Commercial farming

In this type of farming, higher doses of modern inputs like HYV seeds, chemical fertilisers, insecticides and pesticides are used in order to obtain higher productivity. The degree of commercialisation varies from region to region.

For example: Rice is a commercial crop on Punjab and Haryana, but in Orissa, it is a subsistence crop.

Plantations

Plantation is a type of commercial farming. It is the type of farming in which a single crop is grown on a large area. The plantation has an interface of agriculture and industry. Plantations use capital intensive inputs, with the help of migrant labourers. All the produce is used as raw material in respective industries.

Tea plantations in Assam and North Bengal, Coffee plantations in Karnataka, Banana plantations in Southern part of India, Rubber plantations in Kerala, Bamboo plantations in North-East India etc. are some important plantation crops grown in India.

Since the production is mainly for market, a well-developed network of transport and communication connecting the plantation areas, processing industries and market is present.

Subsistence vs. Commercial Farming

- Five principal features distinguish commercial agriculture from subsistence agriculture
  - *Purpose of farming*
    - Subsistence= for consumption
    - Commercial= for sale
  - *% of farmers in the labor force*
    - Subsistence = 50% +
    - Commercial= 5%

  - *Use of machinery*
    - Subsistence= more farmers, use more manual labor/power and tools
    - Commercial= small # of farmers, more machines, more new technology
  - *Farm size*
    - Subsistence= small farms
    - Commercial= large farms, 449 acres
  - *Relationship to farming to other businesses*
    - Subsistence= none
    - commercial= closely related to other businesses, called Agribusiness

SUBSISTENCE FARMING	COMMERCIAL FARMING
The farming practice in which crops are raised for personal consumption, it is known as subsistence farming.	The farming practice, in which the farmer grows crops for the purpose of trade, it is called commercial farming.
Labor intensive	Capital intensive
It is practiced in small area.	It is practiced in large area.
It is enhanced through the use of manures.	It is enhanced through higher doses of modern inputs.
Food grains, fruits and vegetables	Cash crops and cereals
It depends on monsoon.	It uses modern irrigation methods.
Traditional methods are used.	Machines are used.

	Subsistence producers	Commercial producers
Numbers	Large	Small
Size of operations	Small	Medium to large
Strategy	A secure, diverse and improved livelihood through agricultural and non-agricultural activities. Risk control and minimisation The input allocation to food production depends on the opportunities.	Maximising income from producing food Risk takers
Inputs	Low external inputs Operate usually on communal land systems, and holdings are not necessarily delineated or fenced off.	High level of external inputs Usually on private and fenced off land. Commercial producers may also be found in communal lands, usually in fenced off parts.
Type of products	Multiple, used for own consumption	Few, specialised products
Equipment	Minimal	Mechanisation and intensification (e.g. irrigation)
Financial capital	Minimal	High and access to credit
Practices	Low-input low-output system Simple practices aimed at diverse and secure yields Competition for household inputs with non-agricultural sector	High-input, output system Modern practices aimed at profit maximisation
Human resources	Mostly indigenous skills	Mostly modern agricultural and management skills
Status	Many are food insecure	Food secure, but profitability variable and dependent on government support
History	Often disadvantaged (e.g. South Africa, Namibia and Zimbabwe)	Historically advantaged with access to best land, sufficient water resources and

Cropping seasons

Classification of Crops
(based on season in which they are grown)

Kharif
(Monsoon Crops)

- ✓ Planted in June
- ✓ Harvested in October

Zaid
(Summer Crops)

- ✓ Planted in March
- ✓ Harvested in June

Rabi
(Winter Crops)

- ✓ Planted in November
- ✓ Harvested in April

Zaid Crops

❖ Zaid season is a short season between the Rabi and Kharif seasons, during the summer months.

❖ Crops produced are watermelon, muskmelon, cucumber, vegetables and fodder crops.

Kharif Crops

- Sown with the onset of monsoon in different parts of the country and harvested in September – October.
- Important crops are paddy, maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean.
- Some of the most important rice-growing regions are Assam, West Bengal, coastal regions of Orissa, Andhra Pradesh, Tamil Nadu, Kerala and Maharashtra, particularly the Konkan coast along with Uttar Pradesh and Bihar.
- Recently, paddy has also become an important crop of Punjab and Haryana.
- In states like Assam, West Bengal and Orissa, three crops of paddy are grown in a year : Aus, Aman and Boro.



Rabi Crops

- Sown in winter from October to December and harvested in summer from April to June.
- Important crops are wheat, barley, peas, gram and mustard.
- States such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and western Uttar Pradesh are main rabi crop (mainly wheat) producing states.
- Availability of precipitation during winter months due to the western temperate cyclones help in the success of these crops.
- The success of green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth of rabi crops.

Wheat

Mustard

Peas

Crop Seasons in India

KHARIF	RABI	ZAID
Monsoon crop (High water requirement)	Winter crop	Summer crop
July - October	October - February	March - June
Rice, Maize, Jowar, Bajra, Soyabean, Cotton, Groundnut, Jute, Urad Dal, Moong Dal, Tur Dal	Wheat, Barley, Gram, Peas, Mustard	Watermelon, Muskmelon, Cucumber, Vegetables and Fodder crops
		

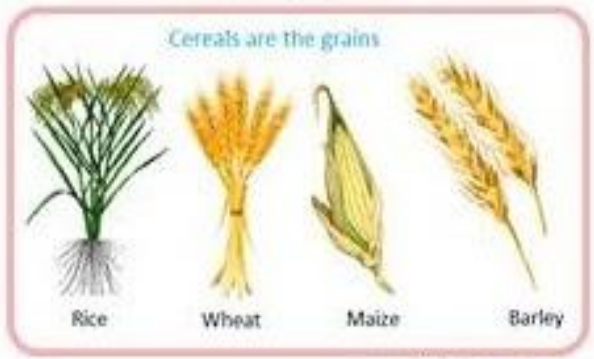
Classification of Crops
(based on nutrition they provide)

Vegetables/ Fruits/Spcies

Source of vitamins, minerals

Cereals

Source of carbohydrates



www.first-learn.com

Pulses

Source of proteins

www.21food.com

Oilseed crops

Source of fats

www.first-learn.com

Major Crops

A variety if food and non-food crops are grown in different parts of the country depending upon the variations in soil, climate and cultivation practises.

Major crops grown in India are:

- Rice
- Wheat
- Millets
- Maize
- Pulses

Grains

- Sugarcane
- Oil seeds
- Tea
- Coffee
- Horticulture crops

Food crops other than grains

- Rubber
- Fibre crops
- Cotton
- Jute

Non-food crops

Did you know ?

India produces 51 major crops.


split green gram
black eyed beans
yellow pigeon peas
kidney beans
split black gram
green gram
red lentils
adzuki beans
green peas
white peas
black gram beans
split & skinned green gram
split red lentils
turkish/dew gram
split bengal gram
split & skinned black gram

Fig. 1 Cereals and millets used for preparation of *Nere hannala*

Sl. No.	Crop	Cropping Season	Temperature	Rainfall	Soil	Features	Features	Location
1	**Rice**	Kharif	Above 25°C and high humidity	Above 100 cms	Alluvial clayey soil.	India is the second largest producer of rice in the world after China.	In Assam, West Bengal and Orissa, three crops of paddy are grown in a year known as "Aus, Aman and Boro".	Northern plains, North Eastern States, Coastal and Deltaic Regions.
2	**Wheat**	Rabi	Cool growing season and Bright sunshine	50 - 75 cms of well distributed rainfall	Well drained alluvial soil & Black Soil	Main food crop of the north and north western states of India	Two important wheat-growing zones in India are: The Ganga-Sutlej plains in the northwest and black soil region of Deccan.	Punjab, Haryana, Uttar Pradesh and parts of Madhya Pradesh are major wheat producing states.
3	**Millets (Jawar)**	Kharif	Grown in areas with high temperature	Low rainfall.	Less fertile soil.	Jawar, Bajra and Ragi. They are also known as coarse grains.	Jowar grows in moist areas and hardly needs irrigation. Very high nutritional value.	Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh.
	Millets (Bajra)	Kharif	Grown in areas with high temperature	Low rainfall.	Sandy soil and shallow black soil.		Very high nutritional value.	Rajasthan, Uttar Pradesh, Maharashtra, Gujarat and Haryana.
	Millets (Ragi)	Kharif	Grown in areas with high temperature	Low rainfall.	Dry regions on red, black, sandy loamy & shallow black soils.		Very high nutritional value.	Karnataka, Tamil Nadu, Himachal Pradesh, Uttarakhand, Sikkim, Jharkhand and Arunachal Pradesh.
4	**Maize**	Kharif	21°-27°C	50 cm - 100 cm	-----	Used as both food and fodder crop.	Grows well in old alluvial soil.	Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh, Telangana and Madhya Pradesh.
5	**Pulses**	Rabi	Survive even in dry conditions.	Need less moisture	Pulses are usually grown in rotation with other crops, so that the soil can regain its fertility.	India is the largest producer and consumer of pulses in the world.	Tur (arhar), urad, moong, masur, peas and gram. Pulses are the great source of protein.	Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

Sl. No.	Crop	Cropping Season	Temperature	Rainfall	Soil	Features	Features	Location
1	**Sugercane**	Kharif	21°-27°C	75 cm - 100 cm	Well drained alluvial soil & variety of Soil.	India is the second largest producer of sugarcane after Brazil.	It is a tropical and subtropical crop.	Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana.
2	**Oilseeds**	Groundnut - Kharif Crop	20°-30°C	50 cm - 75 cm	Red Soil.	India was the second largest producer of groundnut in the word after China.	Oil seeds grown in India covers 12% of the total cropped area.	Gujarat was the largest producer of groundnut followed by Andhra Pradesh & Tamil Nadu.
		Linseed & Mustard - Rabi Crops.	-----	-----	-----	India was the third largest producer of mustard seeds in the word after Canada and China.	Oil seeds are majorly used in cooking purpose. Also, used for the production of soap, cosmetics and ointments.	-----
		Sesamum - Kharif Crop in North and Rabi Crop in South.	-----	-----	-----	-----	-----	-----
		Castor - Both Rabi & Karif Crop.	-----	-----	-----	-----	-----	-----
3	**Tea**	-----	21°C to 29°C	150 cm -250 cm. Frequent showers distributed through out the year.	Mountain Soil. deep and fertile well drained soil, rich in humus and organic matter.	Tea is a plantation crop. Beverage crop.	India is the leading producer of tea in the world. grows well in tropical and subtropical climate.	Assam, West Bengal, Tamil Nadu, Kerala, Meghalaya, Tripura, etc. Darjeeling is famous for the unique quality of tea production.
4	**Coffee**	-----	15°C to 28°C	150 cm -250 cm. Frequent showers distributed through out the year.	Hill slopes are more suitable for growth of this crop. well drained mountain soil.	Coffee is a plantation crop. Beverage crop. Indian coffee is well known for its good quality throughout the world. Initially, the Arabica variety of coffee was brought from Yemen.	India produced 3.2% of the total world coffee production. Coffee was initially introduced on the Baba Budan Hills in Karnataka.	Nilgiris in Karnataka, Kerala and Tamil Nadu.

HORTICULTURE CROPS

Sl. No.	Crop	Cropping Season	Temperature	Rainfall	Soil	Features	Features	Location
1	**Fruits**	-----	-----	-----	-----	India produces both tropical and temperate fruits.	India was the second largest producer of fruits and vegetables in the world after China.	Mango: Maharashta, Andhra Pradesh, Uttar Pradesh, West Bengal. Oranges: Nagpur and Cherrapunjee (Meghalaya). Bananas: Kerala, Mizoram, Maharashtra and Tamil Nadu. Lichi and Guava: Uttar Pradesh and Bihar. Pineapples: Meghalaya. Grapes: Andhra Pradesh and Maharashta. Apples, Pears, Apricots and Walnuts: Jammu & Kashmir and Himachal Pradesh.
2	**Vegetables**	-----	-----	-----	-----	India produces 13 % of the worlds vegetables.	India is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.	-----

NON FOOD CROPS

Sl. No.	Crop	Cropping Season	Temperature	Rainfall	Soil	Features	Features	Location
1	**Rubber**	-----	Above 25°C	Above 200 cm. It needs moist and humid climate.	-----	Rubber is a plantation crop. Rubber is a crop of equatorial region but it is also grown tropical and subtropical regions.	India is the fourth largest rubber producer in the world.	Kerala, Tamil Nadu, Karnataka and Andaman & Nicobar islands and also in the Garo hills of Meghalaya.

FIBER CROPS

Sl. No.	Crop	Cropping Season	Temperature	Rainfall	Soil	Features	Features	Location
1	**Cotton**	Kharif	High Temperature.	Light Rainfall. 210 frost-free days and bright sunshine for its growth.	Black Soil.	India was the second largest producer of cotton after China.	-----	Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.
2	**Jute**	Kharif	High temperature & humid climate.	Heavy Rainfall.	Well drained alluvial soil in the flood plain.	Jute is used to make gunny bags, mats, ropes, yarn, carpets, etc.	Jute is also known as the 'Golden Fiber'.	West Bengal, Bihar, Assam, Orissa and Meghalaya.

Points of distinction	Wheat	Rice
(*a*) temperature	Wheat requires 14°C to 18°C temperature. High temperature is harmful for wheat cultivation.	Rice requires 16°C to 27°C temperature. An average temperature of 24°C is ideal.
(*b*) rainfall	50 cm to 100 cm rainfall is required for wheat cultivation.	100 cm to 200 cm rainfall is ideal for growing rice.
(*c*) soil	Fertile alluvial soil or mixed soil is ideal for wheat cultivation.	Rice grows well in alluvial soil or in the fertile river basins. It is also grown in mixed, loamy or clayey soil.
(*d*) land	Plain land or gentle slop is ideal for wheat cultivation.	For rice also, plain land or gentle slope is ideal.
(*e*) largest producer	Uttar Pradesh is the largest producer of wheat.	West Bengal is the largest producer of rice.
(*f*) other producing areas	Punjab, Haryana, Madhya Pradesh, Andhra Pradesh, Tamil Nadu and Bihar are some wheat-producing states.	Bihar, Odisha, Andhra Pradesh, Tamil Nadu, Kerala, Assam and Uttar Pradesh are some rice-producing states.

Rubber

- It is an equatorial crop, but under special conditions it is also grown in tropical and sub-tropical areas.
- Requires moist and humid climate with rainfall of more than 200 cm and temperature above 25 degree Celsius.

- It is an important industrial raw material.
- It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar Islands and Garo hills of Meghalaya.
- India ranks fifth among the world's natural rubber producers.

Horticulture Crops

- India is the largest producer of fruits and vegetables in the world.
- India is s producer of tropical as well as temperate fruits.

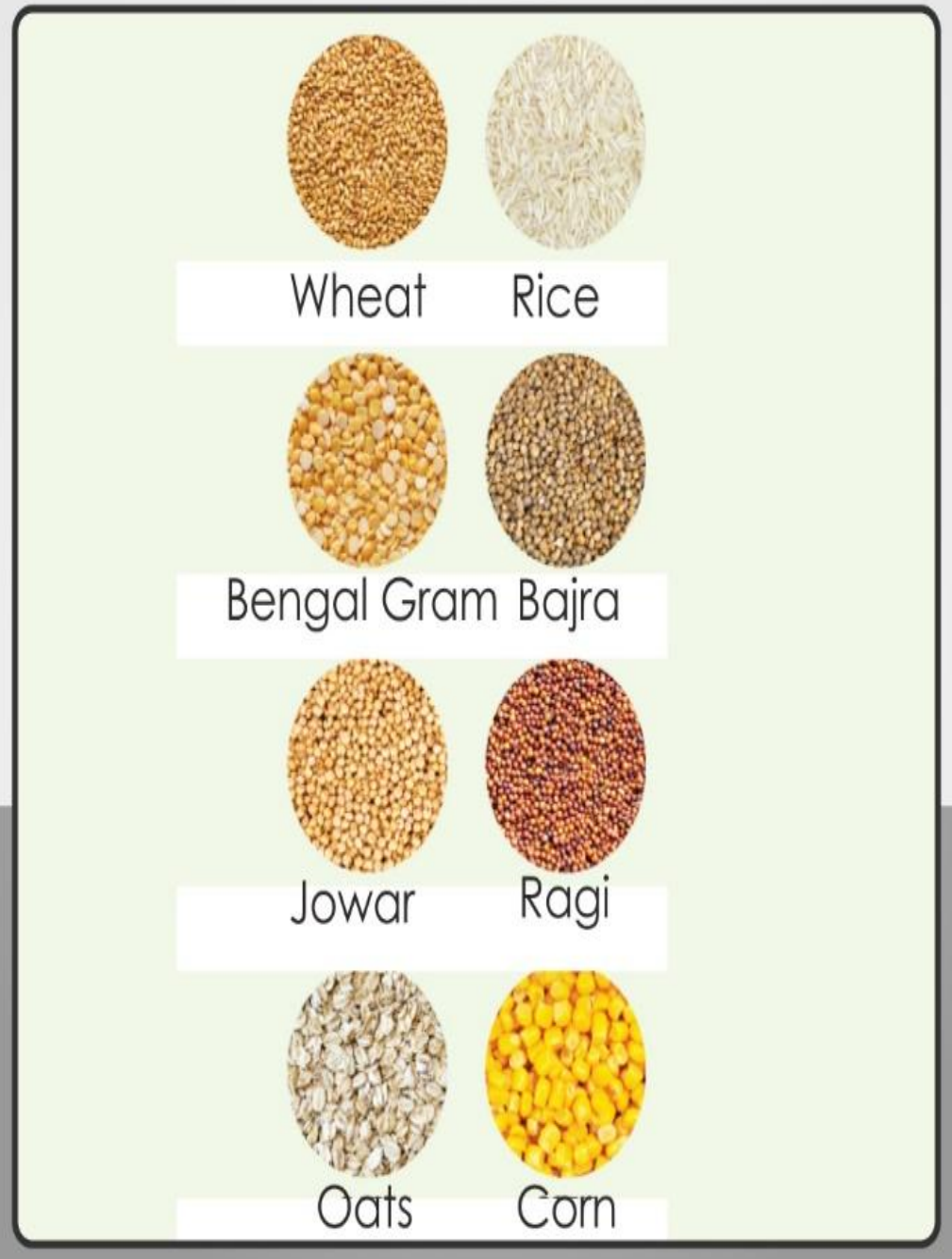
Fruits in great demand :

- Mangoes of Maharashtra, Andhra Pradesh, Uttar Pradesh and West Bengal.
- Oranges of Nagpur and Cherapunjee.
- Bananas of Kerala, Mizoram, Maharashtra and Tamil Nadu.
- Lichi and Guava of Uttar Pradesh and Bihar.
- Pineapples of Meghalaya
- Grapes of Andhra Pradesh and Maharashtra.
- Apples, Pears, Apricots and Walnuts of Jammu and Kashmir and Himachal Pradesh.

- India produces 13% of the world's vegetables.
- It is an important producer of pea, cauliflower, onion, cabbage, tomato, brinjal and potato.

Did you know ?

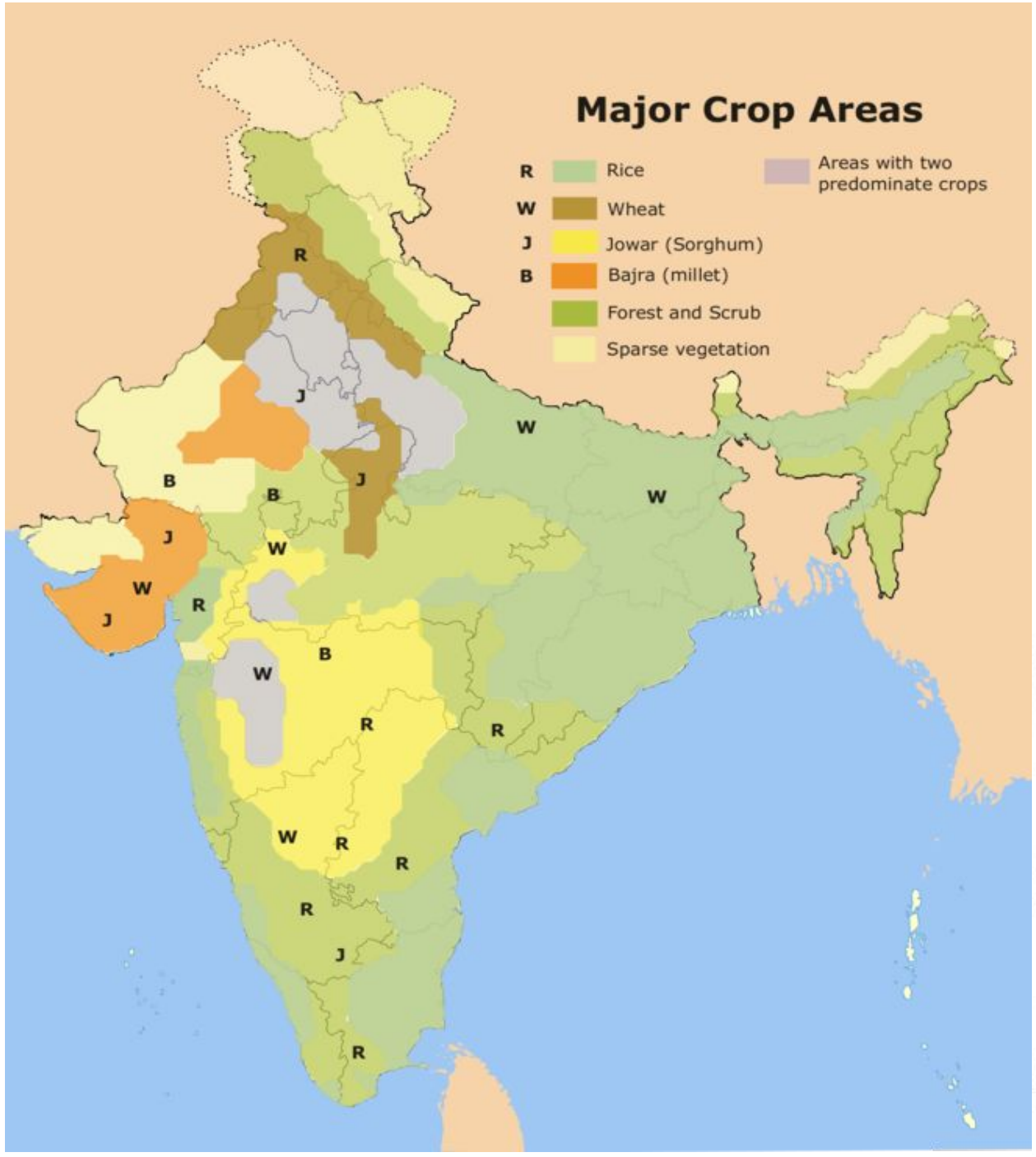
India accounts to 10 % of the world's fruit production.

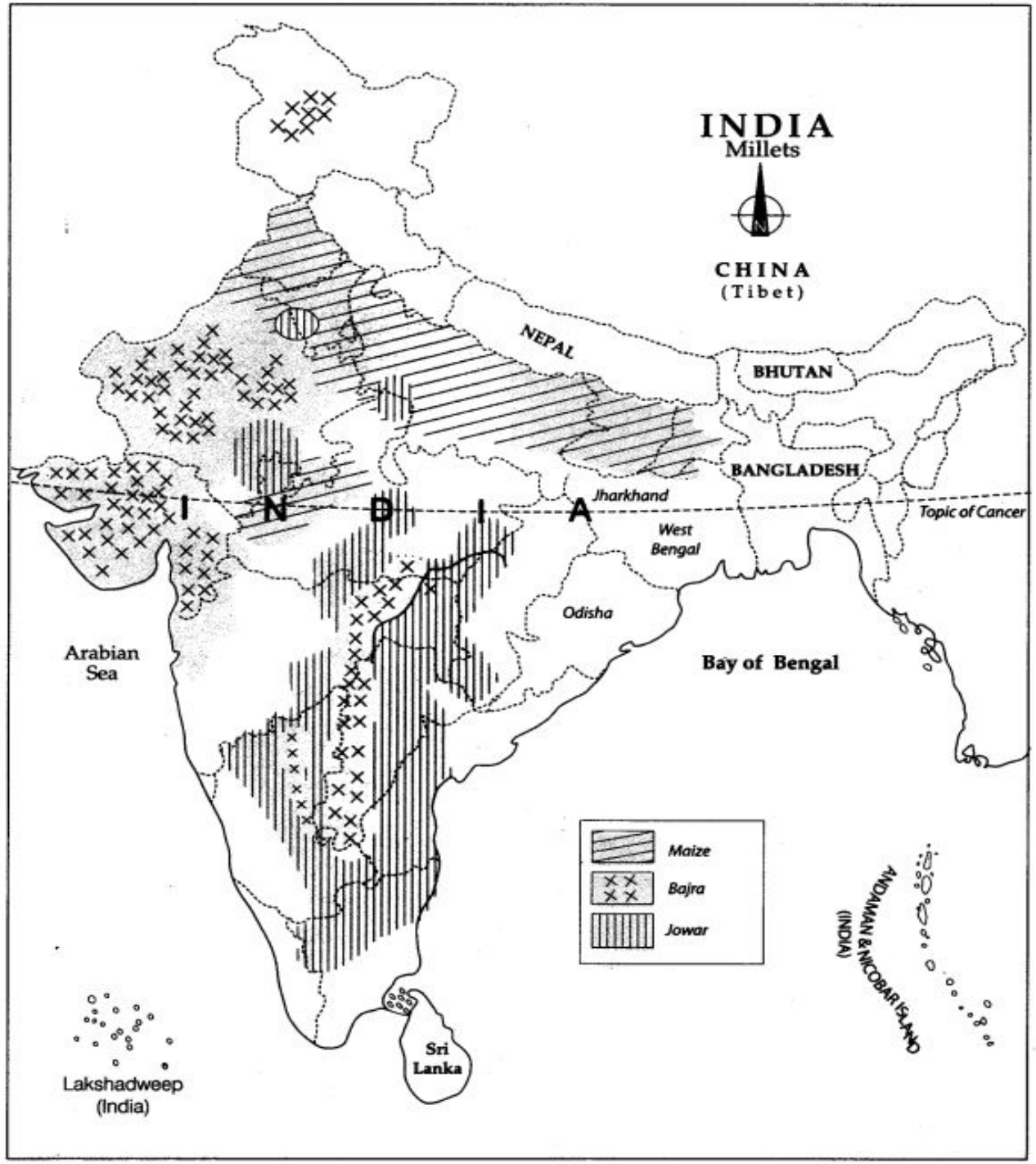


TYPES OF MILLET:

SORGHUM OR JOWAR

PEARL/ SPIKED MILLET
OR BAJRA


Major Crop Areas
R Rice
W Wheat
J Jowar (Sorghum)
B Bajra (millet)
Forest and Scrub
Sparse vegetation
Areas with two predominate crops


INDIA
Millets
CHINA
(Tibet)
NEPAL
BHUTAN
BANGLADESH
Jharkhand
West Bengal
Odisha
Topic of Cancer
INDIA
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Maize
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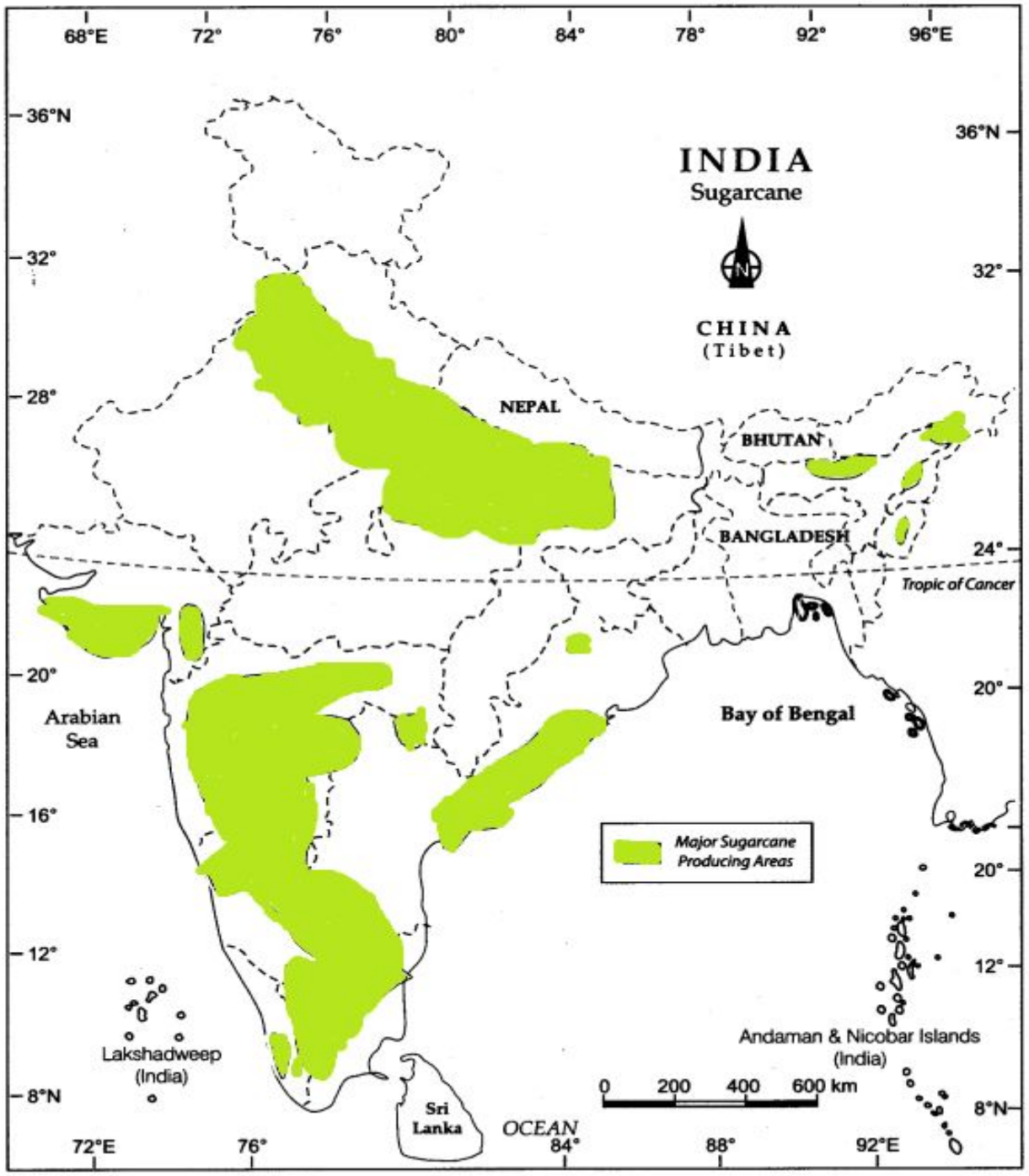
ANDAMAN & NICOBAR ISLAND (INDIA)


INDIA
Sugarcane
CHINA
(Tibet)
NEPAL
BHUTAN
BANGLADESH
Tropic of Cancer
Arabian Sea
Bay of Bengal
Major Sugarcane Producing Areas
Lakshadweep (India)
Andaman & Nicobar Islands (India)
Sri Lanka
OCEAN
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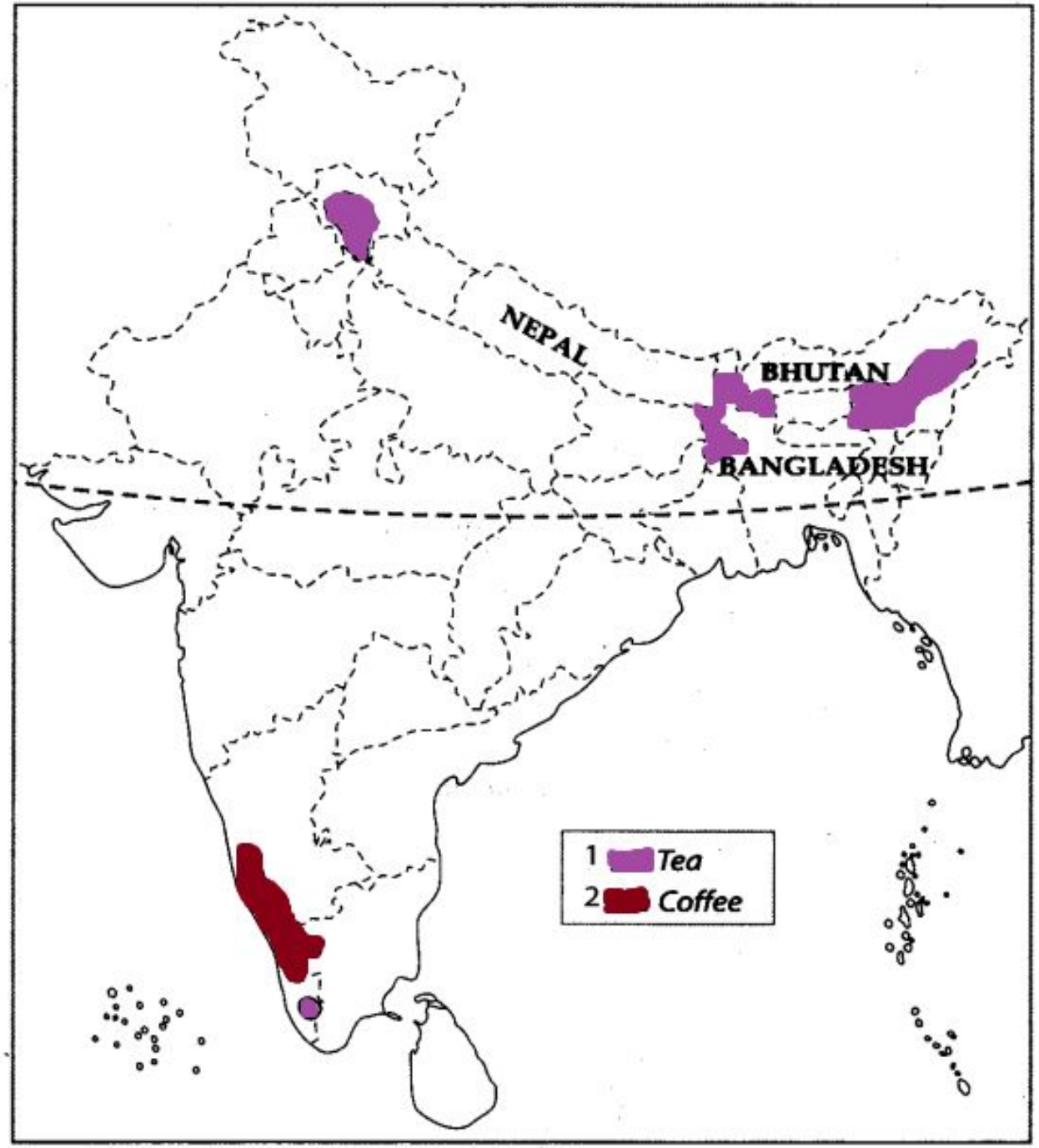
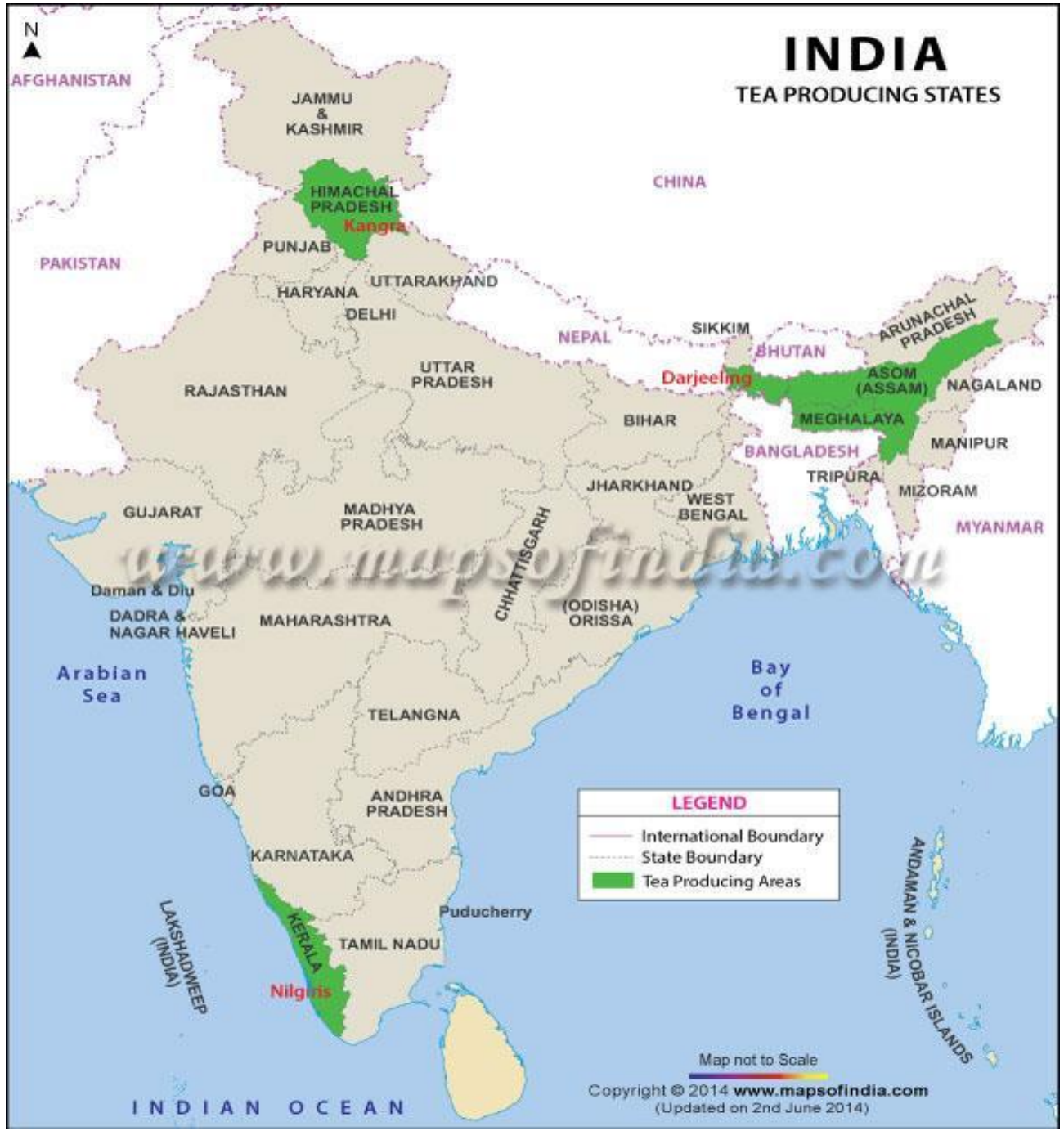
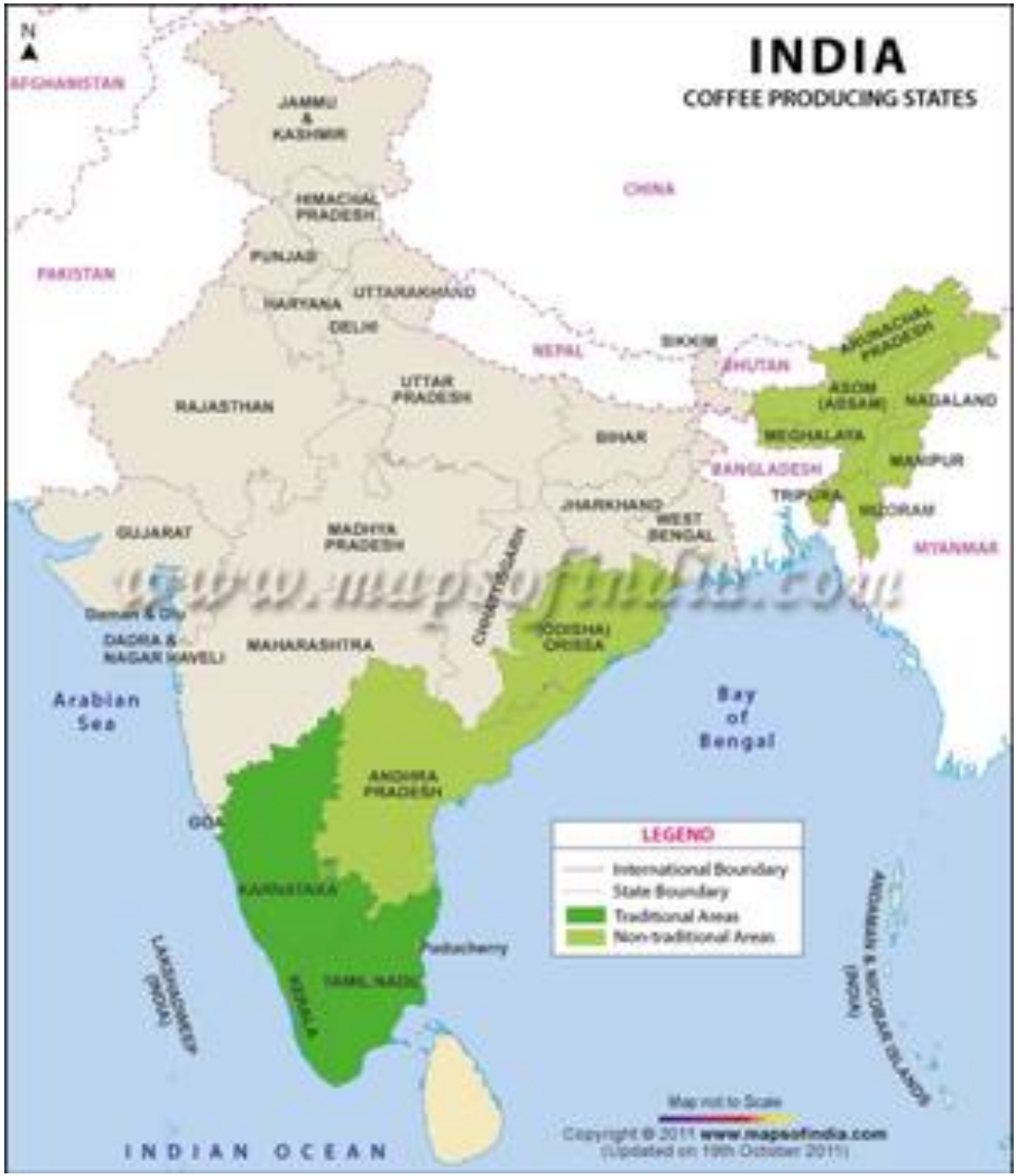

NEPAL
BHUTAN
BANGLADESH
1 Tea
2 Coffee




INDIA
COFFEE PRODUCING STATES
N
AFGHANISTAN
PAKISTAN
CHINA
NEPAL
BHUTAN
BANGLADESH
MYANMAR
SRI LANKA
JAMMU & KASHMIR
HIMACHAL PRADESH
PUNJAB
HARYANA
UTTARAKHAND
DELHI
RAJASTHAN
UTTAR PRADESH
BIHAR
SIKKIM
ARUNACHAL PRADESH
ASSAM (ASSAM)
NAGALAND
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
JHARKHAND
WEST BENGAL
ODISHA (ORISSA)
CHHATTISGARH
MADHYA PRADESH
GUJARAT
Daman & Diu
DADRA & NAGAR HAVELI
MAHARASHTRA
ANDHRA PRADESH
GOA
KARNATAKA
TAMIL NADU
Puducherry
KERALA
LAKSHADWEEP (INDIA)
ANDAMAN & NICOBAR ISLANDS (INDIA)
Arabian Sea
Bay of Bengal
INDIAN OCEAN
LEGEND
International Boundary
State Boundary
Traditional Areas
Non-traditional Areas
Map not to Scale
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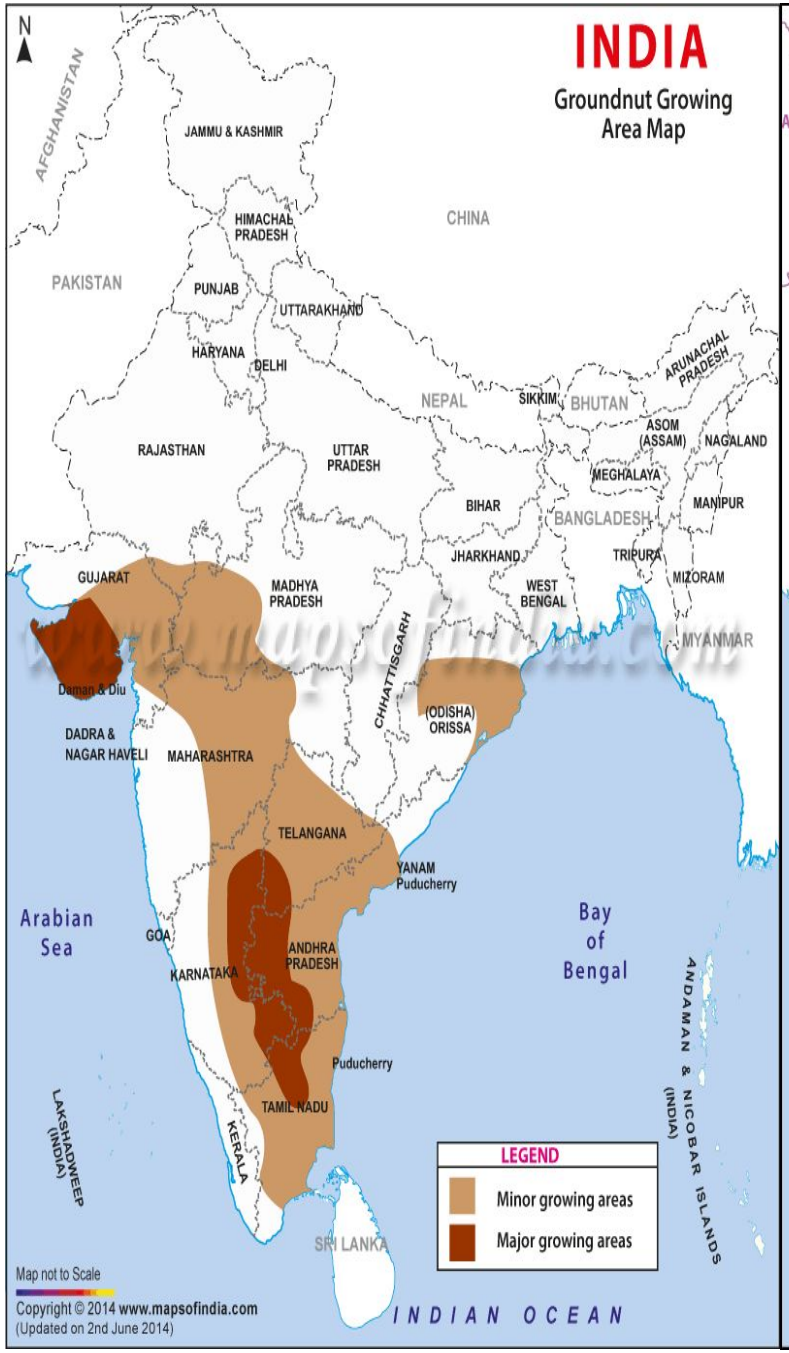
INDIA
Arunachal Pradesh
Sikkim
Assam
Nagaland
Meghalaya
Manipur
Mizoram
Araku
Bababudangiri
Chikmagalur
Manjarabad
Mysore
Nilgiris
Biligiri
Coorg
Shevaroy Hills
Wayanaad
Anamalai
Malabar
Palni Hills
Travancore


INDIA
Groundnut Growing Area Map
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CHINA
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UTTARAKHAND
HARYANA
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SIKKIM
BHUTAN
ARUNACHAL PRADESH
ASOM (ASSAM)
NAGALAND
RAJASTHAN
UTTAR PRADESH
MEGHALAYA
BIHAR
BANGLADESH
MANIPUR
JHARKHAND
TRIPURA
GUJARAT
MADHYA PRADESH
WEST BENGAL
MIZORAM
MYANMAR
CHHATTISGARH
(ODISHA) ORISSA
Daman & Diu
DADRA & NAGAR HAVELI
MAHARASHTRA
TELANGANA
YANAM Puducherry
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ANDHRA PRADESH
Bay of Bengal
Puducherry
TAMIL NADU
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LAKSHADWEEP (INDIA)
ANDAMAN & NICOBAR ISLANDS (INDIA)
SRI LANKA
INDIAN OCEAN
LEGEND
Minor growing areas
Major growing areas
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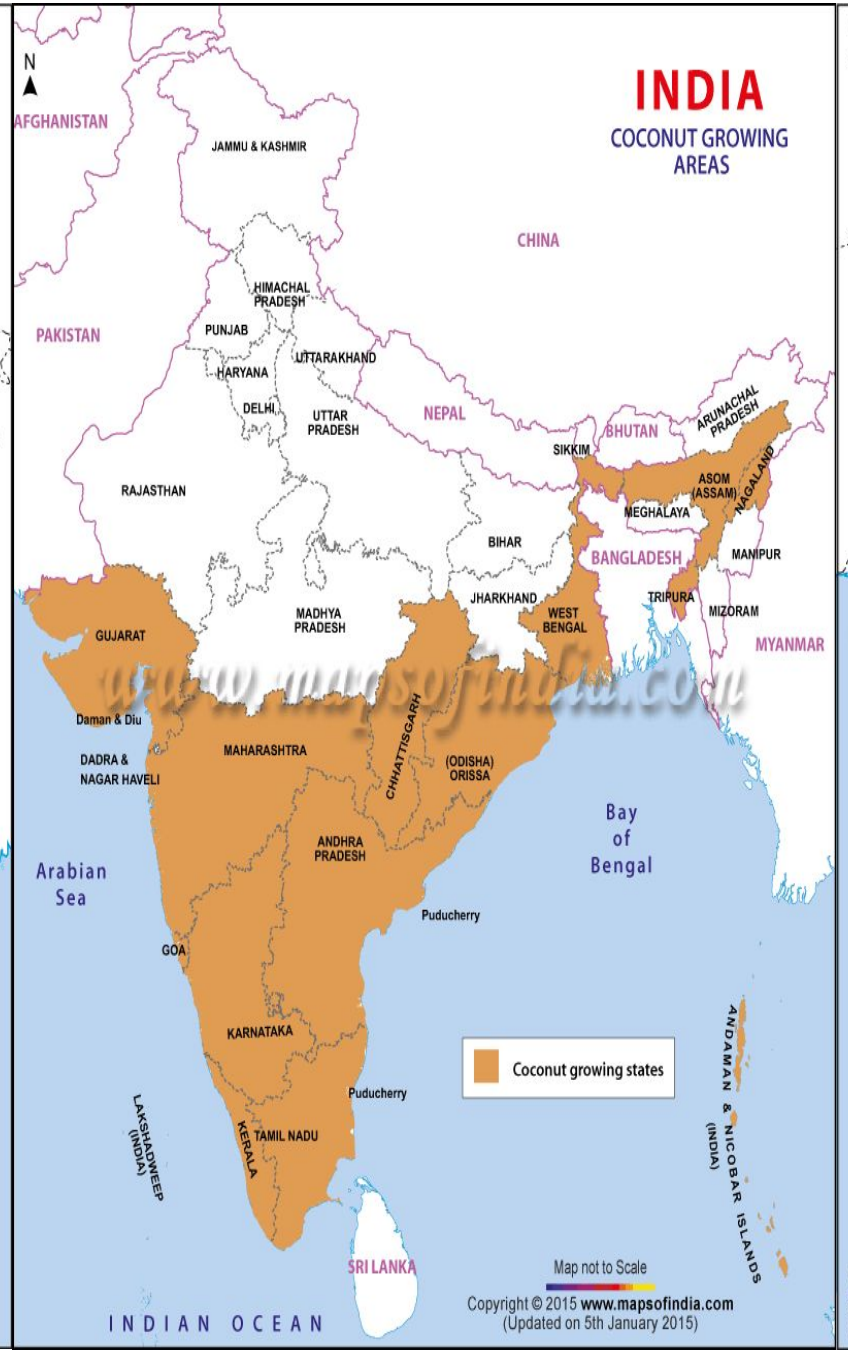
INDIA
COCONUT GROWING AREAS
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Arabian Sea
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KERALA
LAKSHADWEEP (INDIA)
ANDAMAN & NICOBAR ISLANDS (INDIA)
SRI LANKA
INDIAN OCEAN
Coconut growing states
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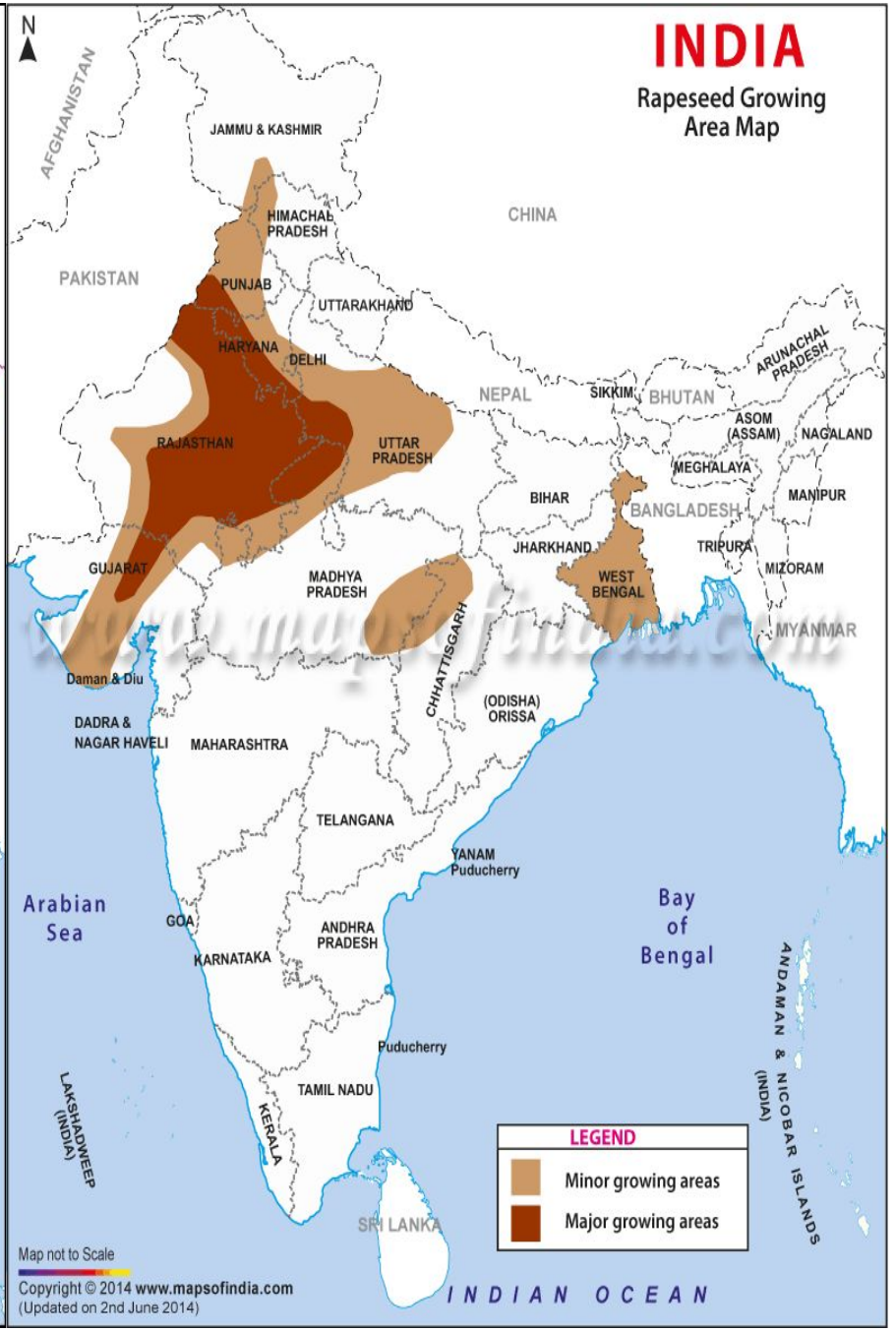
INDIA
Rapeseed Growing Area Map
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INDIAN OCEAN
LEGEND
Minor growing areas
Major growing areas
Map not to Scale
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Sl No.	Types of Crops	Meaning	Major Crops
1.	Food grains	Crops that are used for human consumption	Rice, Wheat, Maize, Millets, Pulses and Oil seeds
2.	Commercial Crops	Crops which are grown for sale either in raw form or in semi-processed form	Cotton, Jute, Sugarcane, Tobacco and Oilseeds
3.	Plantation Crops	Crops which are grown on Plantations covering large estates	Tea, Coffee, Coconut and Rubber
4.	Horticulture	Sections of agriculture in which Fruits and Vegetables are grown	Fruits and Vegetables

Mustard Seeds

- Mustard seeds are used for making mustard oil which is widely used for cooking in India & other countries.
- Mustard oil is also used for many beauty care purpose and also have many medical properties like antibiotic properties, etc.
- Mustard oil is also very healthy for our heart.

Soya Bean Seeds

- Apart from being used as a food the soya bean seeds are also used for making soya bean oil.
- This oil is very good for our health as it contains many nutritive elements and less cholesterol
- Soya bean seeds are also rich in protein.

Sesame Seeds

Sesame oil is made from sesame seeds which is used for cooking, body massage, ayurveda, and alternative medicines.

Groundnut Seeds

It is also called peanut, these are used to make edible oil which are used for cooking in different parts of the world.

Sunflower Seeds

Sunflower seeds are used for making sunflower oil which is widely used as cooking oil.

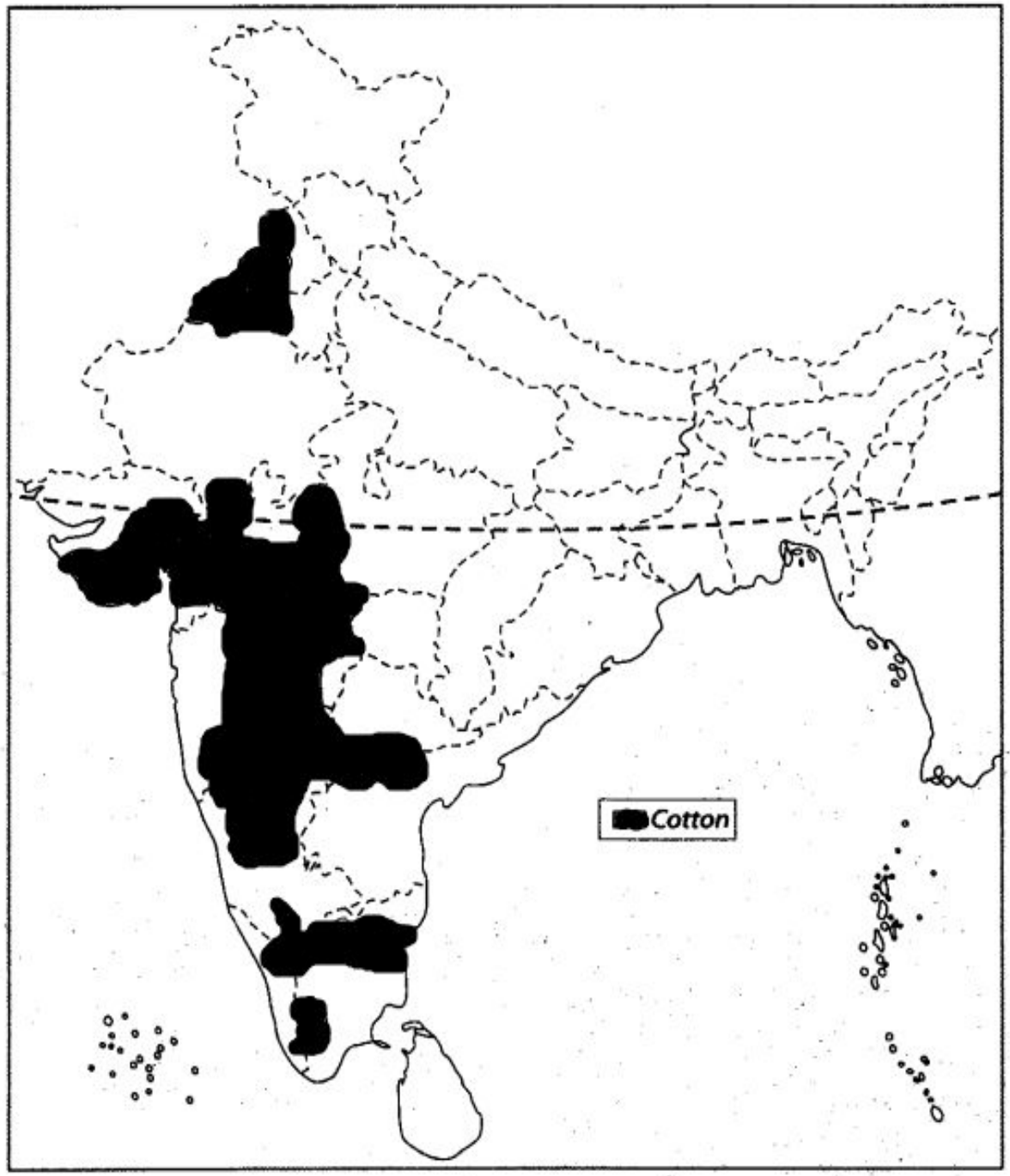
Castor Seeds

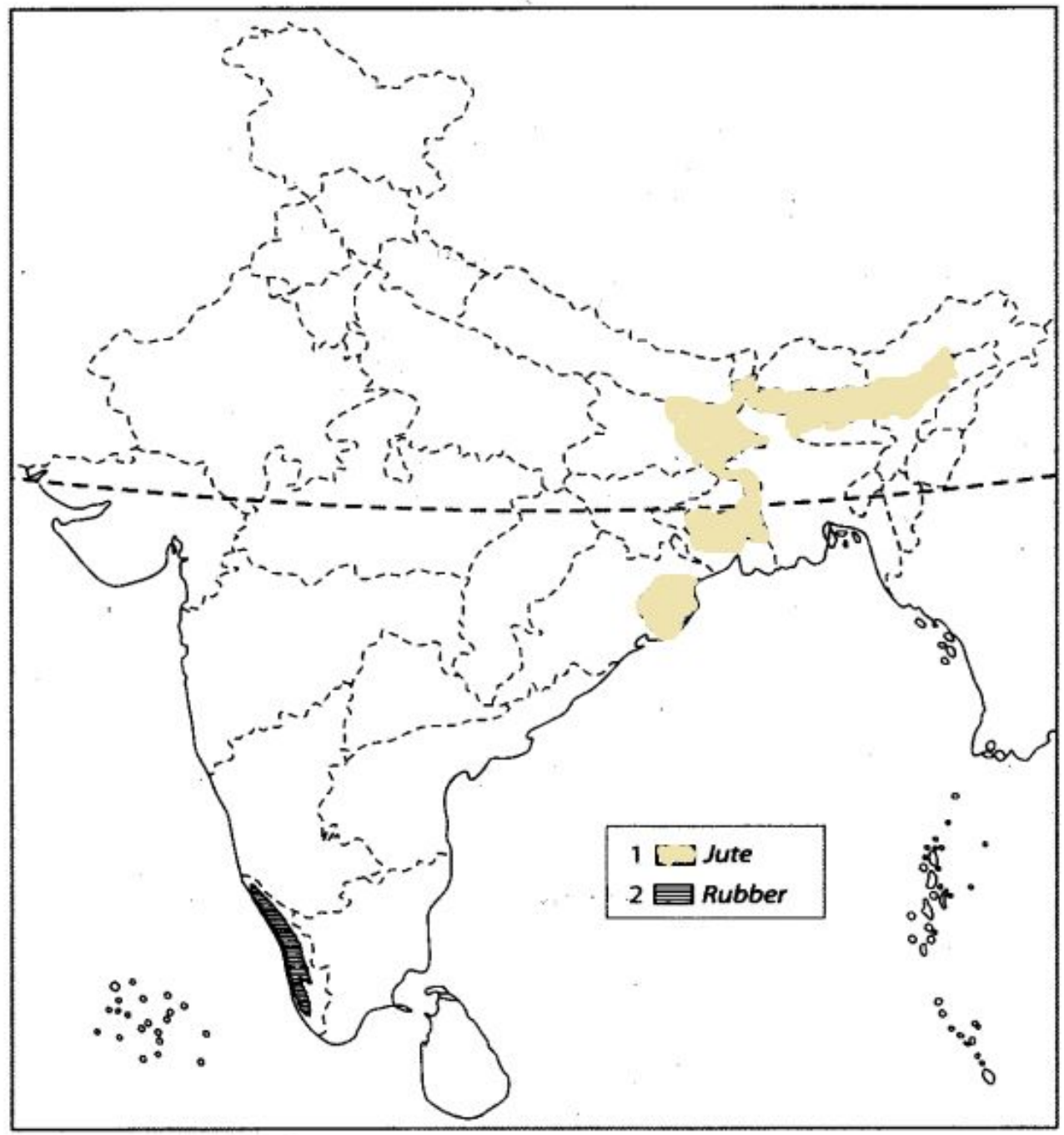
- Castor seeds are used for making castor oil which is mostly used for beauty care purpose like hair care, skin care and for other health benefits.
- Castor oil has little higher viscosity so it is little stickier than other types of oil.

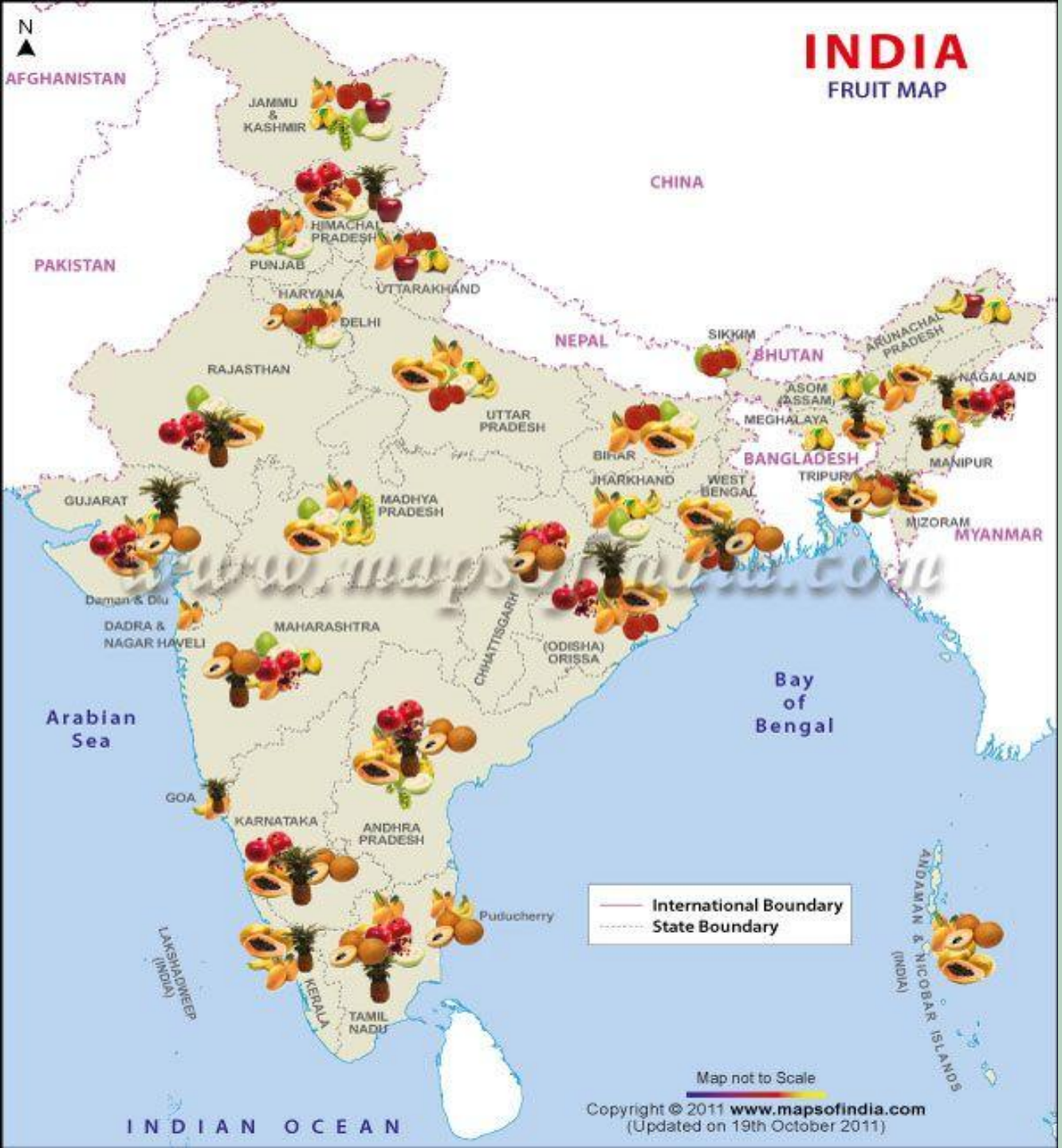
Linseeds

Linseeds are used in making linseed oil which are used as edible oil and for other purpose.


Walnut
Soybean
Tea Seed
Flaxseed
Peanut
Black Sesame
White Sesame
Sunflower Seed
Almond
Basil
Rapeseed
Pinenut

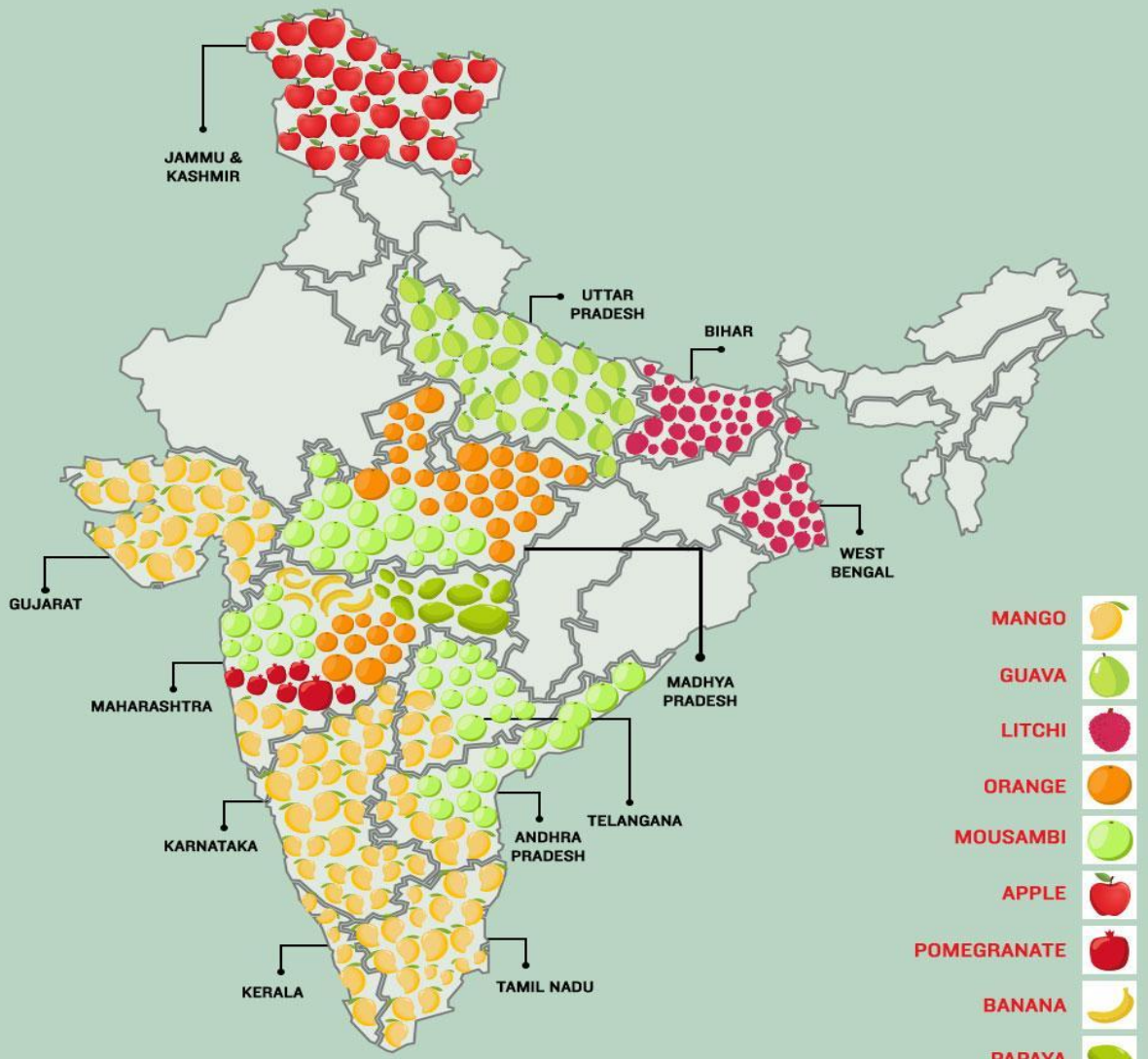

Cotton


1 Jute
2 Rubber



WHERE THE AWESOME TASTE COMES FROM

FRUIT PROCUREMENT FROM DIFFERENT STATES OF INDIA



Coca-Cola FACT

Technological and Institutional Reforms.

- Agriculture has been practised in India for thousands of years. Sustained used of land without compatible techno institutional changes have hindered the pace of Agricultural Development.
- Inspite of development of sources of irrigation most of the farmers in large parts of the country still depend upon monsoon and natural fertility in order to carry on their agriculture.
- For a growing population like India, this poses a serious threat and challenge.
- Agriculture which provides livelihoods for more than 60 percent of its populations needs some serious technical and institutional reforms.

Technology and Institutional Reforms

❖ Agriculture has been practised in India for thousands of years. Sustained uses of land without compatible techno-institutional changes have hindered the pace of agricultural development.

Why has India not improved in technical and institutional reforms in agriculture ?

❖ In spite of development of sources of irrigation most of the farmers in large parts of the country, still depend upon monsoon and natural fertility in order to carry on their agriculture.

❖ Agriculture needs serious technical and institutional reforms.

❖ Collectivisation, consolidation of holdings, cooperation and abolition of zamindari etc. were given priority to bring reforms in country after independence.

Institutional Reforms in Agriculture

- **Land Development Programme:**
  - Introduced in 1980s.
  - Scheme of crop insurance against drought, flood, fire, disease etc.
  - Grameen banks and cooperative societies were established for extending agricultural loans.
  - Banks were inspired for priority sector lending i.e., lending to farmers at lower interest rates.

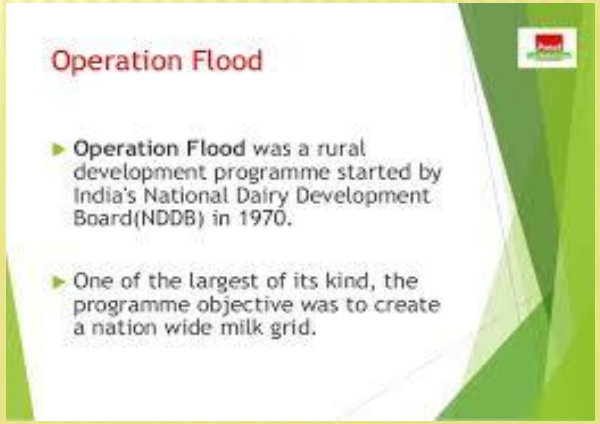
Technological and Institutional Reforms

Institutional Reforms

- Crop Insurance
- Crop Loans
- Kissan Credit Card
- Accident Insurance scheme
- Minimum Support Price

TECHNOLOGICAL AND INSTITUTIONAL REFORMS

- Collectivisation
- Consolidation of holdings
- Cooperation and abolition of zamindari
- Agricultural Reforms:-
- 1.The Green Revolution
- 2.The White Revolution



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https://www.youtube.com/watch?v=2QqdiLgSEoU

https://www.youtube.com/watch?v=PrX3Ln22voE

https://www.youtube.com/watch?v=pdCpLkYE28k

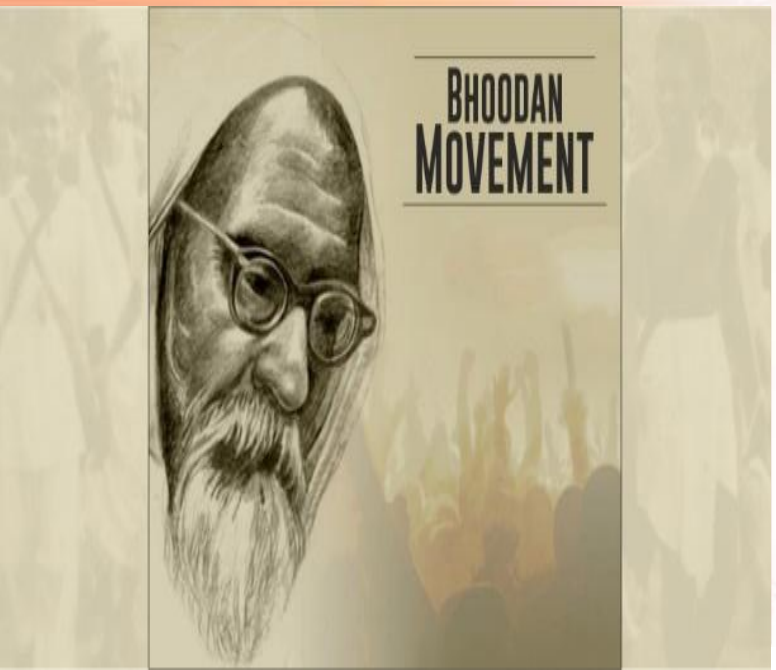
https://www.youtube.com/watch?v=T3IGcWyawHM

Bhoodan - Gramdan

Mahatma Gandhi declared **Vinoba Bhave** as his spiritual heir. He also participated in Satyagraha as one of the foremost satyagrahis. He supported Gandhiji's concept of **gram swarajya**. After Gandhiji's martyrdom, Vinoba Bhave undertook **Padyatra** to spread this message throughout the country.

Once, when he was at Andhra Pradesh, some landless farmers demanded land for their economic wellbeing. He assured them to talk to the Indian Government for provision of land for them if they undertook cooperative farming.

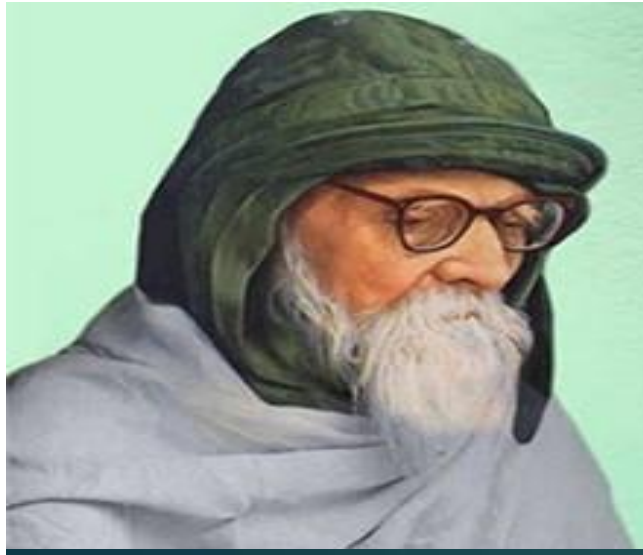
Shri Ram Chandra Reddy stood up and offered 80 acres of land to 80 land less farmers. This was known as Bhoodan. Later he introduced his ideas throughout India.



Some Zamindars offered to distribute villages among the landless. This was known as **Gramdan.** However, many land owners chose to provide some part of their land to the poor farmers due to the fear of land ceiling act.

This Bhoodan – Gramdan movement initiated by Vinoba Bhave is also known as **Blood-less Revolution**.

Vinoba Bhave



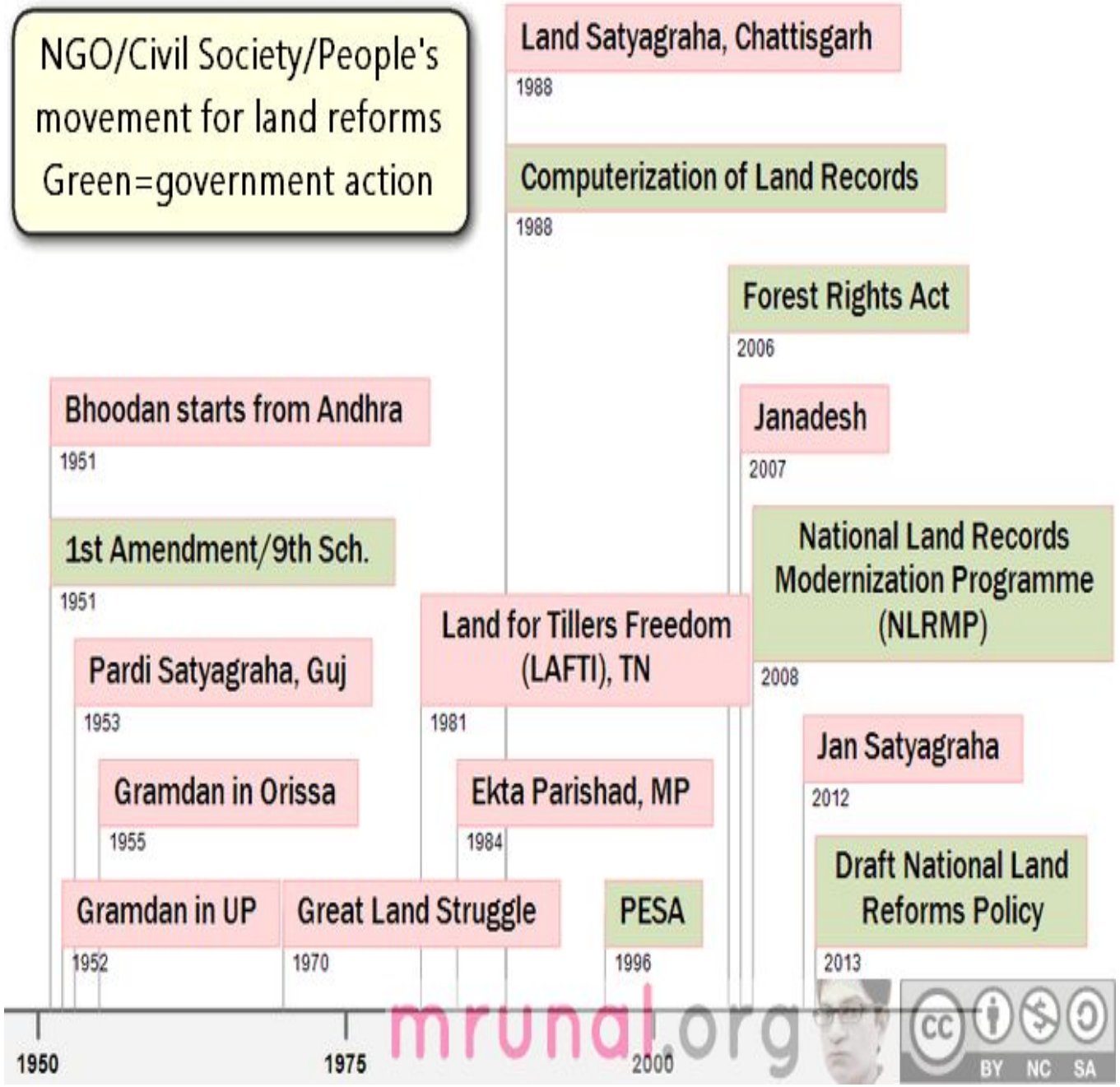
If I close doors of my house and do not allow the air inside to go out, I also prevent outside air from coming in. Do I gain or lose thereby? My self-interest lies in opening the doors of my house. Thereby whatever belongs to me becomes common property of the world and whatever belongs to the world becomes mine. Real self-interest lies in caring for the society. Society, a form of the Lord, will also then care for us.

– Vinoba

N.H. GOEL WORLD SCHOOL

Bhoodan – Gramdan

- Vinoba Bhave was Gandhi's spiritual heir;
- After Gandhiji's death, Vinobhaji undertook **padyatra** to spread Gandhi's **gram swarajya** message to the country
- While lecturing at **Pochampalli** in Andhra Pradesh, poor landless farmers demanded land for their economic well-being
- Vinoba Ji assured them to talk to the Govt of India
- Shri Ram Chandra Reddy a rich land lord stood up and offered 80 acres of land to be distributed among 80 land-less villagers. This act was known as 'Bhoodan'.
- This encouraged some zamindars, to distribute some of their land to the landless—known as **Gramdan**
- Many land-owners chose to provide some part of their land to the poor farmers due to the fear of land ceiling act.
- Bhoodan-Gramdan movement initiated by Vinobha Bhave is also known as the **Blood-less Revolution**



BHOODAN MOVEMENT

- After death of Gandhi, Vinobha Bhave started Bhoodan Movement
- In 1951 in Pochampalli (Telangana)
- In 1952 – Gramdan
- The first village under Gramdan – Mangrowth, Haripur Dt, U.P
- Second, third Gramdan – orissa
- Villages as gift
- Largest gramdan in Bihar
- Next states – sarvodaya workers engaged
- Gramdan not progressed in Karnataka, Kerala, West Bengal since no Sarvodaya workers.

Bhoodan and Gramdan

- Bhoodan – donations from workes
- Gramdan – community action
- Bhoodan – individual ownership
- Gramdan – ownership in village community
- Bhoodan – beneficiaries – individuals, groups
- Gramdan – whole community
- Bhoodan – one agrees to part withportion of surplus land in favour of landless.

TECHNOLOGICAL & INSTITUTIONAL REFORMS -

1. Land Reforms ...
2. Green Revolution ...
3. Grameen Banks ... loan with low interest ... crop insurance ...
4. weather Bulletins & agricultural programmes on T.V. & Radio ...
5. Minimum Support Price (MSP) ...
6. Established Indian council of Agricultural Research (ICAR), agricultural universities, veterinary services & animal breeding centres.
7. Kissan Credit Card & Personal Accident Insurance Scheme ...

, But still i'm poor

CONTRIBUTION OF AGRICULTURE TO THE NATIONAL ECONOMY, EMPLOYMENT AND OUTPUT

Employment Opportunities for Rural People

- Agriculture provides employment opportunities for rural people on a large scale in underdeveloped and developing countries. It is an important source of livelihood. Generally, landless workers and marginal farmers are engaged in non-agricultural jobs like handicrafts, furniture, textiles, leather, metal work, processing industries, and in other service sectors. These rural units fulfill merely local demands. In India about 70.6% of total labour force depends upon agriculture.

Contribution of agriculture to the national economy, employment and output

❖ Agriculture has been the backbone of Indian economy though its share in the gross domestic product [GDP] has registered a declining trend from 1951 onwards; in 2010-2011 about 52% of the total work force was employed by the farm sector.

❖ Declining the share of agriculture in the GDP is the matter of serious concern because any decline and stagnation in agriculture will lead to a decline in a other spheres of economy having wider implications for society .

❖ Establishment of Indian Council of Agricultural Research (ICAR), agricultural universities, veterinary services and animal breeding centers, horticulture development, research and development in the field of meteorology and weather forecast etc. were given priority for improving Indian agriculture.

National

- The lessons drawn from the economic history of many advanced countries tell us that agricultural prosperity contributed considerably in fostering economic advancement. It is correctly observed that, "The leading industrialized countries of today were once predominantly agricultural while the developing economies still have the dominance of agriculture and it largely contributes to the national income. In India, still 28% of national income comes from this sector.

AGRICULTURE IN INDIA

- Provides food to more than 1 billion people
- Produces 51 major crops
- Contributes to 1/6th of the Export Earnings

INTRODUCTION

- 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 & 10% of total exports.
- That's reason India secured second position worldwide in terms of farm output. About 75% people are living in rural areas and are still dependent on Agriculture. About 43% of India's geographical area is used for agricultural activity.

ROLE OF AGRICULTURE IN INDIAN ECONOMY

1. **Share in National income**:- agriculture contributed two-thirds of national income.
2. **Largest employment providing sector**:- In 1951, 69.5% of the working population was engaged in agriculture.
- this percentage fell to 66.9% in 1991 and to 56.7% in 2011 and in 2004-05
3. **Providing of food surplus to the expanding population:-** domestic demand for food grains was placed at 207 million tones in 2004-05, about 234.4 million tones in 2011-2012 in 11^{th} year plan. And this is expected to increase further to 280.6 million tones by 2020-21.
4. **Contribution to capital formation**:- unless the rate of capital formation increases to a sufficiently high degree, economic development cannot be aceived.

INDIAN ECONOMY 1950-1990

Role of Agriculture

- Backbone of Indian Economy
- Share in National income
- Share in Employment
- Basis for Industrial Development
- Share in Foreign trade
- Importance in household consumption
- Significance for trade and services

SOURCE OF EMPLOYMENT

- In India, agriculture is the main source of employment. Even in 2004-05, more than 56% of the total labour force of India is engaged in agriculture & depend on it for their livelihood(1950-51:69.5%).
- It becomes evident from this fact that other sectors of the economy could not generate enough employment for the growing population.

EARNER OF FOREIGN EXCHANGE

- Through exports of agricultural commodities like tea,cotton,coffee,jute,fruits,vegetables, spices,sugar,oil, etc. in the past, export of agricultural products accounted for about 70% of the export earnings of the country.

Food Security

What is food security system ?

❖ In order to ensure availability of food to all sections of society, our government carefully designed a national food security system.

❖ It consists of two components: buffer stock and public distribution system (PDS).

❖ PDS is a program which provides food grains and other essential commodities at subsidised prices in rural and urban areas.

❖ The primary objective of this policy is to ensure food grains to common people at affordable prices.

❖ The policy focuses on growth in agriculture production and on fixing the support price for procurement of wheat and rice, to maintain the stock.

❖ Food Corporation of India (FCI) procures and stocks food grains, whereas distribution is ensured by PDS.

Did You Know ?

India is the largest waster of food.

NEED FOR FOOD SECURITY

- Ever growing population.
- For the poor sections of the society.
- Natural disasters or calamity like earthquake, drought, flood, tsunami.
- Widespread crop failure due to drought.

DIMENSIONS OF FOOD SECURITY

a) **AVAILABILITY** of food means food production within the country, food imports and the previous years stock stored in govt. granaries.

b) **ACCESSIBILITY** means food is within reach of every person.

c) **AFFORDABILITY** implies that an individual has enough money to buy sufficient, safe and nutritious to meet ones dietary needs.

Impact of Globalization on Agricultural Sector

- Agricultural Sector is the mainstay of the rural Indian economy around which socio-economic privileges and deprivations revolve and any change in its structure is likely to have a corresponding impact on the existing pattern of Social equity.
- The liberalization of India's economy was adopted by India in 1991.
- Facing a severe economic crisis, India approached the IMF for a loan, and the IMF granted what is called a 'structural adjustment' loan, which is a loan with certain conditions attached which relate to a structural change in the economy.

GLOBALIZATION AND CHANGES IN AGRARIAN SECTOR

- Changes in food basket
- Changes in agricultural marketing sector
- Changes in agricultural exports
- Changes in the share of agricultural employment
- Changes in the share of agriculture in GDP
- Changes in area of cultivation
- Contract farming and corporate farming

CONCLUSION
IMPACT OF GLOBALIZATION ON AGRICULTURE

- In India after agreement of WTO in 1995 significantly weakened the institutional support structures in agriculture.
- Any change in the agriculture sector has a strong multiplier effect on the entire economy.
- Over the period of economic reform and WTO period, agricultural growth rates slowed down significantly.
- The per capita food grain availability fell from about 175 kg in 1992 to 163 kg in 2001.

IMPACT OF GLOBALIZATION ON AGRICULTURE IN INDIA

- Agriculture acquired 17% of India's GDP in 2008.
- 60% of population still depends on agriculture for their livelihood.
- Occupied 43% of India's geographical areas.
- Agriculture Scientists are applying new technologies and instruments in growing crops.
- Different state governments of India are taking initiative to literate the farmers.

(i) agricultural land has been taken or encroachedfor development of industries

(ii) because of globalization the competition in agriculture sector has increased, US has got many of Indias high earning agricultural products patent in WTO (like - basmati rice , turmeric etc.) and thats why you need to pay US government for their production.

(iii) FDI was introduced in industrial and service sector but agricultural sector was kept protected and hence capital formation in agricultural is negligible.

(iv) Though green revolution was introduced but it was limited only to Punjab , Haryana and western UP. Other areas which are dependent on agriculture are still backward and monsoon dependent.

CONCLUSION

- Market-demand research in the importing countries has to be strengthened and protection could be planned accordingly in terms of quantity and quality.
- Long-term price trends favor fishery, livestock, traditional products, and agriculture is to have a second Green Revolution. In essence, the second Green Revolution will keep the world green and save if from becoming a dreary desert.
- Government must introduce rigorous measures to end corruption in check posts and reduce taxes on transport firms to reduce cost of movement.

RECAPITULATION

Column A	Column B
(a) Rabi crop	(*i*) Transplantation
(b) Rice crop	(*ii*) Winter crop
(c) Orchards	(*iii*) Kharif crop

Ans.

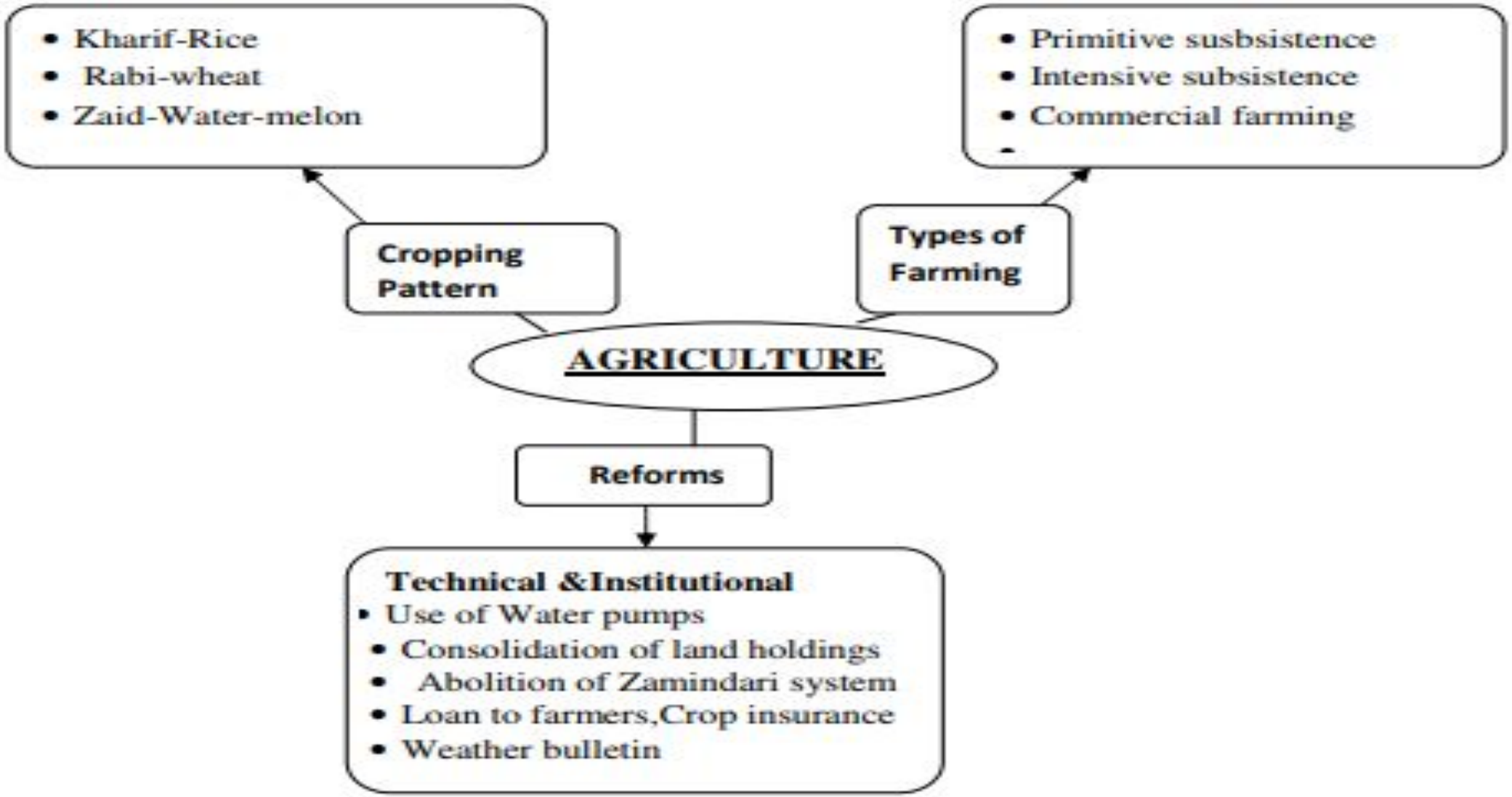
Column A	Column B
(a) Rabi crop	(*ii*) Winter crop
(b) Rice crop	(*i*) Transplantation
(c) Orchards	(*iii*) Kharif crop

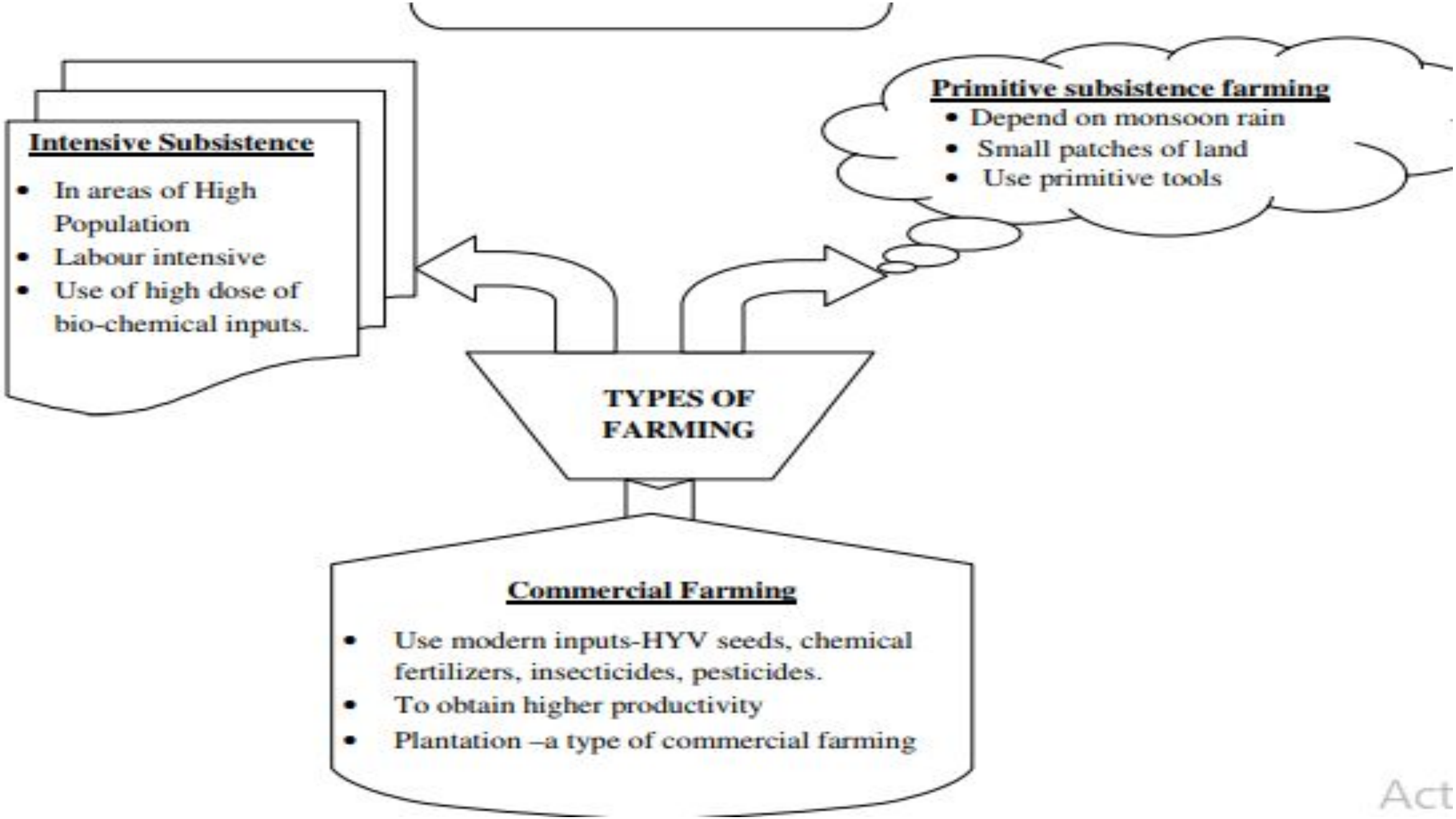
	Column I		Column II
1.	Kharif crops	a.	Food for cattle
2.	Rabi crops	b.	Urea and super phosphate
3.	Chemical fertilizers	c.	Animal excreta, cow dung, urine and plant waste.
4.	Organic manure	d.	Wheat, gram, pea
		e.	Paddy and maize

A	B
1. cereals	(i) are cash crops.
2. zaid crops	(ii) is the oldest fibre known to mankind.
3. oilseeds	(iii) is the largest producer of jute in the world.
4. cotton	(iv) are food crops.
5. India	(v) are grown between March and June

Column I	Column II
(i) *Rice*	(a) *moderate temperature and rainfall during growing season*
(ii) *Wheat*	(b) *low rainfall, high to moderate temperature*
(iii) *Millets*	(c) *high temperature, high humidity and rainfall*
(iv) *Maize*	(d) *moderate temperature, rainfall, bright sunshine*
(v) *Cotton*	(e) *cool climate, well distributed high rainfall throughout the year*
(vi) *Coffee*	(f) *210 frost-free days*
(vii) *Tea*	(g) *wet climate and well-drained loamy soil*

CHAPTER-4
AGRICULTURE




Intensive Subsistence
In areas of High Population
Labour intensive
Use of high dose of bio-chemical inputs.
Primitive subsistence farming
Depend on monsoon rain
Small patches of land
Use primitive tools
TYPES OF FARMING
Commercial Farming
Use modern inputs-HYV seeds, chemical fertilizers, insecticides, pesticides.
To obtain higher productivity
Plantation –a type of commercial farming

Thank You
&
Happy Learning!