Agriculture Current Affairs by Pmfias.com – November & December 2020

Contents

{Agri – Crops – 2020/12} Saguna Rice Technique (SRT)

Link | **Prelims** | GS3 > Major crops cropping patterns in various parts of the country.

- SRT is cultivation of rice **on permanent raised beds without ploughing, puddling & transplanting**.
- This is a **zero tillage Agriculture**.
- It is a **conservation agriculture (CA)** type of cultivation method evolved in Raigad, Maharashtra.
- The permanent raised beds **facilitate oxygen supply to root zone** while maintaining **optimum moisture**.
- The SRT facilitates planting in predetermined distances enabling precise plant population per unit area.
- Absence of puddling & transplanting makes rice crop **"less vulnerable to erratic behaviour of rain."**
- Similarly, if rain vanishes for few days it does not lead to cracking of land or 'crop kill' immediately.

Important Principles:

- SRT insists that all roots & small portion of stem should be left in the beds for slow rotting.
- Weeds are to be controlled with weedicides & manual labour.
- No ploughing, puddling & hoeing is to be done to control weeds.
- This system will get the crop ready for harvesting 8 to 10 days earlier.

{Agri – Fisheries – 2020/11} Fisheries in India

PIB | GS3 > Agriculture and Allied Sector

- **Context:** Government of India has celebrated 'World Fisheries Day' on 21st November.

Fisheries in India

- Fisheries sector registered more than double growth in past 5 years.
- Fisheries sector has grown rapidly from 4.9 per cent in 2012-13 to 11.9 per cent in 2017-18.
- Growth in sectors like crop, livestock and forestry from 2014-15 to 2017-18 has been highly fluctuating.
- Fish and fish product exports emerged as the largest group in agricultural exports and in value terms accounted for Rs 47,620 crore in 2018-19.
- Fisheries provide employment to more than 14.5 million people.
- India is the **second largest fish producer in the world** with a total production of 13.7 million metric tonnes in 2018-19 of which **65 per cent was from inland sector**.
- China is way ahead at a whopping 60 million tonnes per annum.
- Foreseeing the vast resource potential and possibilities in the fisheries sector, **a separate Department of Fisheries was created in February 2019**.
- The Government has merged all the schemes of fisheries Sector into an umbrella scheme of **'Blue Revolution: Integrated Development and Management of Fisheries'**.
- **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)** was approved with a total fund size of Rs 7522.48 crore.

Steps taken

Fisheries development: Blue Revolution

- Department of Animal Husbandry, Dairying & Fisheries has restructured the scheme by merging all the ongoing schemes under an **umbrella of Blue Revolution**.
- Under the Centrally Sponsored Scheme (CSS) on **Blue Revolution: Integrated Development and Management of Fisheries**, financial assistance is provided to the State Governments/UTs to support the fishermen.
- The restructured scheme covers inland fisheries, aquaculture, marine fisheries including deep sea fishing, mariculture and all activities undertaken by the **National Fisheries Development Board (NFDB)**.
- The scheme has a total Central outlay of 3000 crore for five years and has the following components:
  - ✓ National Fisheries Development Board (NFDB) and its activities,
  - ✓ Development of Inland Fisheries and Aquaculture,
  - ✓ Development of Marine Fisheries, Infrastructure and Post-Harvest Operations,
  - ✓ Strengthening of Database & Geographical Information System of the Fisheries Sector, and
  - ✓ Monitoring, Control and Surveillance (MCS) and other need-based Interventions.

- GOI has issued an advisory to all coastal States and UTs to makie mandatory the use of Automatic Identification System (AIS) and Vessel Monitoring Systems (VMS) in fishing vessels for safe navigation.

Fisheries and Aquaculture Development Fund (FIDF)

- The first tripartite MoU was signed between the **department of Fisheries**, GOI, **NARBARD** and the Government of **Tamil Nadu** for the implementation of **Fisheries and Aquaculture Development Fund (FIDF)**.
- FIDF is created with a total of Rs. 7522.48 crore to address the infrastructure requirement for fisheries sector.
- FIDF provides **concessional finance** to the eligible entities, cooperatives, individuals and entrepreneurs for development of identified fisheries infrastructure.
- NARBARD, National Cooperatives Development Corporation (NCDC) and all scheduled banks are **Nodal Loaning entities (NLEs)** to provide concessional finance under the (FIDF).
- The Department of Fisheries, under the FIDF provides interest subvention up to 3% per annum for providing the concessional finance by the NLEs.
- The Government of Tamil Nadu has signed the first Tripartite MoA for availing the initial concessional finance of Rs 420 crore from NARBARD for development of three fishing harbours in the State
- These will create safe landing and berthing facilities for a large number of fishing vessels plying in the area, augment fish production in the regions, facilitate hygienic post–harvest handling of fish, etc.
- NABARD as one of the Nodal Loaning Entities (NLEs) provides concessional finance for development of fisheries infrastructure facilities through State Governments/State Entities under the FIDF.

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- The Government has launched the PMMSY for the development of marine and inland fisheries.
- Rs 11,000 crore for activities in Marine, Inland fisheries, and Aquaculture and Rs. 9000 crores for Infrastructure – Fishing Harbours, Cold chain, Markets etc shall be provided.
- There are provisions of Ban Period Support to fishermen (during the period fishing is not permitted).
- The focus will be on Islands, Himalayan States, North-east and Aspirational Districts.

Kisan credit cards for Fishermen

- Government has also extended the facilities of Kissan Credit Cards (KCC) to fishers and fish farmers to help them in meeting their working capital needs.

Development of Inland Fisheries and Aquaculture

- It is **Centrally Sponsored Scheme.**

- The components approved under the scheme are:
  1. Development of Freshwater Aquaculture.
  2. Development of Brackishwater Aquaculture.
  3. Cold water Fisheries and Aquaculture.
  4. Development of Waterlogged Areas.
  5. Productive Utilization of Inland Saline/Alkaline Soils for Aquaculture.
  6. Integrated Development of Inland Capture Resources (reservoirs/rivers etc.)
  7. creation of a buffer zone between the near-shore and offshore regions (waters between 200 m and 500 m in depth) to regulate fishing.

National Fisheries Development Board (NFDB)

- NFDB works for development of Fisheries in the country from Intensive Aquaculture in Ponds and tanks to Coastal Aquaculture.
- It also focuses on: -
  1. Human Resources development programs in fisheries sectors,
  2. Deep sea fishing and tuna processing,
  3. Ornamental Fisheries,
  4. Innovative Projects Quality seed dissemination program,
  5. Cage and pen culture in open water bodies etc.

Draft National Inland Fisheries and Aquaculture Policy (NIFAP)

- **For Inland Fisheries-**
  1. Conserving indigenous resources,
  2. Resoring natural ecosystem of Rivers,
  3. Conserving and restoring ecosystem in natural wetlands and bringing policies,
  4. Conservation programmes for development of fisheries in the Himalayan and north-eastern states.
- **For Aquaculture-**
  1. Developing State and Area-specific action plans,
  2. Redifining land use categories to include fisheries and aquaculture as components of agriculture,
  3. Developing seprate programmes for small framers,
  4. Infuse public and private investments, and take R&D benefits to the farmers and fishers.

[Source and Credits]

Issues faced by Indian Fisheries

- **India lies in Tropical belt.**
  - ✓ Tropical fisheries have **higher oil content** which is less desirable for eating.
  - ✓ In the Tropical regions, **multiple varieties of fishes occur, but in smaller groups**,which is not good for large scale commercial exploitation
- Sector suffers from Lack of a reliable database relating to aquatic and fisheries resources
- Frequent confrontation of Indian Fishermen with Srilankan Navy
- Aquatic pollution, destruction of fish habitats & frequent occurrence of **Dead Zones/Hypoxic zones** leading to shifting or permanent loss of Fishing zone
- Lack of access to quality seed & feed, inadequate availability of credit
- Increased use of Fibre Reinforced plastic (FRB), & poor quality boats leading to ill effects on marine culture.
- Poor infrastructure such as cold storage facilities, leading to an estimated 15-20% post harvest loss.

- Issue of **Formalin** leads to negative branding of Indian fisheries.

{Agri – Food Processing – 2020/12} Food Processing

PIB | **Prelims + Mains** | GS3 > Food processing & related industries in India

- **Context:** Ministry of Food Processing has signed a Joint Communique with Ministry of Tribal Affairs for **PM Formalisation of Micro food processing Enterprises (PM FME) scheme**.

PM Formalisation of Micro food processing Enterprises (PM FME) Scheme

- PM FME is a **centrally funded scheme** with an **aim to provide financial, technical, & business support to micro food processing units in the country.**
- The total outlay of the scheme is $ 1.3 Bn spread over a **span of 5 years from 2020-21 to 2024-25.**
- The funding under the scheme **will be shared by the Centre & State governments**:
  1. **For States & UTs with legislature: 60% by Centre & 40% by State/ UT**
  2. **Himalayan & North Eastern States: 90% by Centre & 10% by State**
  3. **UTs without legislature: 100% by the Centre**
- About 2 lakh micro food processing units will be given credit linked subsidy under the scheme.
- The PM FME scheme derives inspiration from the **One District One Product (ODOP) Programme** of UP which aims to create product-specific traditional industrial hubs across 75 districts of UP.
- Under the PM FME scheme, the states will be **required to identify one product per district**.
- The profile includes dairy products, local snacks & any other product which is widely produced in the district.
- Special preference would be given to **micro food enterprises** following the ODOP approach.
- Support in the form of common infrastructure & assistance in branding & marketing would be provided.

The main objectives of the scheme include:

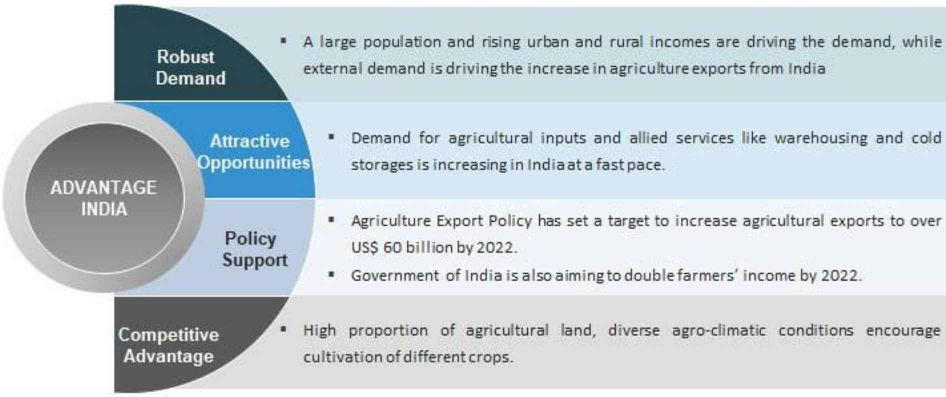
- **Formalization of micro units** by means of GST, Udyog Aadhar & FSSAI registrations.
- **Financial assistance** to individual units for upgradation of food processing facilities.
- Quality improvement & **skill development** through trainings & technical knowledge.
- Financial assistance to FPOs, SHGs, producer's cooperatives for setting up common infrastructure facilities.
- **Branding & marketing support** to FPOs, SHGs & producer cooperatives.
- Support & assistance in availing bank loans & preparation of detailed project reports (DPR).

What is Food Processing?

- Food processing is the transformation of raw ingredients of **agriculture, dairy, animal, husbandry, fisheries, poultry** into products that have **commercial value** & are suitable for **human & animal consumption**.
- Food processing may denote **direct manufacturing** of food or **value addition** on existing food.
- This can involve one or a combination of various processes including washing, chopping, pasteurising, freezing, fermenting, packaging, cooking & many more.
- Food processing also includes adding ingredients to food, for example to extend shelf life.

Scope & status of Food Processing Industry (FPI) in India

- The Indian food & grocery market are the world's sixth largest.
- The Indian food processing industry accounts for 32 per cent of the country's total food market.
- It contributes around
  - ✓ 8.80 & 8.39 per cent of Gross Value Added (GVA) in Manufacturing & Agriculture respectively,
  - ✓ 13 per cent of India's exports &
  - ✓ 6 per cent of total industrial investment.
- India's **organic food market** is expected to increase by three times by 2020.
- **India** is the **2nd** largest producer of fruits & vegetables after **China** but hardly 2% of the produce is processed.
- Despite a large production base, the level of processing is low, it is less than 10%.
- **Approximately 2% of fruits & vegetables, 8% marine, 35% milk, 6% poultry are processed.**
- **India's livestock population is largest in the world** with **50% of the world's buffaloes** & 20% of cattle, but **only about 1% of total meat production is converted to value added products.**
- **More than 75% of the industry is in unorganized sector.**
- Processing can be delineated into primary & secondary processing.
  1. Rice, sugar, edible oil, & flour mills are examples of **primary processing**.
  2. **Secondary processing** includes the processing of fruits & vegetables, dairy, bakery, chocolates & other items.
- **Most processing in India can be classified as primary processing,** which has **lower value-addition compared to secondary processing**.
- There is a need to move up the value chain in processed food products to boost farmer incomes.
- For example, horticulture products carry the potential for higher value-addition when compared to cereals.
- At present, India's **agricultural exports predominantly consist of raw materials**, which are then processed in other countries, again indicating the **space to move up the value chain**.
- Lack of adequate processable varieties continues to pose a significant challenge to this sector.



Significance of Food Processing Industry (FPI)

- FPI provides vital **linkages & synergies** between the two pillars of the economy, i.e., **agriculture & industry**.
- FPI can absorb major share of workers from agriculture sector, who face **disguised unemployment**.
- FPI can reduce food wastage as the shelf life of food will be Increased.
- **Curbing Food Inflation:** again, the reason is same. E.g. frozen peas availability throughout the year.
- **Crop-diversification:** FPI will require different types of inputs thus creating an incentive to diversify crops.
- **Increase in export** which in turn will help us in getting foreign exchange reserves. For e.g., Indian Basmati rice is in great demand in Western countries.
- **Employment Generation:** It is expected to provide 10 lakhs direct & indirect employment opportunities.
- **Reduce malnutrition:** Though food fortifications.
- **Curbing rural to urban migration:** will help in decongestion of cities.
- **Choices will be increased**: bringing more choices in food basket, food from other parts of the world to be transported to our local market & vice versa.

Initiatives by Government to promote FPIs in India

Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)

- Ministry of Food Processing Industries (MoFPI) is implementing **Central Sector Umbrella Scheme**-Pradhan Mantri Kisan SAMPADA Yojana (PMKSY).
- The period of implementation of the PMKSY is **2016-20** with a total outlay of Rs. 6000 crore.
- The PMKSY has seven component schemes viz.
  - ✓ Mega Food Parks,
  - ✓ Integrated Cold Chain & Value Addition Infrastructure,
  - ✓ Infrastructure for Agro-Processing Clusters,
  - ✓ Creation of Backward & Forward Linkages,

- ✓ Creation/Expansion of Food Processing & Preservation Capacities,
- ✓ Food Safety & Quality Assurance Infrastructure, &
- ✓ Human Resources & Institutions.

- Under PMKSY, **capital subsidy** is offered in the form of grants-in-aid ranging from 35% to 75% of the eligible project cost.

Operation Greens

- The MoFPI has launched a new Central Sector Scheme "Operation Greens'' for integrated development of **Tomato, Onion & Potato (TOP)** crops value chain, with an outlay of Rs.500 Crore.
- The scheme aims to promote Farmers Producers Organizations (FPO), agri-logistics, processing facilities & professional management of FPOs.

Mega Food Park (MFP)

- Launched in 2008–09 under the purview of the **Ministry of Food Processing Industries**.
- The Scheme aims at providing a mechanism to link agricultural production to the market.
- It brings together farmers, processors & retailers to ensure **maximizing value addition**, **minimizing wastage**, increasing farmers income & creating employment opportunities particularly in rural sector.
- The MFP Scheme is based on "**Cluster" approach** & envisages creation of infrastructure in agri zones.
- Mega food park typically consists of supply chain infrastructure including collection centres, primary processing centres, central processing centres, cold chain & fully developed plots to set up processing units.
- The Mega Food Park project is implemented by a **Special Purpose Vehicle (SPV) which is a Body Corporate registered under the Companies Act**.
- State Government, State Government entities & Cooperatives are **not** required to form a separate SPV for implementation of Mega Food Park project.
- Under the Mega Food Park Scheme, GOI provides assistance upto Rs. 50 Crore per Mega Food Park project.
- Subject to fulfilment of the conditions of the Scheme Guidelines, the funds are released to the SPVs.

Total MFPs: 37

- 19 Mega Food Parks have already become functional in the States.
- 18 Mega Food Park Projects are under implementation in various states.
- 6 of 37 MFPs are in the North eastern region.
- 2 MFPs in North eastern Region are operational in Assam & Mizoram.

Other measures taken

- A special fund of Rs.2000 crore has been created with NABARD to provide affordable credit to FPI units.
- Food & agro-based processing units & cold chain infrastructure has been **classified as agriculture activity for Priority Sector Lending (PSL)**.
- Fiscal measures like
  - ✓ **100% exemption of Income Tax on profit for new food processing units**,
  - ✓ **100 percent income tax exemption from profit derived by FPOs having annual turnover of Rs.100 crore** have been allowed.
- **Lower GST rates** for majority of food products have been fixed.
- FDI policy: **FDI up to 100 %**, under the automatic route is allowed in food processing industries
- Agricultural & Processed Food Products Export Development Authority **(APEDA)– an apex organization under the Ministry of Commerce & Industry** – focusses on 'export' of scheduled products.

Atma Nirbhar Bharat announcement for Food Processing sector

Formalisation of Micro Food Enterprises (MFE)

- '**Vocal for Local with Global outreach**' will be launched to help 2 lakh MFEs who need technical upgradation to attain FSSAI food standards, build brands & marketing.
- Existing micro food enterprises, FPOs, Self Help Groups & Cooperatives to be supported.
- The focus will be on women & SC/ST owned units & a **Cluster based approach** (e.g. Mango in UP, Tomato in Karnataka, Chilli in Andhra Pradesh, Orange in Maharashtra etc.) will be followed.

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

- The Government will launch the PMMSY for the development of marine & inland fisheries.
- Rs 11,000 crore for activities in Marine, Inland fisheries, & Aquaculture & Rs. 9000 crores for Infrastructure – Fishing Harbours, Cold chain, Markets etc shall be provided.
- There will be provisions of Ban Period Support to fishermen (during the period fishing is not permitted).
- The focus will be on Islands, Himalayan States, North-east & Aspirational Districts.

Extension of Operation Greens

- "Operation Greens" run by **Ministry of Food Processing Industries (MOFPI)** will be extended from tomatoes, onion & potatoes to **all fruit & vegetables**.

- The Scheme would provide 50% subsidy on transportation from surplus to deficient markets, 50% subsidy on storage & will be launched as pilot for the next 6 months & will be extended & expanded.
- This will lead to better price realization to farmers, reduced wastages, & affordability of products.

Obstacles in the growth of Food processing industries in India

- **Indian FPIs are small & cannot compete with global giants because of:**
  - ✓ Heavy investments by global giants in R&D
  - ✓ High packaging cost
  - ✓ High cost of advertisements
- **Indian FPIs also suffer from:**
  - ✓ Lack of modern transportation facilities & high-cost Inadequate cold storage facilities
  - ✓ Financing
  - ✓ Lack of modernization
  - ✓ **Higher import duties**
  - ✓ Higher cost of raw material
  - ✓ **Limited domestic market**
  - ✓ Continued dependence on seasonal products
- **Issues at Farm level**
  - ✓ Limitations in quality of crops
  - ✓ Lack of storage facilities & good production techniques
  - ✓ Lack of material resources necessary for development
  - ✓ No control on the quality of inputs & lack of finance to manage
  - ✓ Unavailability of reliable handling & transportation system
  - ✓ Lack of storage facilities at farm
- **Issues with supply chain**
  - ✓ Congested roads & snail-paced railways (due to **lack of dedicated freight corridors**)
  - ✓ Limitations in supply chain
  - ✓ Lack of modern transportation facilities that can quickly transport perishables and low shelf life products
  - ✓ Inadequate cold storage facilities
- **Consumer discontent**
  - ✓ Indian society favours fresh food consumptions
  - ✓ Lack of faith in the food safety standards
  - ✓ Does not get value for money (cost of the product is high due to inefficiencies in the supply chain)

- **Government level issues**
  - ✓ Lack of right vision & support from government
  - ✓ Contract farming laws not properly implemented by state governments
  - ✓ Lack of good laboratories in India to check heavy metal & other toxic contamination.

{Agri – Food Security – 2020/11} Food Fortifications

TH | GS2 > Government Policies and Interventions for Development in Various Sectors

- **Context:** Children in anganwadis and government schools could soon be eating rice infused **with iron, folic acid and vitamin B-12**.

Key Points

- In a bid to combat **chronic anaemia and undernutrition**, the government is making plans to distribute fortified rice through-
  - ✓ **Integrated Child Development Services** and
  - ✓ **Mid-Day Meal schemes** across the country from next year
- The centrally sponsored pilot scheme was approved in February 2019.
- However, only five States — Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu and Chhattisgarh have started the distribution of fortified rice in their identified pilot districts.
- The remaining 10 States have only now identified their respective districts.
- Fortifying rice involves grinding broken rice into powder, **mixing it with nutrients**, and then shaping it into rice-like kernels using an extrusion process.
- These fortified kernels are then mixed with normal rice in a 1:100 ratio and distributed for consumption.
- Currently, there are only 15,000 tonnes of these kernels available per year in the country.
- To cover PDS, anganwadis and mid-day meals in the 112 aspirational districts, annual supply capacity would need to be increased to about 1.3 lakh tonnes.
- To cover PDS across the country, 3.5 lakh tonnes of fortified kernels would be needed.
- FCI has also been asked to invest in equipping mills with the blending machines needed to mix the kernels.

Fortification of Crops

- Fortification is the practice of **increasing the content of an essential micronutrient**, i.e., **vitamins and minerals (including trace elements) in a food.**

- Biofortification is fortification done through **agronomic practices** (soil management and crop production), **conventional plant breeding**, or **modern biotechnology**.
- In conventional fortification nutrient levels are increased during processing of the crops.
- **Biofortification increases nutrient levels in crops during plant growth**.
- Biofortification is better than conventional fortification as it is easy to implement.

Examples of Biofortified crops in India

- Pearl millet (iron), wheat (zinc), sorghum (iron), rice (zinc), cowpeas (iron) and lentils (iron and zinc).
- **Dhanshakti (biofortified pearl millet or bajra) is the first iron biofortified crop to be officially released in India.**

Micronutrient Deficiencies

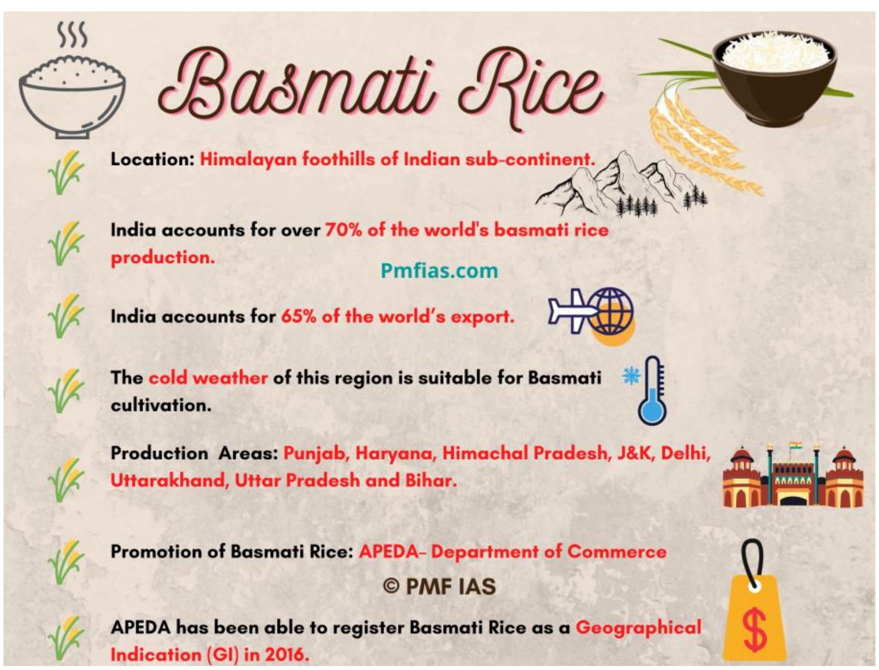
- **Hidden hunger**: A term used to describe dietary micronutrient deficiencies.
- The most common micronutrient deficiencies are deficiency of **iron, zinc and Vitamin A**.
- Micronutrient deficiencies affect pregnant women and preschool children the most.

{Agri – GI – 2020/12} Basmati Rice

DTE | **Prelims** | GS2 > Government Policies and Interventions for Development in Various Sectors

- **Context:** European Union gets set to pronounce whether to give a GI tag to India's Basmati rice.

Basmati Rice



- Basmati is **long grain aromatic rice** grown for many centuries in the specific geographical area, at the **Himalayan foothills** of Indian sub-continent.
- The rice is known for its **soft texture** upon cooking, delicious taste, superior aroma and distinct flavour.
- **India** accounts for over **70% of the world's basmati rice production** and **65% of the world's export**.
- In India, **basmati cultivation is dictated by geography.**
- The **cold weather of this region is suitable for Basmati cultivation.**
- The areas of basmati rice production in India are in the states of **Punjab, Haryana, Himachal Pradesh, J&K, Delhi, Uttarakhand, Uttar Pradesh and Bihar**.
- The Agricultural & Processed Food Products Export Development Authority (**APEDA – Department of Commerce**) has been mandated with the **export promotion of Basmati rice**.
- APEDA has been able to register Basmati Rice as a **Geographical Indication (GI)** in 2016.

GI tag

- A GI tag is a legal recognition given primarily to an agricultural, natural or a manufactured product (handicrafts and industrial goods) **originating from a definite geographical territory**.
- GI tag conveys an assurance of quality and **distinctiveness** of a product, which is essentially attributable to the place of its origin.
- Once the GI protection is granted, no other producer can misuse the name to market similar products.
- It also provides comfort to customers about the authenticity of that product.

What is the difference between a geographical indication and a trademark?

- A trademark is a sign/word/phrase used by an entity to distinguish its goods & services from those of others.
- It gives the entity the right to prevent others from using the trademark.
- A geographical indication tells consumers that a **product is produced in a certain place** and **has certain characteristics that are due to that place of production**.
- It may be used by all producers who make their products in the place designated by a geographical indication.

Who accords Geographical Indications?

- Globally, geographical Indications are covered as a component of intellectual property rights (IPRs) under the **Paris Convention for the Protection of Industrial Property**.
- GI is also governed by **WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.

- In India, Geographical Indications registration is administered by the **Geographical Indications of Goods (Registration and Protection) Act, 1999**, which came into force with effect from September 2003.
- The first product in India to be accorded with GI tag was **Darjeeling tea** in the year 2004-05.

Who can apply for a geographical indication?

- Any association of persons, producers, organisation, or authority established by or under the law can be a registered proprietor.

How long is the registration of Geographical Indication valid?

- The registration of a geographical indication is **valid for a period of 10 years** **(same for a trademark**).
- It can be renewed from time to time for further period of 10 years each.

APEDA

- Agricultural and Processed Food Products Export Development Authority (APEDA) is a **statutory body** under **Ministry of Commerce** **(not Ministry of Agriculture)**.
- It has been mandated with the responsibility of export promotion and development of the scheduled products viz. Fruits, Vegetables, Meat Products, Dairy Products, Alcoholic and Non-Alcoholic Beverages, etc.
- In addition to this, APEDA has been entrusted with the responsibility to monitor the import of sugar.

{Agri – Issues – 2020/12} Doubling the farm mechanisation

TH | **Prelims + Mains** | GS3 > E-technology in the aid of farmers.

- **Context:** Government plans to **double the area under mechanised farming over ten years.**
- The objective is to increase the reach of farm mechanisation to small & marginal farmers trough:
    - ✓ custom hiring centres,
    - ✓ creating hubs for high-tech & high-value agricultural equipment,
    - ✓ creating awareness among stakeholders & capacity building.
- **Farm mechanisation in India stands at about 40-45%.**
- States such as UP, Punjab, Haryana has very high mechanisation.
- North Eastern states have negligible mechanisation.

Sub Mission on Agricultural Mechanization (SMAM)

- To increase reach of farm mechanisation to small & marginal farmers

- Setting up of custom hiring centres to provide expensive & advanced agricultural equipment to the farmers on **rental basis**.

{Agri – Issues – 2020/12} Farm Protests

TH | **Mains** **|**GS3 > Issues related to direct and indirect farm subsidies and minimum support prices.

- **Context:** Farm Protests are taking place in Punjab and Haryana regions.
- President gave his assent to three contentious farm bills passed by Parliament.

1. **The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 (FAPAFS),**
2. **Farmers Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 (FPTC), and**
3. **Essential Commodities (Amendment) Act, 2020 (EC).**

Reasons for Introducing the Farm Bills

- To double the income of India's farmers by 2022.
- To liberalising access to agricultural markets (farmers can promote their produce anywhere in India).
- To remove existing barriers to storage of agricultural produce.
- To facilitate **contract-farming**.
- To achieve 'One Nation, One Market'.
- To improve on **'Ease of doing business' index**.

Stated benefits of the Farm Bills

- It **allows intra-state and inter-state trade of farmers produce beyond the physical premises of Agricultural Produce and Livestock Market Committee (APMC) markets.**
- The competition will increase, and private investment will reach villages.
- Farming infrastructure will be built, and new employment opportunities will be generated.

Main concerns Related to New Farmer's Acts

- The main worry is about a ***possible*** **withdrawal of MSP** and a dismantling of the **public procurement**.
- By **leaving farmers to the mercy of the open market**, the stage has been set for large private players to take over agriculture.
- The farmers contend the government is making ready to withdraw from the procurement of food grain and hand it over to the company gamers.

- The **government is thrusting contract farming on farmers** in association with corporates who represent **crony capitalism** and whose track record in contract farming is not up to the mark
- The **dispute decision mechanism is removed from the purview of courts** and **handed over to the SDM and the DC**, who are perceived as being inclined towards their political masters.
- Easing of regulation of food commodities in the essential commodities list would lead to **hoarding of farm produce** during the harvest season when prices are generally lower.
- **Against the Spirit of Cooperative federalism:** Since **agriculture and markets are State subjects**, the Acts are being seen as a direct encroachment upon the functions of the States.

Why are protests severe in Punjab & Haryana?

- Farmers here are **heavily dependent on public procurement and assured price through MSP**.
- Nearly 88% of the paddy production and 70% of the wheat production in Punjab and Haryana (in 2017-18 and 2018-19) has been absorbed through public procurement.
- In contrast, in the other major paddy States only 44% of the rice production is procured by public agencies.
- In the other major wheat states only a quarter (23%) of the production is procured by public agencies.

Why does Government procure these Food Grains?

- This is because of its **obligations under the PDS** and the **National Food Security Act (NFSA).**
- **Support under the NFSA is a legal and rights-based entitlement.**
- There are nearly 80 crore NFSA beneficiaries who need to be supported under the PDS.
- The government needs an uninterrupted supply of grain from the two States to maintain the PDS.
- Dismantling the procurement system is neither in the interests of farmers nor the government.

Improvements Needed in the Acts

- Limitations to be addressed: absence of a **regulatory mechanism** (to ensure fair play by private players vis-à-vis farmers) and the **lack of transparency in trade area transactions.**
- **Use of Price Stabilization Scheme**: pro-actively buying a part of the surplus whenever market prices crash.
- **Decentralization of agriculture system**: Decentralization the MSP, procurement, stocking, and public distribution system (PDS), since **agricultural marketing is a state subject**.

Why there is need for State support in Agriculture sector?

- In India, **"smallholder and marginal farmers" (those with less than two hectares of land)** account for **86.2 per cent of all cultivators (12.6 crore)**.

- For them, it is **inconceivable to carry their produce to other states or far-off places to sell.**
- Also, the prospects of generating employment from other secondary and tertiary sector is not bright.
- The gap between urban and rural India in terms of per capita resources is widening.
- It would be far more prudent to increase public investment in agriculture in terms of infrastructure and in the form of income support schemes like-
    - ✓ **Rythu Bandhu** in Telangana or the
    - ✓ **Krushak Assistance for Livelihood and Income Augmentation** in Odisha.

{Agri – Laws – 2020/09} Farm Bills

BS | **Mains** | GS3 > Issues related to direct and indirect farm subsidies and minimum support prices.

- **Context:** Recently the farm bills have been protested nationwide.

What are the Three farm bills passed by the government?

Farmer's Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020

- Through this, farmers can enter into 'written agreements' with anyone, including a company, and sell them their produce for a set period of time, as per the contract.
- In other words, **companies can now have contracts with farmers for buying produce**.
- They can set the price for the produce, the standards and qualities, and other legalities beforehand.

The Farmer (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020

- Food Bill: State governments can set up **APMC**, which in turn set up markets or mandis – in several places in the state.
- It is here that farmers bring their produce, and wholesale and retail traders come to buy the produce through auctions.
- The APMCs across the country ensure that **farmers get a fair price for their produce** and **aren't forced to make a distress sale**.
- The buyers and commission agents are regulated by the APMCs by providing them licences, levying market fees and any such charges are regulated.
- Now, the **new Marketplace law says that farmers can sell their produce anywhere** – and not just in the APMC approved marketplace.
- And **they can sell inter-state or intra-state or even online**.

The Essential Commodities (Amendment) Bill, 2020

- The Essential Commodities Act was first brought in several decades back – in 1955.
- The Act basically controls the production, supply and distribution of certain commodities that are essential.
- So, if an item comes under this Act **then companies and supermarkets etc cannot hoard these items when there is shortage, and they can't artificially increase the price**.

Controversy around the farm bills

The Essential Commodities (Amendment) Bill, 2020

- The list of Essential Commodities As per the original Act, includes these things:
    - ✓ **Drugs (medicines), fertilizer, whether inorganic, organic or mixed;**
    - ✓ **foodstuffs, including edible oilseeds and oils;**
    - ✓ **yarn made wholly from cotton;**
    - ✓ **petroleum and petroleum products;**
    - ✓ **raw jute and jute textiles;**
    - ✓ **seeds of food-crops and seeds of fruits and vegetables;**
    - ✓ **seeds of cattle fodder and jute seeds.**
- The new bill **removes foodstuff such as cereals, pulses, potato, onions, oilseeds and oils**, from the list of essential commodities – unless there are dire circumstances, like war, famine, or "extraordinary" price rise.
- Further, the new Amendment says the **government cannot impose a stock limit** – that is, it cannot stop a supermarket chain or any other retailer from hoarding – **unless**
    - ✓ **there is a 100% increase in price of perishable goods**, or
    - ✓ **50% increase in price of non-perishable goods**.
- Critics say that this Amendment will lead to **increased hoarding**, and an artificial price rise of things.

Controversy around the food bill

- According to the government, the law will give **Freedom of Choice to farmers**.
- Critics, however, say that **agriculture marketing is a State subject under Schedule 7 of the Constitution**.
- Which means the Centre has no business making this law.
- Moreover, APMC markets currently ensure that farmers get the MSP for their produce.
- Farmers are worried that if they have to conduct trade outside of the APMC, they won't even make this much.

Opposition to Farmer's Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020

- According to the government, the contract will protect and empower farmers to sell to anyone – a wholesale or retail giant or exporter.

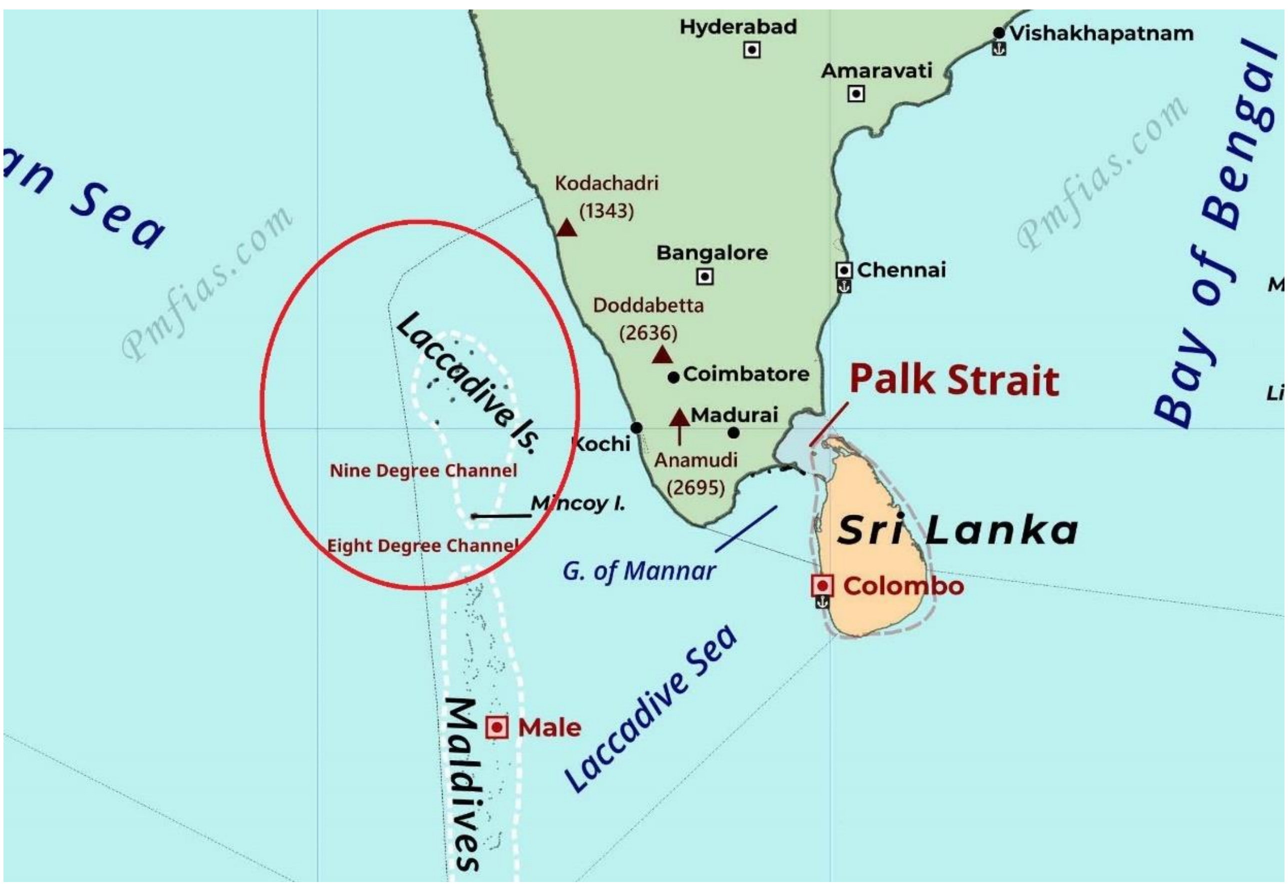
  Experts, however, say that 82% of farmers in India are **small and marginal farmers** that are unlikely to go to the court against massive supermarket chains.
- There is **no mention of a mechanism of fixing a price or ascertaining the quality of produce**.
- There is also an apprehension that the free-hand given to private corporate houses could lead to **farmer exploitation**.

{Agri – Organic – 2020/12} Organic Farming

DTE | **Prelims + Mains** | GS1 > Agricultural Resources | GS3 > Major crops cropping patterns in various parts of the country.

- **Context:** Lakshadweep, after **Sikkim**, is on its way to become 100 per cent organic.
- Lakshadweep is the **first Union Territory to become 100 per cent organic.**
- In January 2016, **Sikkim became India's first "100 percent organic" State**.

Lakshadweep Islands



- India's **smallest UT** Lakshadweep is an **archipelago** consisting of 36 islands with an area of 32 sq. km.
- **Amendivi Islands** are the northern most while the **Minicoy island is the southernmost**.
- All are tiny islands of coral origin (atoll) & are surrounded by **fringing reefs.**
- The largest & the most advanced is the **Minicoy island.**
- Most of the islands have low elevation & do not rise more than five metre above sea level.
- Their topography is flat & relief features such as hills, streams, valleys, etc. are **absent**.
- The Capital is **Kavaratti** & it is also the principal town of the UT.

Organic Farming

- Organic farming is a type of agriculture or farming **which avoids the use of synthetic fertilizers, pesticides, growth regulators, & livestock feed additives**.
- Organic farming systems rely on crop rotation, crop residues, animal manures, legumes, green manure, off-farm organic wastes & biofertilizers, mineral bearing rocks to maintain soil productivity, etc.

Suggested Reading: Organic Farming

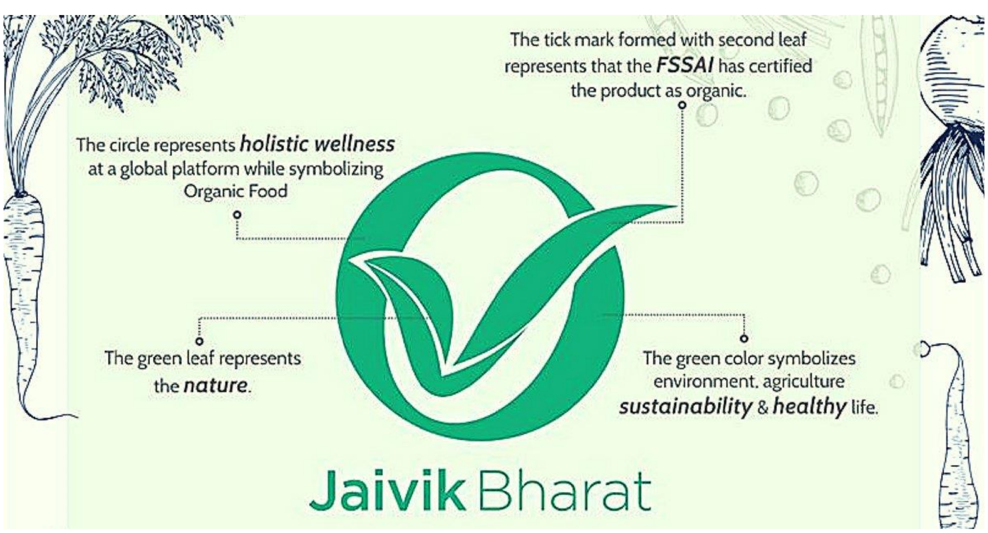
Organic farming in India

- **India ranks first in number of organic farmers & ninth in terms of area under organic farming.**

- **Sikkim became the first State in the world to become fully organic.**
- States including Tripura & Uttarakhand have set similar targets.
- **North East India has traditionally been organic,** & the consumption of chemicals is far less than rest of the country.
- About 2.78 million hectares of farmland is under organic cultivation.
- This is **two per cent** of the 140.1 million ha **net sown area** in the country.
- **Madhya Pradesh** tops the list with 0.76 million ha of area under **organic cultivation** — that is over **27 per cent of India's total organic cultivation area.**
- The top three states — **Madhya Pradesh, Rajasthan, & Maharashtra** — account for about half the area under organic cultivation.
- Major organic exports from India are flax seeds, sesame, soybean, tea, medicinal plants, rice & pulses.
- Major exporting states: Assam, Mizoram, Manipur, & Nagaland.

Initiatives to promote Organic Farming in India

- Schemes launched to promote organic farming:
  1. **Mission Organic Value Chain Development for North East Region (MOVCD)** &
  2. **Paramparagat Krishi Vikas Yojana (PKVY)**.
- Both PKVY & MOVCD are promoting certification under **Participatory Guarantee System (PGS)** & **National Program for Organic Production (NPOP)** respectively targeting domestic & exports markets.
- The Food Safety & Standards (Organic Foods) Regulations, 2017 are based on the standards of NPOP & PGS.
- The consumer should look for the logos of FSSAI, **Jaivik Bharat/PGS Organic India** on the produce to establish the organic authenticity of the produce.



- **PGS Green** is given to chemical free produce **under transition to 'organic' which takes 3 years**.

- The organic e-commerce platform **www.jaivikkheti.in** is being strengthened for directly linking farmers with retail as well as bulk buyers.

Mission Organic Value Chain Development for North East Region (MOVCD-NER)

- MOVCD-NER is a **Central Sector Scheme.**
- It is a sub-mission under **National Mission for Sustainable Agriculture (NMSA).**
- It was launched by the **Ministry of Agriculture & Farmers Welfare** for implementation in the all the North-Eastern states including Sikkim during the 12th plan period.
- The scheme **aims to development of certified organic production** in a value chain mode to link growers with consumers.
- The scheme supports the development of entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing, marketing & brand building initiative.

Paramparagat Krishi Vikas Yojna (PKVY)

- PKVY is a **sub-component of Soil Health Management (SHM) scheme under National Mission of Sustainable Agriculture (NMSA).**
- It aims at development of organic farming through a mix of traditional wisdom & modern science.
- It aims to ensure long term soil fertility build-up, resource conservation & helps in climate change adaptation & mitigation.

National Programme for Organic Production (NPOP)

- The **Ministry of Industries & Commerce** is implementing the NPOP since 2001 with the following objectives:
  1. To provide the means of **evaluation of certification programme for organic agriculture** & products.
  2. To accredit certification programmes of Certification Bodies seeking accreditation.
  3. To facilitate the certification of organic products in conformity with the prescribed standards.
  4. To facilitate organic certification in conformity with the importing countries organic standards.
  5. To encourage the development of organic farming & organic processing.
- The **Agricultural & Processed Food Products Export Development Authority (APEDA)** is the implementation agency for the NPOP.
- APEDA is providing assistance to the exporters of organic products under various components of its export promotion scheme.

Participatory Guarantee Scheme (PGS)

- **Union Agriculture Ministry** introduced PGS to incentivise more farmers to grow organic food.
- PGS is an Operational Manual for **Domestic Organic Certification** published by the **National Centre of Organic Farming, Ghaziabad**.
- PGS is a process in which people in similar situations (small producers) assess, inspect, & verify the production practices of each other & take decisions on organic certification.
- **PGS operates outside the framework of third-party certification**.

Advantages of PGS over third-party certification

- Procedures are simple, documents are basic, & farmers understand the local language used.
- As all members are practising organic farmers themselves, they understand the processes well.
- Because peer appraisers live in the same village, they have better access to surveillance & the **costs are low**.
- Mutual recognition between regional PGS groups ensures better networking for marketing.
- Unlike the grower group certification system, PGS offers every farmer **individual certificate**, & the **farmer is free to market his own produce independent of the group**.
- PGS ensures traceability until the product is in the custody of the PGS group, which makes PGS **ideal for local direct sales & direct trade between producers & consumers**.

Limitations of PGS

- PGS certification is only for farmers that can organise as a group & is applicable only to activities such as crop production, processing, & livestock rearing, & off-farm processing by PGS farmers of their products.
- **Individual farmers or group of farmers smaller than five members are not covered under PGS**.
- They either have to opt for third party certification or join the existing PGS local group.
- PGS is not ideal for furthering organic exports due to **apprehensions over peer-based certification**.

Summary

- Lakshadweep is the **first Union Territory to become 100 per cent organic.**
- In January 2016, **Sikkim became India's first "100 percent organic" State**.
- Organic farming avoids use of synthetic fertilizers, pesticides, growth regulators, & livestock feed additives.
- Organic farming relies on crop rotation, crop and animal residues, biofertilizers, mineral rocks for fertility, etc.
- **India ranks first in number of organic farmers & ninth in terms of area under organic farming.**
- **North East India has traditionally been organic**.
- About 2.78 million ha (**2%** of 140.1 million ha **net sown area**) of farmland is under organic cultivation.

- **Madhya Pradesh** tops the list with 0.76 million ha (27% **of India's organic area**) under **organic cultivation**.
- The top three states — **Madhya Pradesh, Rajasthan, & Maharashtra**.
- Schemes launched to promote organic farming:
    1. **Mission Organic Value Chain Development for North East Region (MOVCD-NER)** &
    2. **Paramparagat Krishi Vikas Yojana (PKVY)**.
- Both PKVY & MOVCD are promoting certification under **PGS** & **NPOP** schemes.
- The consumer should look for the logos of FSSAI, **Jaivik Bharat/PGS Organic India** on the produce.
- MOVCD-NER by **Ministry of Agriculture** is a **Central Sector Scheme.**
- It is a sub-mission under **National Mission for Sustainable Agriculture (NMSA).**
- The scheme **aims to development of certified organic production** by linking growers with consumers.
- PKVY is a **sub-component of Soil Health Management (SHM) scheme under NMSA.**
- It aims at development of organic farming through a mix of traditional wisdom & modern science.
- The **Ministry of Industries & Commerce** is implementing the **National Programme for Organic Production (NPOP)** since 2001.
- Its objective is to provide the means of **evaluation of certification** for organic agriculture products.
- The **Agricultural & Processed Food Products Export Development Authority (APEDA)** is the implementation agency for the NPOP.
- **Union Agriculture Ministry** introduced **Participatory Guarantee Scheme (PGS)** to incentivise more farmers to grow organic food.
- PGS is an Operational Manual for **Domestic Organic Certification** published by the **National Centre of Organic Farming, Ghaziabad**.
- **PGS is a peer-based certification** & **operates outside the framework of third-party certification**.
- PGS offers every farmer **individual certificate**, & the **farmer is free to market his own produce**.
- PGS is **ideal for local direct sales & direct trade between producers & consumers**.
- **Individual farmers or group of farmers smaller than five members are not covered under PGS**.
- PGS is not ideal for furthering organic exports due to **apprehensions over peer-based certification**.

{Agri – Schemes – 2020/11} Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)

PIB | GS3 > Food Processing

- **Context:** The scheme for the Creation of **Infrastructure for Agro-Processing Cluster (APC)** has been approved under the PMKSY to incentivize the setting up of Agro-processing clusters in the country.

Key Points

Note: The data mentioned below need not be memorised. It is just for understanding.

- Ministry approved 7 proposals with a total project cost of Rs. 234.68 Crores.
- It includes grants-in-aid of Rs. 60.87 Crores in the States/UTs of Meghalaya, Gujarat, Madhya Pradesh, Karnataka, Maharashtra.
- This scheme aims at the **development of modern infrastructure to encourage entrepreneurs** to set up **food processing units based on the cluster approach**.
- These clusters will help in **reducing the wastage of the surplus produce**.
- They will add value to the horticultural/agricultural produce which will result in an increase of income for the farmers and create employment at the local level.
- Under the scheme, each APC has two basic components:
    1. **Basic Enabling Infrastructure** like roads, water supply, power supply, drainage, etc.
    2. **Core Infrastructure**/Common Facilities like warehouses, cold storages, tetra pack, sorting, grading, etc.

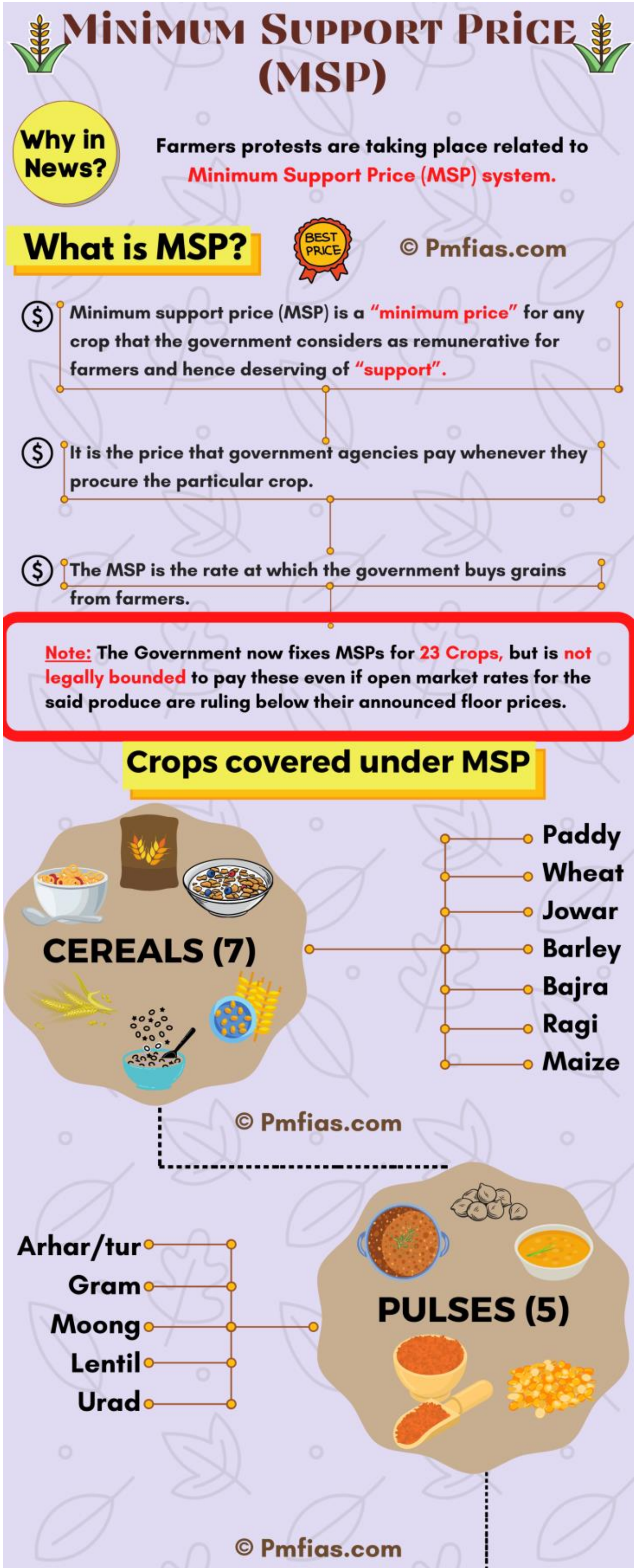
Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)

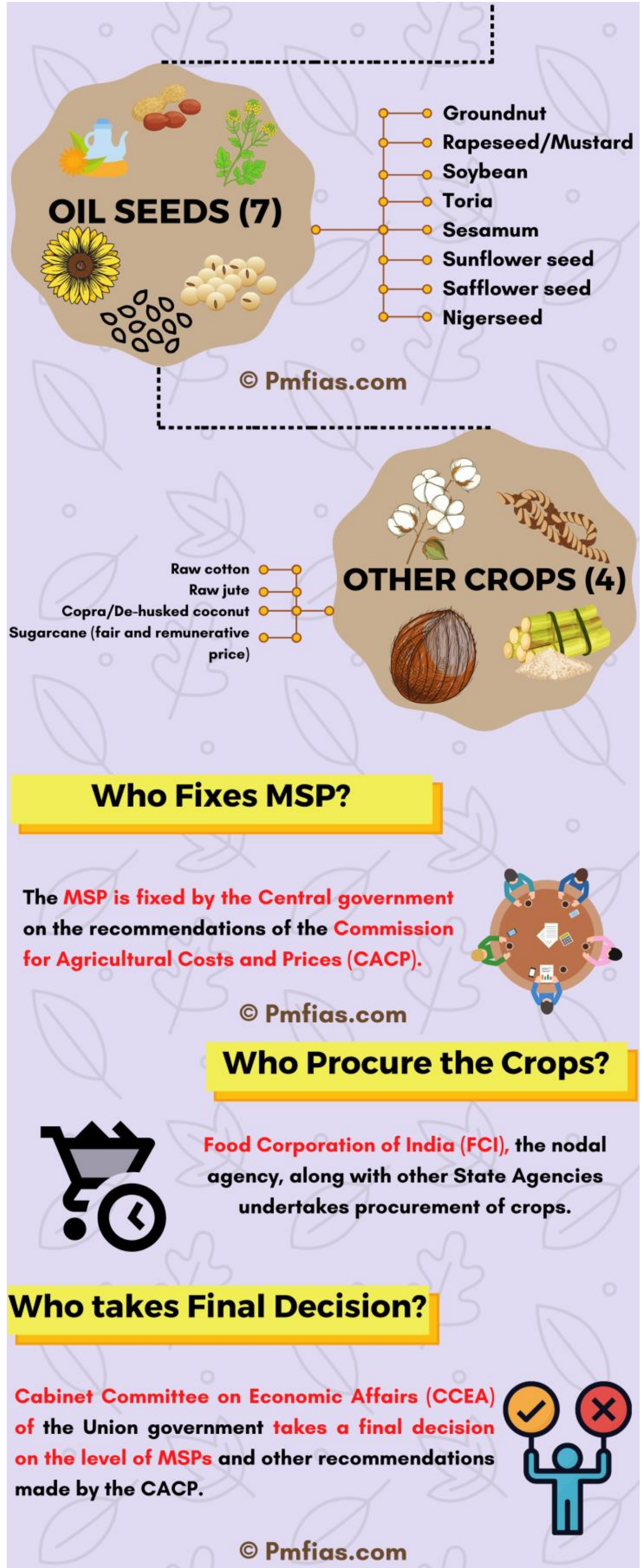
- **Ministry of Food Processing Industries (MoFPI)** is implementing Central Sector Umbrella Scheme-Pradhan Mantri Kisan SAMPADA Yojana (PMKSY).
- It is a **Central Sector Scheme**.
- The period of implementation of the PMKSY is 2016-20 with a total outlay of Rs.6000 crore.
- The PMKSY has seven component schemes viz;
    - ✓ Mega Food Parks,
    - ✓ Integrated Cold Chain and Value Addition Infrastructure,
    - ✓ Infrastructure for Agro-Processing Clusters,
    - ✓ Creation of Backward and Forward Linkages,
    - ✓ Creation/Expansion of Food Processing & Preservation Capacities,
    - ✓ Food Safety and Quality Assurance Infrastructure, and
    - ✓ Human Resources and Institutions.
- Under PMKSY, the **capital subsidy** is offered in the form of grants-in-aid ranging from 35% to 75% of the eligible project cost.

{Agri – Subsidies – 2020/12} Minimum Support Price (MSP)

IE | **Prelims** + **Mains** | GS3 > Food Security | GS3 > Issues related to direct and indirect farm subsidies and MSP

- **Context:** Farmers protests are taking place in Northern India related to MSP system.





Minimum Support Price (MSP)

- Minimum support price (MSP) is a "**minimum price" for any crop that the government considers** as remunerative for farmers and hence deserving of "support".
- It is also the price that government agencies pay whenever they procure the particular crop.
- Simply, **the MSP is the rate at which the government buys grains from farmers.**
- The **Commission for Agricultural Costs & Prices (CACP)** in the **Ministry of Agriculture** would recommend MSPs for **23 crops**.
- The **MSP is fixed by the Central government** on the recommendations of the **Commission for Agricultural Costs and Prices (CACP)**.
- After receiving the feedback **Cabinet Committee on Economic Affairs (CCEA)** of the Union government **takes a final decision on the level of MSPs** and other recommendations made by the CACP.
- The **Food Corporation of India (FCI)**, the **nodal agency**, along with other State Agencies **undertakes procurement of crops**.
- The **government is not legally bound to pay** these even if open market rates for the said produce are ruling below their announcement floor prices

The Centre currently fixes MSPs for 23 farm commodities

1. **7 cereals** (paddy, wheat, maize, bajra, jowar, ragi and barley),
2. **5 pulses** (chana, arhar/tur, urad, moong and masur),
3. **7 oilseeds** (rapeseed-mustard, groundnut, soyabean, sunflower, sesamum, safflower and nigerseed) and
4. **4 commercial crops** (cotton, sugarcane, copra and raw jute).

Factors taken into consideration for fixing MSP include

1. Supply and demand situation for the commodity
2. Market price trends (domestic and global)
3. Parity vis-à-vis other crops
4. Cost of production (A2 + FL method)
5. Implications for consumers (inflation)
6. Environment (soil and water use) and
7. Terms of trade between agriculture and non-agriculture sectors.

- The MSP assures the farmers of a **fixed price for their crops, well above their production costs**.

- The **Union Budget for 2018-19** had announced that **MSP would be kept at levels of one and half times (1.5 Times) of the cost of production**.
- Government has increased the MSP for all mandated Kharif, Rabi and other commercial crops with a **return of at least 50 per cent of cost of production** for the agricultural year 2018-19 and 2019-20.

How was this production cost arrived at?

- The **CACP does not do any field-based cost estimates itself**.
- It merely makes projections using state-wise, crop-specific production cost estimates provided by the **Directorate of Economics & Statistics in the Agriculture Ministry.**
- The latter are, however, generally available with a three-year lag (**mains point – issues with MSP**).
- The CACP further projects three kinds of production cost for every crop, both at state and all-India average levels.
  1. **'A2'** covers all paid-out costs directly incurred by the farmer —in cash and kind — on seeds, fertilisers, pesticides, hired labour, leased-in land, fuel, irrigation, etc.
  2. **'A2+FL'** includes A2 plus an imputed value of unpaid family labour.
  3. **'C2'** is a more comprehensive cost that factors in rentals and interest forgone on owned land and fixed capital assets, on top of A2+FL.
- **CACP considers both A2+FL and C2 costs while recommending MSP**.

About Commission for Agricultural Costs & Prices (CACP)

- The CACP is an attached office of the **Ministry of Agriculture and Farmers Welfare**.
- The CACP **recommends the MSPs of the notified Kharif and Rabi crops to the Cabinet Committee on Economic Affairs (CCEA)**.
- It was formed in 1965.
- It is a **statutory body**.
- It also motivates cultivators and farmers to adopt the latest technology.
- Its **suggestions are not binding on the Government**.