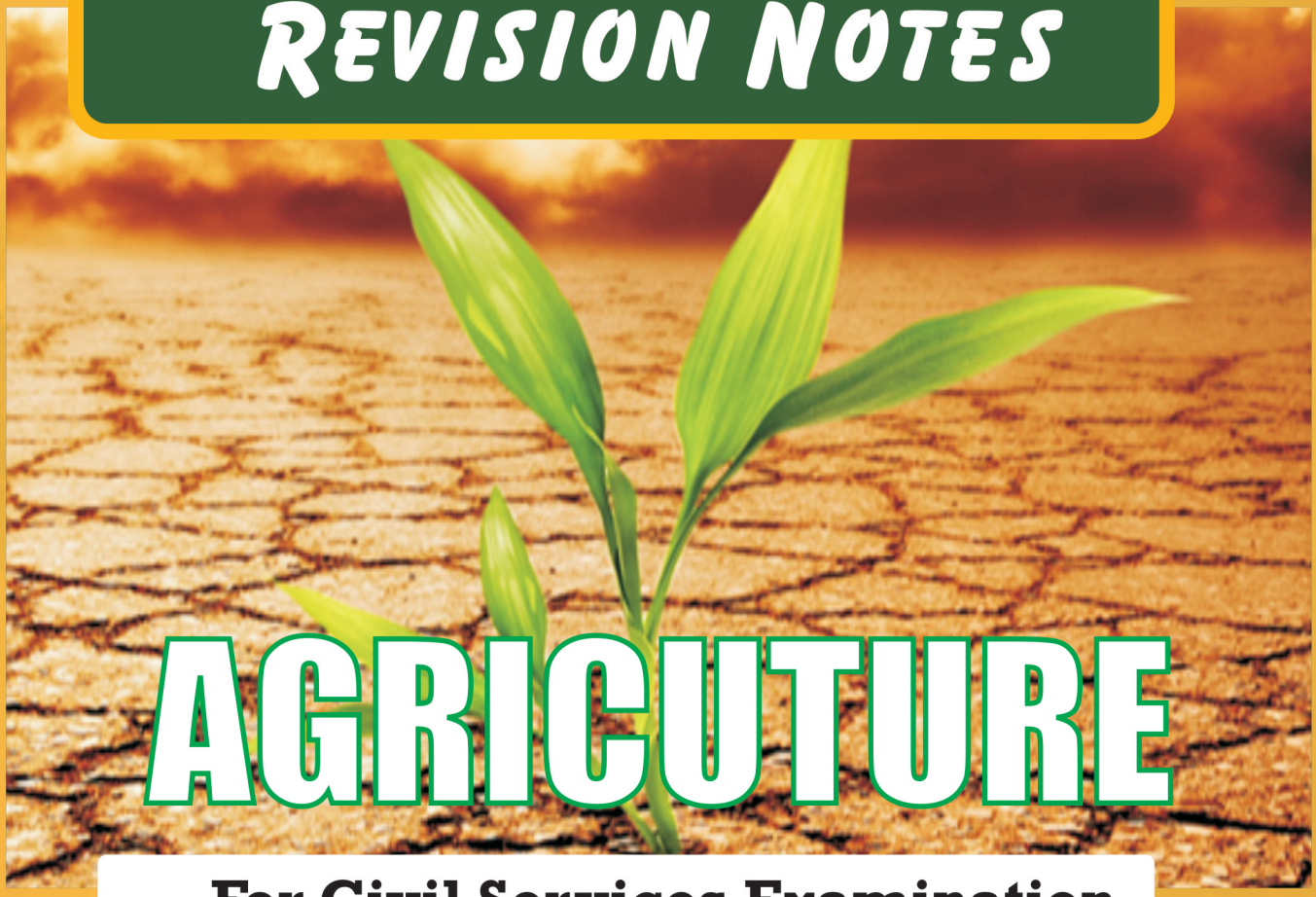
GS SCORE

Prelims 2016

REVISION NOTES



AGRICUTURE

For Civil Services Examination

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AGRICULTURE

Indian agriculture has come a long way since independence, with chronic food scarcity giving way to grain self-sufficiency despite a two-and-a-half fold increase in population. In 1966-67, just before India's Green and White Revolutions, Indian wheat and milk production were just about one third of US output. By 2013-14, Indian wheat output was 60 per cent higher than America's, while Indian milk output was 50 per cent higher.

Branches of Agriculture

Vermiculture - Agriculture of Earth worm

Tissue culture - Production of a new plant from plant cells

Apiculture - Study of honey bee.

Horticulture - Study of fruits and vegetables.

Pomology - Study of fruits.

Sericulture - Rearing of silk worm.

Moriculture - Production of mulberry.

Vity culture - Production of grapes.

Types of farming

Subsistence farming means farming for own consumption. In other words, the entire production is largely consumed by the farmers and their family and they do not have any surplus to sell in the market. In this type of farming, landholdings are small and fragmented. Cultivation techniques are primitive and simple.

Commercial farming involves the production of food for sale. The large wheat farms of the prairies are an example of it.

Intensive method is practiced in those countries where the supply of land is limited and density of population is high. In this type of farming emphasis is on greatest possible output per hectare of land. Countries like China, Japan, India, Britain, Holland, Germany and Belgium practice this method of agriculture.

Extensive method is practiced in sparsely populated area - where per man land area is higher and where there is scope for bringing additional land under cultivation e.g. USA, Russia, Australia, Argentina and Brazil.

Shifting cultivation is another form of extensive agriculture. Planting crops in a region until fertility diminishes and then moving to a fresh area to plant means there must be lots of land available.

Nomadic herding is similar to shifting agriculture in that it involves moving from place to place with an extensive use of land but differs in that nomadic herding involves the raising of cattle, sheep or other herding animals.

Agribusiness is a form of commercial farming. It is run by large corporations that are self sufficient providing their own inputs and processing their own outputs.

Notes

Plantation Farming is an estate where a single cash crop is grown for sale. This type of agriculture involves growing and processing of a single cash crop purely meant for sale. Tea, coffee, rubber, banana and spices are all examples of plantation crops.

Mixed Farming is a situation in which both raising crops and rearing animals are carried on simultaneously. Here farmers engaged in mixed farming are economically better off than others.

Peri-urban agriculture is the practice of cultivating, processing and distributing food in, or around (peri-urban), a village, town or city. Urban agriculture contributes to food security and food safety in two ways: first, it increases the amount of food available to people living in cities, and, second, it allows fresh vegetables and fruits and meat products to be made available to urban consumers.

Organic agriculture is a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects.

Precision agriculture uses ICT to cover the three aspects of production namely for data collection of information input through options as Global Positioning System (GPS) satellite data, grid soil sampling, yield monitoring, remote sensing, etc; for data analysis or processing through Geographic Information System (GIS) and decision technologies as process models, artificial intelligence systems, and expert systems; and for application of information by farmers.

On the basis of supply of moisture and water

- ***Humid farming*** *is practiced in areas where there is no dearth of rainwater for the production of crops. Problems of water logging and drainage and soil erosion are present in the heavy rainfall areas.*
- ***Irrigation farming*** *is practiced in those areas where rainfall is seasonal and the amount is not satisfactory for crop production. In the important river valleys of the world this farming is practiced.*
- ***Dry farming*** *is practiced in areas having very little rainfall less than 50cm and very little irrigation facilities. Crops which can bear the high cost of production e.g. cotton and wheat is grown under this method.*

Basics of Land use related to agriculture

- **Agricultural land** refers to the share of land area that is arable, under permanent crops, or under permanent pastures.
- **Arable land** includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.
- **Land under permanent crops** is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops.
- I**rrigated land** refers to areas purposely provided with water, including land irrigated by controlled flooding.
- **Cropland** refers to arable land and permanent cropland.
- **Land under cereal production** refers to harvested areas, although some countries report only sown or cultivated area.

Notes

Cropping seasons of India

Different cropping seasons are discussed below:

KHARIF SEASON	**Sowing season:** May to July **Harvesting season:** September to October **Important crops:** Jowar, Bajra, Rice, Maize, Cotton, Groundnut, jute, sugarcane, etc.
RABI SEASON	**Sowing season:** October to December **Harvesting season:** February to April **Important crops:** Wheat, Barley, Gram, Linseed, Peas, Potatoes, etc.
ZAID KHARIF	**Sowing season:** August - September **Harvesting season:** December - January **Important crops:** Rapeseed, Oilseed, etc.
ZAID RABI	**Sowing season:** February and March **Harvesting season:** April and May **Important crops:** Watermelon, Cucumber, Leafy and other vegetables.

Types of soil in India

Types of Soils	States where found	Rich in:	Lacks in:	Crops grown
Alluvial	Mainly found in the plains of Gujarat, Punjab, Haryana, UP, Bihar, Jharkhand, etc.	Potash and Lime	Nitrogen and Phosphorous	Large variety of rabi and kharif crops such as wheat, rice, sugarcane, cotton, jute, etc.
Black (Regur soil)	Deccan plateau-Maharashtra, Madhya Pradesh, Gujarat, Andhra Pradesh, Tamil Nadu, Valleys of Krishna and Godavari.	Lime, Iron, Magnesia and Alumina, Potash	Phosphorous, Nitrogen and organic matter	Cotton, sugarcane, jowar, tobacco, wheat, rice, etc.
Red	Eastern and Southern part of the Deccan plateau, Orissa, Chattisgarh and southern parts of the middle Ganga plain.	Iron and Potash	Nitrogen, Phosphorous and humus.	Wheat, rice, cotton, sugarcane and pulses
Laterite	Karnataka, Kerala, Tamil Nadu, Madhya Pradesh, Assam and Orissa hills.	Iron oxide and potash	Organic matter, Nitrogen, Phosphate and Calcium	Cashew nuts, tea, coffee, rubber
Arid and Desert	Western Rajasthan, north Gujarat and southern Punjab	Soluble salts, phosphate	Humus, Nitrogen	Only drought resistant and salt tolerant crops such as barley, rape, cotton, millets maize and pulses
Saline and Alkaline	Western Gujarat, deltas of eastern coast, Sunderban areas of West Bengal, Punjab and Haryana	Sodium, Potassium, Magnesium	Nitrogen and Calcium	Unfit for agriculture

Agricultural Inputs	
• **Consumable inputs**	• **Capital inputs**
a) Manures & Fertilizers	a) Tractors
b) Seeds	b) Tillers
c) Insecticides/Pesticides	c) Harvesters
d) Diesel/Oil	d) Threshers
e) Electricity	e) Pump sets
	f) Sprinklers
	g) Dusters & sprayers

Infrastructure Factors Related To Agriculture

A. Seed:

- Seed is a fertilized matured ovule together covered with seed coat.
- **Importance of Seed**

a) **Seed** bridge between the two generations of plant life.

b) **Seed** is the medium which transferring character from one generation to next generation.

c) **Seed** is the vital and most important input for crop production.

d) Seed as food, feed, medicinal, industries or ornamental value.

- Hybrid seeds are obtained by cross pollination of different varieties of related plants.
- Genetically Modified seeds, are the ones in which the genetic material (DNA) has been altered in such a way as to get the required quality.

Seed Village Scheme:

To upgrade the quality of farmer-saved seed, which is about 80-85% of the total seed used for crop production programme, financial assistance is provided for distribution of foundation/certified seed at 50% cost of the seed of crops for production of certified/quality seeds only and for training on seed production and technology to the farmers.

The seed produced in these seed villages are preserved/stored till the next sowing season. In order to encourage farmers to develop storage capacity of appropriate quality, assistance is given to farmers for making/procuring of Pusa Bin/Mud bin/Bin made from paper pulp for storing of seed produced by the frames on their farms.

Establishment and Maintenance of Seed Bank:

In order to ensure that seeds are available to the farmers at the time of natural calamities like floods, droughts, etc., a need was felt to establish a Seed Bank to maintain stocks of foundation and certified seeds of different crops/varieties which can be utilized for such contingent requirements. Under this component, crop-wise targets of seeds are fixed for each participating organization for maintenance in the Seed Bank every year.

Notes

B. Fertilizers:

- Fertilizers are chemical compounds applied to promote plant and fruit growth.
- Organic fertilizers are fertilizers derived from animal matter, human excreta or vegetable matter. (e.g. compost, manure). Naturally occurring organic fertilizers include animal wastes from meat processing, peat, manure, slurry, and guano.
- Inorganic fertilizers contain simple inorganic chemicals. Some of the common nutrients present in fertilizers are nitrogen, phosphorus and potassium (NKP). They also contain secondary plant nutrients such as calcium, sulphur and magnesium.

New Urea policy 2015

New urea policy 2015 (NUP), which became effective from June 1, 2015 has principal objectives of maximizing domestic urea production and promoting energy efficiency to rationalize subsidy burden. The policy aims at tightening the energy consumption norms based on the actual energy consumption levels of respective units during past few years. Further, the subsidy calculation for production above reassessed capacity has been modified to protect the interest of stakeholders in case of significant volatility in International Parity Price (IPP).

Neem Coating of urea

It has been made mandatory for all the indigenous producers of urea to produce 100% of their total production of subsidized urea as neem coated urea.

About Urea

1. *It is the most concentrated solid nitrogenous fertilizer, containing 46 per cent nitrogen.*
2. *The nitrogen in urea is readily fixed in the soil in an ammoniacal form and is not lost in drainage.*
3. *Urea sprays are readily absorbed by plants.*
4. *It may be applied at sowing or as, a top-dressing.*
5. *It is suitable for most crops and can be applied to all soils.*

C. Irrigation

- Irrigation is an artificial application of water to the soil. It is usually used to assist in growing crops in dry areas and during periods of inadequate rainfall.
- Additionally, irrigation also has a few other uses in crop production, which include protecting plants against frost, suppressing weed growing in rice fields and helping in preventing soil consolidation.
- There are large reserves of underground water in the alluvial plains of north India. Digging and constructing wells and tube-wells is easy and cost of their construction is also comparatively less. Therefore irrigation by wells and tube-wells here is popular.
- An irrigation canal is a waterway, often man-made or enhanced, built for the purpose of carrying water from a source such as a lake, river, or stream, to soil used for farming or landscaping.
- A tank consists of water storage which has been developed by constructing a small bund of earth or stones built across a stream. The water impounded by the bund is used for irrigation or other purposes.
- Localized irrigation is a system where water is distributed under low pressure through a piped network, in a pre-determined pattern, and applied as a small discharge to each plant or adjacent to it. Drip irrigation, spray or micro-sprinkler irrigation and bubbler irrigation belong to this category of irrigation methods.

Notes

Pradhan Mantri Krishi Sinchai Yojana (PMKSY)

GOI had announced 'Pradhan Mantri Krishi Sinchayee Yojana' with the motto of water to every farm 'Har Khet Ko Paani'. The scheme is aimed at irrigating the field of every farmer and improving water use efficiency to provide "Per Drop More Crop".

The major objective of PMKSY is to achieve convergence of investments in irrigation at the field level, expand cultivable area under assured irrigation, improve on-farm water use efficiency to reduce wastage of water, enhance the adoption of precision-irrigation and other water saving technologies (More crop per drop), enhance recharge of aquifers and introduce sustainable water conservation practices by exploring the feasibility of reusing treated municipal waste water for peri-urban agriculture and attract greater private investment in precision irrigation system.

Scheme for land Record management

National Land Records Modernization Programme

The main aim of NLRMP is to usher in a system of updated land records, automated and automatic mutation, integration between textual and spatial records, inter-connectivity between revenue and registration, to replace the present deeds registration and presumptive title system with that of conclusive titling with title guarantee.

The NLRMP has 3 major components - (a) Computerization of land record (b) Survey/re-survey (c) Computerization of Registration. The District has been taken as the unit of implementation, where all programme activities are to converge. It is hoped that all districts in the country would be covered by the end of the 12th Plan period except where cadastral surveys are being done for the first time.

In the Budget 2016, the digitization of land records has been re-launched under the National Land Records Modernization Programme. It is said modernization of management of land records will minimize the scope of land disputes, and enhance transparency in the land records maintenance system.

Crop Productivity: features

A. Rice

- **Climatic Conditions:** Rainfall more than 125cm., clayey loam is best, tolerate acidic as well as alkali soil, average monthly temperature should not fall below 21°C.
- **Area in India:** Coastal India (south of Bombay in the western coast), eastern India, Chattisgarh plain, Wainganga valley, alluvial plain of West Bengal, Mahanadi Delta, eastern Assam valley, Cauvery delta.
- **Top five nations:** China, India, Indonesia, Vietnam and Thailand.

B. Wheat

- **Climatic Condition:** Cool climate, 30cm. rainfall during growing period, clayey alluvial is best suitable, raised mainly in area of rainfall annually less than 100cm.
- **Areas in India:** Uttar Pradesh, Punjab and Haryana are major wheat producing states in India. Other important wheat growing states are Rajasthan, Bihar, Madhya Pradesh and Maharashtra.
- **Top five nations:** China, India, USA, France and Russia.

C. Millets

Millets are generally grown as mixed crops in regions of low rainfall, the other crop grown with them being usually one of the legumes. The types of millets are:

Notes

Sorghum/Jowar	Rainfall below 100cm, per year, needs 30cm rain during growing season, mean monthly temperature = 20°C-33°C, clayey deep regur and alluvium for better yield. It is chiefly cultivated in Uttar Pradesh, Punjab, Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Maharashtra and Rajasthan.
Bajra	Bajra is a crop of dry and warm climate and is grown in areas of 40-50 cm of annual rainfall. It seldom grows in those areas where the annual rainfall exceeds 100 cm. The ideal temperature for its growth is 25°-30°C. Bright sunshine after light showers is very useful in early stages of its growth. It is mainly grown in Maharashtra, Gujarat, Uttar Pradesh and Rajasthan.

Top five nations: India, Nigeria, Niger, China and Mali.

D. Maizes

- **Climatic Condition-** area of 4 ½ months free from frost, temperature during growing period = 21°- 27°C but should not fall below 13°C, rainfall = 50-100 cm, well drained loamy soil rich in N_2, grown as kharif crop in all the States,
- **Area-** mainly north of a line connecting Surat with Calcutta (excluding Kutch, West Rajasthan and Ladakh), in the North East (Meghalaya, Nagaland, Manipur, Mizoram), northern districts of Andhra and adjoining districts of Maharashtra & Bastar (M.P.)
- **Top five nations:** USA, China, Brazil, European Union and Ukraine.

E. Pulse

- **Kharif crop-** Arhar/Tur, Moong, Urad, Moth, etc- throughout India.
- **Rabi crop-** Gram, Peas, Khesari, Masur, Urad, etc- in North India.
- Pulses occupies 13% of total Indian cropped area while 90% area under it is rainfed.
- Gram, Peas & Arhar together occupies about 50% of area under all pulses.
- Kharif pulses are grown more in Tamil Nadu Gujarat, Maharashtra and Punjab.
- Rabi pulses are grown mainly in MP, UP, Haryana and West Bengal.
- Productivity wise Haryana is at the top followed by Bihar, UP, Gujarat, MP, etc.
- **Gram-** production as % = MP (40.8%) > Rajasthan > UP (19.6%) > Haryana > Maharastra >Bihar
- **Tur -** production as % = UP > Maharashtra > M.P. > Gujarat > Andhra.
- **Top five nations:** India, China, Myanmar, Canada and Brazil.

F. Oil Seeds

a) Groundnut:

- **Climatic Conditions-** highly susceptible to frost so not grown in winter season north of Tropic of Cancer, well drained sandy loam is more suitable, eastern limit in Deccan Plateau is 100 cm Isohyet.
- **Area-** It is raised as "kharif" throughout India but as "Rabi" in Tamil Nadu Karnataka, Andhra, Orissa; leading producers are Deccan Plateau & Gujarat state; Kharif crop is 90-95% of total area.

Notes

- **Top five nations:** China, India, USA, Nigeria and Burma.

b) Rapeseed and Mustard

- **Climate-** Like wheat and gram they thrive only in cool climate and frost damages it; grown as Rabi crop.
- Uttar Pradesh & Rajasthan are the chief producer and together accounts 60 % of the country production.
- **Top Five regions:** European Union, Canada, China, India and Australia.

c) Sesame seeds/Til

- **Climate-** Raised throughout India on light soil as Kharif in North India and as Rabi in South India, average monthly temperature = 21°C.
- **Top five nations:** India, China, Nigeria, Myanmar and Tanzania.

d) Linseed

- India accounts 10% of world production & area wise stands first in world.
- Grown in winter as Rabi crop north of 16° N.
- Production as % of total production- MP>UP>Maharastra> Bihar> Rajasthan.
- **Top five nations:** Canada, Russia, China, Kazakhstan and USA.

G. Cotton

- **Climatic Condition-** A sub- tropical crop; temperature- above 21°C & 200 frost free days; rainfall = 75c.m. during growing reason (grown mainly in area of 50-100 c.m. rainfall); soil- regur in rain-fed area & heavy alluvial in irrigated area.
- **Area-** mainly in area west of 80°E (excluding arid West Rajasthan & wet west coastal lowland south of Damao)- West Punjab & Haryana, Ganganagar (Rajasthan), South-West - UP, South - East- Rajasthan, black cotton soil of Malwa plateau Bihar, Nagpur plain, Kathiawar & Gujarat plain, North-Karnataka & neighbouring Andhra and Maharashtra, Tamil Nadu.
- **Top five nations:** China, India, USA, Pakistan and Brazil.

H. Jute

- **Climatic condition-** Rainfall between 150-300 c.m, humidity over 80% , temperature between 24°C & 35°C during growing period, preferred to land subjected to annual flooding, plenty of water is required for cultivation of this crop and for processing it after the harvesting, it occupies the field for 3 ½ months.
- **Area-** sown in March and May in lower Brahmaputra valley, West- Bengal Plain, Mahanadi Delta & NE-Bihar. Mesta is produced in Andhra, Maharashtra, Orissa, Bihar, Karnataka W.Bengal, MP, T.N. and NE-States.
- **Top five nations:** India, Bangladesh, China, Uzbekistan and Nepal.

I. Sugarcane

- India has the largest area in sugarcane production in the world and also leads in production.
- **Climatic Conditions-** Temperature = 25°C, hot dry wind is inimical, annual rainfall from 75 to 100 c.m. plus limited irrigation, well drained raddish loamy soil rich in N_2, Ca and phosphorus are essential for good yield, cool dry climate during the maturing period promotes the sucrose content, occupies the field for 10 to 12 months.

Notes

- **Area-** South India has advantage in sugarcane as it reflects the best suited tropical conditions and a longer period of crushing almost twice over the north.
- North India produces the sugarcane in sub-tropical condition. Main area in Ganga plain west of the longitude of Patna and to the north of Yamuna contributing 50% of the total cane production in India.
- **Top five nations:** Brazil, India, China, Thailand and Pakistan.

J. Tea

- **Climatic Conditions-** Hot climate with temperature 21°C -32°C, rainfall more than 150cm. Most suited soil is deep loamy rich in humus, virgin forest soil with very little calcium but enough of iron are best suited to tea.
- **Area-**NE- India contributes about 80% of the total country production while the south India contributes 20% of India's total output.

  Assam- On flat and alluvial lands on either side of Brahmaputra river and in the region south of Assam hills like in Cachar. These tea have poor flavour but good liquor.

  West Bengal - In Darjeeling (3000-4000 ft height) and Jalpaiguri. Darjeeling tea has good flavour and so fetches high price.
- **S. India-** Annamalai Hills; Hassan & Chikmangalur districts of Karnataka, Kottayam, Quilon & Trivandrum districts of Kerala. All these production areas are situated at the elevation of 760 to 1520 mt. above the sea level.
- **Top five nations:** China, India, Kenya, Sri Lanka and Turkey.

K. Coffee

- **Climatic conditions:** Warm climate conditions annual range of temperature is between 21° and 26°c and winter temperature should not fall below 10°. High rainfall ranging between 125 to 150 cm. The hot rainy season helps the plants to grow rapidly and dry winter seasons favors the proper ripening and harvesting
- Plants are characteristically high shade loving plants
- Well drained fertile, soil rich in plant nutrient such as iron and potash are useful. Terra Roxa soil is ideal for coffee plant. The plant grows usually on hill slopes and highlands having in altitude of 1800 to 2500 ft.
- **Area-** Coffee is largely grown on the eastern sheltered slopes of Western Ghats near 15°N latitude in Kerala, Karnataka and T.N.
- **Top Five nations:** Brazil, Vietnam, Colombia, Indonesia and Ethiopia.

List of agricultural revolutions in India

Green Revolution	Food grain Production
White Revolution	Milk Production
Black Revolution	Petroleum production
Blue Revolution	Fish production
Golden Fiber Revolution	Jute Production

Notes

Grey Revolution	Fertilizer production
Pink Revolution	Onion production/Pharmaceutical (India)/Prawn production
Red Revolution	Meat & Tomato production
Round Revolution	Potato production
Silver Fiber Revolution	Cotton production
Silver Revolution	Egg/Poultry production
Yellow Revolution	Oil Seeds production
Evergreen Revolution	Overall development of Agriculture

Schemes related to Agriculture sector

A. Krishonnati Yojana

It is an umbrella scheme which includes the following:

- **National Food Security Mission (NFSM):** To increase the production of rice, wheat and pulses. The mission is being continued during 12th plan with new target of additional production of 25 million tonnes of foodgrains comprising 10 million tonnes of rice, 8 million tonnes of wheat and 4 million tonnes of pulses and 3 million tonnes of coarse cereals.
- **National Food Security Mission-Commercial Crops :** For crop development programme on cotton, jute and sugarcane for enhancing productivity
- **Mission for Integrated Development of Horticulture (MIDH):** It covers wide horticulture base, which includes fruits, vegetables, tuber crops, mushrooms, spices and aromatic plants flowers and foliage and plantation crops like coconut, arecanut, cashew nut, cocoa and bamboo.
- **National Mission on Oilseeds and Oil Palm:** Envisages increase in production of vegetable oils sourced from oilseeds, oil palm and tree borne oilseeds.
- **National Mission for Sustainable Agriculture:** Aims at making agriculture more productive, sustainable and remunerative and climate resilient by promoting location specific integrated/composite farming systems; soil and moisture conservation measures; comprehensive soil health management; efficient water management practices and mainstreaming rainfed technologies.
- **National Mission on Agricultural Extension and Technology:** Its aim is to restructure and strengthen agricultural extension to enable delivery of appropriate technology and improved agronomic practices to the farmers consists.

B. Initiative for increasing flow of credit

- In order to ensure that all eligible farmers are provided with hassle free and timely credit for their agricultural operation, **Kisan Credit Card (KCC) Scheme** was introduced in 1998-99. The main objectives of the scheme are to meet the short term credit requirements for cultivation of crops, post harvest expenses, produce marketing loan, consumption requirements of farmer household, working capital for maintenance of farm assets and activities allied to agriculture like dairy animals, inland fishery, etc., investment credit requirement for agriculture and allied activities like pump sets, sprayers, dairy animals, etc.

Notes

C. Pradhan Mantri Fasal Bima Yojana

- Under the new scheme, the farmers' premium has been kept at a maximum of 2 per cent for foodgrains and oilseeds, and up to 5 per cent for horticulture and cotton crops.
- There is no upper limit on Government subsidy. Even if balance premium is 90%, it will be borne by the Government. Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping was done to limit Government outgo on the premium subsidy. This capping has now been removed and farmers will get claim against full sum insured without any reduction.
- Importantly for the beneficiaries, crop losses which are covered under the scheme include Yield Losses as well as post-harvest losses, where coverage will be available up to a maximum period of 14 days from harvesting for those crops.
- The use of technology will be encouraged to a great extent resulting in operational efficiency. Smart phones will be used to capture and upload data of crop cutting to reduce the delays in claim payment to farmers. Remote sensing will be used to reduce the number of crop cutting experiments.

D. Mera Gaon, Mera Gaurav

- This scheme is being launched involving agricultural experts of agricultural universities and ICAR institutes for effective and deeper reach of scientific farming to the villages.
- A group of experts will be associated with one particular village to create awareness and adoption of new technologies including farm investment, loans, availability of inputs and marketing.
- All the scientists from ICAR and agricultural universities will participate in this initiative.

E. Krishi Dak

- IARI initiated this novel scheme in 20 districts in which postmen supplied seeds of improved varieties of crops to the farmers in far-flung areas.
- Owing to its success and popularity, this scheme is being extended in 100 districts of 14 states with the association of Krishi Vigyan Kendras.
- This will provide improved seed to farmers at their doorstep.

F. Soil Health Card

- Soil Health cards are necessary to ensure that only requisite nutrients are applied in the soil in a balanced manner to enhance productivity of specific crops in a sustainable manner.
- Values on soil parameters such as pH, EC, N, P, K, S, Zn, Fe, Mn, Cu & B.
- Recommendation on appropriate dosage of fertilizer application based on test values and requirement of crop, use of organic manures and soil amendments to acidic/alkaline/sodic soils.

G. Paramparagat Krishi Vikas Yojna (PKVY)

- Aim of the project is to maximize the utilization of natural resources through eco-friendly cultivation.
- Organic farming is a method of farming system which primarily aimed at cultivating the land and raising crops in such a way, as to keep the soil alive and in good health by use of organic wastes (crop, animal and farm wastes, aquatic wastes) and other biological materials along with beneficial microbes (bio-fertilizers) to release nutrients to crops for increased sustainable production in an eco friendly pollution free environment.

Notes

H. Promotion of National Market through Agri Tech Infrastructure Fund (ATIF)

- Central Sector Scheme for Promotion of National Agricultural Market through Agri-Tech Infrastructure Fund (ATIF) for Rs.200 crores to be implemented during 2014-15 to 2016-17.
- The Scheme envisages initiation of e-marketing platform at the national level and will support creation of infrastructure to enable e-marketing in 642 regulated markets across the country.
- For creation of a National Market, a common platform across all States is necessary. It is, therefore, proposed that a Service Provider be engaged centrally who would build, operate and maintain the e-platform on PPP (Build, Own, Operate, Transfer - BOOT) model. This platform would be customized/ configured to address the variations in different states.
- As an initiative of deregulation, States have been advised by the Government of India to bring fruits and vegetables out of the ambit of APMC Act. In pursuance of this advisory, 12 States have, so far, either de-regulated the marketing of fruits and vegetables or have exempted from levying of market fee.

I. Mudra Bank

- The Finance Minister has proposed to create a Micro Units Development Refinance Agency (MUDRA) Bank, with a corpus of Rs. 20,000 crore, and credit guarantee corpus of 3,000 crore, which will refinance Micro-Finance Institutions through a Pradhan Mantri Mudra Yojana.
- Priority will be given to SC/ST enterprises in lending. MUDRA Bank will operate through regional level financing institutions who in turn will connect with last mile lenders such as MFIs, Small Banks, Primary Credit Cooperative Societies, Self Help Groups (SHGs), NBFC (other than MFI) and other lending institutions.
- MUDRA Bank will refinance Micro-Finance Institutions through a Pradhan Mantri Mudra Yojana (PMMY). In lending, priority will be given to SC/ST enterprises. These measures will greatly increase the confidence of young, educated or skilled workers who would not be able to aspire to become first generation entrepreneurs; existing small businesses, too will be able to expand their activities. Since the MUDRA Bank will be set up through an enactment of law and it will take some time.

Terminologies associated with Animal Rearing

Dairy farming *is an agricultural enterprise, raising female cattle, goats, or other milk-producing livestock for long term milk production. All female dairy animals begin lactating after giving birth. The milk may be either processed on-site or transported to a dairy for processing and eventual retail sale.*

Livestock *refers to a domesticated animal intentionally reared in an agricultural setting to make produce such as food or fiber, or for its labor.*

Ranching *is the practice of raising grazing livestock, such as cattle or sheep, for meat or wool.*

Poultry *is the class of domesticated birds used for food or for their eggs. The most typical are chickens, turkeys, and waterfowl such as ducks and geese.*

Aquaculture *is the cultivation of fish or shellfish, algae, and other aquatic organisms. Aquaculture is different from fishing in that active human effort is used to maintain or increase the animal population as opposed to taking them from the wild. Fish farming is the principal form of aquaculture.*

Notes

Agriculture in Budget 2016

- The sector was allocated Rs. 47,912 crore in the budget for the year 2016-17, which is 84% more than what; it had received during 2015-16.
- The Finance Minister announced creating a **Dedicated Long Term Irrigation Fund** in the NABARD with an initial corpus of about Rs. 20,000 crore and raising the agriculture credit target to Rs. 9 lakh crore for the next fiscal as against the target of Rs. 8.5 lakh crore during 2015-16.
- 89 projects under the **Accelerated Irrigation Benefits Programme (AIBP)** that are languishing will be fast-tracked.
- 2.85 million hectares will be brought under irrigation through the flagship **Pradhan Mantri Krishi Sinchayi Yojana (PMKSY)** scheme in 2016-17.
- To ensure irrigation equipment are made available at cheaper price, the government has reduced the excise duty on electric motor, shafts, sleeve, chamber, impeller, washer required for the manufacture of centrifugal pump being reduced to 6% from 12.5%.
- The government has proposed **Unified E-Platform Market** to connect up to 250 Agri mandis by September 2016 and up to 585 mandis by March 2018. State governments will be urged to launch the e-market platform to unify mandis in the state, thereby allowing farmers to sell their produce in any mandi of their choice. The Department of Agriculture will also be providing free software to the state governments and help customize it as per their needs.
- In order to finance initiatives to improve the agriculture sector, the Minister proposed to impose **'Krishi Kalyan Cess'** of 0.5% on all taxable services. Proceeds of cess would be exclusively used for financing initiatives relating to improvement of agriculture and welfare of farmers.
- Funding for the recently launched crop insurance scheme, **Pradhan Mantri Fasal Bima Yojana (PMFBY)** has been more than doubled from Rs. 2,589 crore in 2015-16 (Budget Estimate) to Rs. 5,500 crore for 2016-17.
- Target to cover all 140 million farm holdings under the **Soil Health Card Scheme** by next year (March 2017).
- To increase crop yields in rain-fed areas, government to promote organic farming aims to bring 500,000 acres under organic farming in 3 years. The budget allocated Rs.412 crore towards organic farming.
- Government also announced to introduce **Direct Benefit Transfer of fertilizer subsidy** to farmers on pilot basis in few districts of the country.
- To increase crop yields in rain-fed for enhancement in pulses production, the budget allocated Rs. 500 crore under the **National Food Security Mission.** The programme will cover 622 districts in the country.
- The budget has also proposed to increase the provision for the **Price Stabilization Fund** to Rs 900 crore, which will go for creating buffer stock of pulses.
- The budget has provided for Rs. 850 crore in next few years for spending on:
  a) The **'Pashudhan Sanjivani',** an animal wellness programme and provision of Animal Health Cards ('Nakul Swasthya Patra');
  b) **Advanced breeding technology;**
  c) Creation of **'E-Pashudhan Haat',** an e-market portal for connecting breeders and farmers; and
  d) Setting up of **National Genomic Centre for indigenous breeds.**

Notes