

## Chapter 15

### Agriculture

#### Categorisation of Farmers (05-02-2019)

In agriculture Census, the operational holdings are categorised in five size classes as follows:-

Sl. No.	Category	Size-Class
1	Marginal	Below 1.00 hectare
2	Small	1.00-2.00 hectare
3	Semi- Medium	2.00-4.00 hectare
4	Medium	4.00-10.00 hectare
5	Large	10.00 hectare and above

Nearly 86% of farmers are small and marginal with average land holdings in the country being less than 1.1 hectare.

#### Multiple cropping

To grow more than one crop on a piece of land during the year is known as multiple cropping. It is the most common way of increasing production on a given piece of land.

#### Cropping Patterns

**Mixed cropping** is growing two or more crops simultaneously on the same piece of land. This reduces risk and gives some insurance against failure of one of the crops.

**Inter-cropping** is growing two or more crops simultaneously on the same field in a definite pattern. A few rows of one crop alternate with a few rows of a second crop. The crops are selected such that their nutrient requirements are different. This ensures maximum utilisation of the nutrients supplied, and also prevents pests and diseases from spreading to all the plants belonging to one crop in a field. This way, both crops can give better returns.

The growing of different crops on a piece of land in a pre-planned succession is known as **crop rotation**. If crop rotation is done properly then two or three crops can be grown in a year with good harvests.

Q.1 NDA 2020

Which one of the following terms describes the practice of growing two or more crops simultaneously on the same piece of land ?

(a) Crop rotation (b) Mixed cropping (c) Intercropping (d) Mixed farming

Q.2 CAPF 2020

Growing two or more crops in the same field but in different rows is called

(a) Crop rotation (b) Inter cropping (c) Alternate cropping (d) Kharif cropping

Q.3 CDS 2021

Growing of two or more crops simultaneously on the same field in a definite pattern is known as

(a) mixed cropping (b) inter cropping (c) mixed farming (d) hybrid farming

#### Cropping Seasons in India

There are three distinct crop seasons in the northern and interior parts of country, namely kharif, rabi and zaid.

The **kharif season (June-Sept)** largely coincides with Southwest Monsoon under which the cultivation of tropical crops, such as **rice**, cotton, jute, jowar, bajra, Maize and tur is possible.

The **rabi season (Oct-March)** begins with the onset of winter in October-November and ends in March-April. The low temperature conditions during this season facilitate the cultivation of temperate and subtropical crops such as **wheat**, gram, Barley, Rapeseeds and mustard.

**Zaid (April-June)** is a short duration summer cropping season beginning after harvesting of rabi crops. The cultivation of watermelons, cucumbers, **Fruits, vegetables** and fodder crops during this season is done on irrigated lands.

However, this type of distinction in the cropping season does not exist in southern parts of the country. Here, the temperature is high enough to grow tropical crops during any period in the year provided the soil moisture is available.

Therefore, in this region same crops can be grown thrice in an agricultural year provided there is sufficient soil moisture.

### Cropping Intensity

For a land scarce but labour abundant country like India, a high cropping intensity is desirable not only for fuller utilisation of land resource, but also for reducing unemployment in the rural economy.

The cropping intensity (CI) is percentage of Gross Cropped Area to Net Area Sown.

**Net Area Sown:** This represents the total area sown with crops and orchards. Area sown more than once in the same year is counted only once.

**Gross Cropped Area:** This represents the total area sown once and/or more than once in a particular year, i.e. the area is counted as many times as there are sowings in a year. This total area is also known as total cropped area or total area sown.

### e-NAM (National Agriculture Market)

Launched in	April 2016
About NAM	<p>National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.</p> <p>It seeks to leverage the physical infrastructure of the mandis through an online trading portal, enabling buyers situated even outside the Mandi/ State to participate in trading at the local level.</p> <p>Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing eNAM under the aegis of Ministry of Agriculture and Farmers' Welfare, Government of India.</p> <p>It offers a "plug-in" to any market yard existing in a State (whether regulated or private). The special software developed for e-NAM is available to each mandi which agrees to join the national network free of cost with necessary customization to conform to the regulations of each State Mandi Act.</p>
Whether APMC Mandis lose out business due to e-NAM	<p>Mandis do not lose any business. e-NAM basically increases the choice of the farmer when he brings his produce to the mandi for sale. Local traders can bid for the produce, as also traders on the electronic platform sitting in other State/ Mandi.</p> <p>The farmer may choose to accept either the local offer or the online offer. In either case the transaction will be on the books of the local mandi and they will continue to earn the market fee.</p>
Why e-NAM	<p>Agricultural marketing is regulated by the States' Agricultural Produce Marketing Regulation (APMR) Acts.</p> <p>State is divided into several market areas, each of which is administered by a separate Agricultural Produce Marketing Committee (APMC) which imposes its own marketing regulation (including fees). This fragmentation of markets, even within the State, hinders free flow of agri commodities from one market area to another and multiple handling of agri-produce and multiple levels of mandi charges ends up escalating the prices for the consumers without commensurate benefit to the farmer.</p> <p>e-NAM platform <b>facilitates</b> pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment.</p> <p>Farmers can access the information on e-NAM easily through their mobile phones from anywhere.</p>

Q.4 Prelims 2015

In India, markets in agricultural products are regulated under the

- a) Essential Commodities Act, 1955
- b) Agricultural Produce Market Committee Act enacted by States
- c) Agricultural Produce (Grading and Marking) Act, 1937
- d) Food Products Order, 1956 and Meat and Food Products Order, 1973

Q.5 Prelims 2017

What is/are the advantage/advantages of implementing the 'National Agriculture Market' scheme?

- 1. It is a pan-India electronic trading portal for agricultural commodities.
- 2. It provides the farmers access to nationwide market, with, prices commensurate with the quality of their produce.

Select the correct answer using the code given below :

- (a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

Q.6 ES-2018

Consider the following statements :

- 1. National Agricultural Portal, eNAM, is designed to create a unified national market for agricultural commodities.
- 2. Farmers can showcase their produce online from the nearest market and the buyer can quote his price from anywhere.

Which of the above statements is/are correct?

- (a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

**PM-KISAN Scheme**

PM Kisan is a Central Sector scheme with 100% funding from Government of India.

Scheme was launched by the Hon'ble Prime Minister on 24th February, 2019. It has become operational from 1.12.2018.

Under the scheme an income support of 6,000/- per year in three equal installments will be provided to **all land** holding farmer families.

Scheme aims to supplement the financial needs of the farmers for procuring various inputs related to agriculture and allied activities as well as domestic needs.

State Government and UT administration will identify the farmer families which are eligible for support as per scheme guidelines.

The fund will be directly transferred to the bank accounts of the beneficiaries.

**Kisan Credit Card (KCC)**

Launched in	1998
Purpose	<p>Kisan Credit Card scheme aims at providing adequate and timely credit support from the banking system under a single window with flexible and simplified procedure to the farmers for their cultivation and other needs as indicated below:</p> <ul style="list-style-type: none"> <li>1. To meet the short term credit requirements for cultivation of crops;</li> <li>2. Post-harvest expenses;</li> <li>3. Produce marketing loan;</li> <li>4. Consumption requirements of farmer household;</li> <li>5. Working capital for maintenance of farm assets and activities allied to agriculture;</li> <li>6. Investment credit requirement for agriculture and allied activities.</li> </ul> <p>Note: The aggregate of components '1' to '5' above will form the short term credit limit portion and the aggregate of components under '6' will form the long term credit limit portion.</p>
Smart card	<p>Farmers will be issued Smart card cum Debit card.</p> <p>The credit limit/ loan amount under KCC is fixed by Banks as per guidelines issued by RBI.</p>
Implementation	Kisan Credit Card Scheme is implemented by Commercial Banks, RRBs, Small Finance Banks and Cooperatives.
Extension of KCC (04-02-2019)	RBI <b>extended Kisan Credit Card (KCC) Scheme</b> to farmers engaged in Animal Husbandry and Fisheries for their working capital requirements.

Q.7 Prelims 2020

Under the Kisan Credit Card scheme, short-term credit support is given to farmers for which of the following purposes ?

1. Working capital for maintenance of farm assets
2. Purchase of combine harvesters, tractors and mini trucks
3. Consumption requirements of farm households
4. Post-harvest expenses
5. Construction of family house and setting up of village cold storage facility

Select the correct answer using the code given below:

- (a) 1, 2 and 5 only (b) 1, 3 and 4 only (c) 2, 3, 4 and 5 only (d) 1, 2, 3, 4 and 5

**Soil Health Card Scheme**

Launched in	2015
About SHC	The Soil Health Cards provide information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility. A farm will get the soil card once in a cycle of 3 years.
Implementation	State Governments to issue Soil Health Cards to all farmers in the country. This scheme is being implemented in collaboration with State Governments

Q.8 Prelims 2017

Consider the following statements:

The nation-wide 'Soil Health Card Scheme' aims at

1. expanding the cultivable area under irrigation.
2. enabling the banks to assess the quantum of loans to be granted to farmers on the basis of soil quality.
3. checking the overuse of fertilizers in farmlands.

Which of the above statements is/are correct?

- (a) 1 and 2 only (b) 3 only (c) 2 and 3 only (d) 1, 2 and 3

**Minimum support price**

What is MSP	<p>MSP is a form of market intervention by the Government to insure agricultural producers against any sharp fall in farm prices.</p> <p>Government announces MSPs for 22 mandated crops and fair and remunerative price (FRP) for sugarcane on the basis of <b>recommendations of the Commission for Agricultural Costs and Prices (CACP)</b>, after considering the views of State Governments and Central Ministries/Departments concerned and other relevant factors.</p> <p>In addition to the MSP announced by the Central Government, <b>State Governments also declare a bonus</b>, over and above the already declared MSP so as to promote agriculture practices in their respective States.</p>
Why MSP ?	<p>The prices of agricultural commodities are <b>inherently unstable</b>, primarily due to the variation in their supply, lack of market integration and information asymmetry.</p> <p>A very <b>good harvest</b> in any year results in a <b>sharp fall in the price</b> of that commodity during that year which in turn has an adverse impact on the future supply as farmers withdraw from sowing that crop in the next / following years. This then causes paucity of supply next year and the subsequent major price increase for consumers.</p> <p>MSP <b>seeks to ensure</b> remunerative prices to the growers for their produce with a view to encourage higher investment and production and to safeguard the interest of consumers by making available supplies at reasonable prices</p> <p>Government <b>increases MSP to ensure</b> remunerative prices to the growers for their produce and to encourage crop diversification.</p> <p>In the recent years, Government has been <b>promoting</b> the cultivation of crops, other than cereals such as pulses, oilseeds, and Nutri-cereals/ Shree Anna, by offering a higher MSP for these</p>

	crops to encourage farmers to shift larger area under these crops and adopt best technologies and farm practices, to correct demand – supply imbalance.
When MSP announced	The MSPs are announced at the beginning of the each sowing season (e.g. Kharif and Rabi seasons) so that the farmers may take a considered view whether the said particular crop will be a profitable venture for them or not. Government in its <b>Union Budget for 2018-19</b> had announced the fixing of MSP at a level of at least 1.5 times of the All-India weighted average Cost of Production, aiming at reasonably fair remuneration for the farmers.
Approval of MSP	By Cabinet Committee on Economic Affairs
About CACP	CACP is an attached office of the Ministry of Agriculture and Farmers Welfare, Government of India. It came into existence in January 1965.
Determinants of MSP	While recommending price policy of various commodities under its mandate, the CACP keeps in mind <ol style="list-style-type: none"> <li>1. demand and supply,</li> <li>2. cost of production,</li> <li>3. price trends in the market, both domestic and international,</li> <li>4. inter-crop price parity,</li> <li>5. terms of trade between agricultural and non-agricultural sectors,</li> <li>6. a <b>minimum of 50 percent</b> as the margin over cost of production; and</li> <li>7. likely implications of MSP on consumers of that product.</li> </ol> <p>It may be noted that cost of production is an important factor that goes as an input in determination of MSP, but it is certainly not the only factor that determines MSP.</p> <p>Since the <b>cost of production varies in different States</b> on account of differences in levels of irrigation, resource endowment, farm mechanization, land holding size etc., <b>CACP uses all-India weighted average cost of production</b> while making its recommendations and recommends uniform MSP which is applicable to all states.</p> <p>The <b>costs considered are comprehensive and include</b> all paid out costs such as those incurred on account of hired human labour, bullock labour/machine labour, rent paid for leased in land, expenses incurred in cash and kind on use of material inputs like seeds, fertilizers, manures, irrigation charges, depreciation on implements and farm buildings, interest on working capital, diesel/electricity for operation of pump sets etc, miscellaneous expenses and imputed value of family labour.</p>
22 Mandated crops	The mandated crops are <b>14 crops of the kharif season</b> viz. paddy, jowar, bajra, maize, ragi, arhar, moong, urad, groundnut-in-shell, soyabean, sunflower, sesamum, nigerseed and cotton; <b>6 rabi crops</b> viz. wheat, barley, gram, masur(lentil), rapeseed/mustard and safflower and <b>2 other commercial crops</b> viz. jute and copra.

Q.9 Prelims 1995

Which of the following are the objectives of the Commission for Agricultural Costs and Prices (CACP) ?

- I. To stabilise agricultural prices.
- II. To ensure meaningful real income levels to the farmers.
- III. To protect the interest of the consumers by providing essential agricultural commodities at reasonable rates through public distribution system.
- IV. To ensure maximum price for the farmer.

Select the correct answer from the codes given below:

Codes:

- (a) I, II and III (b) I, II and IV (c) I, III and IV (d) II, III and IV

Q.10 Prelims 2001

The prices at which the Government purchases food grains for maintaining the public distribution system and for building up buffer stocks is known as

- (a) minimum support prices (b) procurement prices (c) issue prices (d) ceiling prices

Q.11 Prelims 2015

The Fair and Remunerative Price of Sugarcane is approved by the

- a) Cabinet Committee on Economic Affairs b) Commission for Agricultural Costs and Prices  
c) Directorate of Marketing and Inspection, Ministry of Agriculture d) Agricultural Produce Marketing Committee

Q.12 Prelims 2018

Consider the following:

1. Areca nut
2. Barley
3. Coffee
4. Finger millet
5. Groundnut
6. Sesamum
7. Turmeric

The Cabinet Committee on Economic Affairs has announced the Minimum Support Price for which of the above?

- (a) 1, 2, 3 and 7 only (b) 2, 4, 5 and 6 only (c) 1, 3, 4, 5 and 6 only (d) 1, 2, 3, 4, 5, 6 and 7

Q.13 CDS 2019

Which one of the following factors is not considered in determining the Minimum Support Price (MSP) in India?

- (a) Cost of production (b) Price trends in international and domestic markets (c) Cost of living index (d) Inter-crop price parity

Q.14 Prelims 2020

Consider the following statements:

1. In the case of all cereals, pulses and oil-seeds, the procurement at Minimum Support Prices (MSP) is unlimited in any State/UT of India.

2. In the case of cereals and pulses, the MSP is fixed in any State/UT at a level to which the market price will never rise.

Which of the statements given above is/are correct ?

- (a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

Q.15 CAPF 2020

Fixation of price levels for wheat and rice by the Commission for Agriculture Costs and Prices (CACPC) is an example of ?

- (a) Administered Price (b) Market Price (c) Control Price (d) Support Price

Q.16 CAPF 2021

The price declared by the Government every year before the sowing season to provide incentives to the farmers is called

- (a) buffer price (b) issue price (c) minimum support price (d) fair sustenance price

Q.17 Prelims 2023

Consider the following statements:

1. The Government of India provides Minimum Support Price for niger (*Guizotia abyssinica*) seeds.
2. Niger is cultivated as a Kharif crop.
3. Some tribal people in India use niger seed oil for cooking.

How many of the above statements are correct?

- (a) Only one (b) Only two (c) All three (d) None

## Procurement of Food grains

The Central Government extends price support to **paddy and wheat** through the FCI and State Agencies across the country. The procurement policy is **open ended**. Under this policy, **whatever wheat and paddy are offered by farmers**, within the stipulated period & conforming to the specifications prescribed by Government of India, are purchased at Minimum Support Price (MSP) by the State Government agencies including Food Corporation of India (FCI) for Central Pool. Some States also declare State bonus on wheat and paddy over and above MSP.

However, if producer/farmer gets better price in comparison to MSP, they are free to sell their produce in open market i.e. to private trader/ anyone.

The **objective of foodgrains** procurement by Government agencies is to ensure that farmers get remunerative prices for their produce and do not have to resort to distress sale. It aims to service the NFSA and other welfare schemes of the Government so that subsidised foodgrains are supplied to the poor and needy, and to build up buffer stocks of foodgrains to ensure foodgrain security.

Further, subject to the prior approval of Government of India, the different types of **coarsegrains** are procured by State Governments itself in consultation with FCI to the extent that the concerned State Govt. may utilise the same for distribution under National Food Security Act (NFSA) as well as Other Welfare Schemes (OWS).

On directions of Govt. of India, FCI sells food grains stock in excess of buffer and strategic reserve norms through Open Market Sale Scheme (Domestic) at pre-determined prices from time to time through e-auction.

Procurement of foodgrains is done through Centralized Procurement System and Decentralized Procurement System.

### Centralized Procurement System

Under Centralized Procurement System, the procurement of foodgrains in Central Pool are undertaken either by FCI directly or State Government agencies procures the foodgrains and handover the stocks to FCI for storage and

subsequent issue against GOI allocations in the same State or movement of surplus stocks to other States. The cost of the foodgrains procured by State agencies is reimbursed by FCI as soon as the stocks are delivered to FCI.

### **Decentralized Procurement System (DCP)**

The scheme of Decentralized Procurement of foodgrains was introduced by the Government in 1997-98 with a view to enhancing the efficiency of procurement and PDS and encouraging local procurement to the maximum extent thereby extending the benefits of MSP to local farmers as well as to save on transit costs. This also enables procurement of foodgrains more suited to the local taste.

Under this scheme, the **State Government itself undertakes direct purchase** of paddy/rice and wheat and also stores and distributes these foodgrains under NFSA and other welfare schemes. The Central Government undertakes to meet the entire expenditure incurred by the State Governments on the procurement operations as per the approved costing.

The excess stocks procured by the State /its agencies are handed over to FCI in Central Pool. The cost of excess stocks handed over to FCI is reimbursed by FCI to the State Government/agencies as per Government of India costs sheet.

### **Food subsidy**

Food subsidy has three elements. **Consumer subsidy** i.e. the difference between Economic cost and Central Issue Price (CIP) under different schemes of GoI multiplied by quantity of foodgrains issued under different schemes.

Second part is Buffer Carrying Cost i.e. a part of the operation cost apportioned to buffer stock based on excess stock held over and above operation stock (four months sale).

Third part includes subsidy on coarse grains, regularization of operation losses of Food Corporation of India and other non-plan allocation to State Govts.

### **Economic Cost**

Economic Cost is the total cost to FCI. It consists of Acquisition Cost and Distribution Cost. Acquisition cost consists of Minimum Support Price (MSP) plus procurement incidental cost. Procurement incidentals are expenses incurred during procurement till the foodgrains reach the first point of godown. The elements are state taxes, commission to arathias or societies, bagging materials, mandi labour, transportation from mandi to depot etc.

Distribution cost becomes the part of the Economic cost whereas the Buffer carrying cost becomes the part of Buffer subsidy.

### **Buffer Subsidy**

The Food Corporation of India has to maintain a part of stocks of procured food grains in the form of buffer as a measure of food security to guard against situations of scarcity of food grains and also to enable the Government to intervene effectively and positively to stabilize prices in time of undue increase in the market. Carrying charges for buffer, comprising elements like freight, storage and interest charges, are also reimbursed to the FCI in the form of carrying cost of buffer, as an element of total food subsidy.

Q.18 Prelims 2019

The economic cost of food grains to the Food Corporation of India is Minimum Support Price and bonus (if any) paid to the farmers plus (a) Transportation cost only (b) Interest cost only (c) Procurement incidentals and distribution costs (d) Procurement incidentals and charges for godowns

### **Crop Diversification Programme**

Department of Agriculture & Farmers Welfare is implementing the Crop Diversification Programme (CDP), a sub-scheme of Rashtriya Krishi Vikas Yojana (RKVY) in the **Original Green Revolution States** viz; Haryana, Punjab & Western Uttar Pradesh since 2013-14 **to divert the area of water intensive paddy crop** to less water consuming alternative crops like pulses, oilseeds, coarse cereals, nutri cereals, cotton etc. to save water and protect soil.

CDP was extended to diversifying tobacco crop in 10 tobacco growing states of Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal from 2015-16 to encourage farmers to shift to alternative crops.

### **Market Intervention Scheme (MIS)**

Market Intervention Scheme (MIS) is an ad-hoc scheme under which are included horticultural commodities and other agricultural commodities which are perishable in nature and which are not covered under the minimum price support scheme.

In order to protect the growers of these horticultural/agricultural commodities from making distress sale in the event of bumper crop during the peak arrival period when prices fall to very low level, Government implements M.I.S. for a particular commodity on the request of a State Government concerned.

Losses suffered are shared on 50:50 basis between Central Government and the State (25% in case of North-Eastern States).

Under the scheme, a pre-determined quantity at the fixed Market Intervention Price (MIP) is procured by the agencies designated by the State Government for a fixed period or till the prices are stabilized above the MIP whichever is earlier. Central Share of losses incurred in implementing MIS is released to the State procuring agencies.

**Orphan crops**

Orphan crops, also known in agricultural literature as neglected and underutilized (NUS) crops.

In India, millets were traditionally consumed, but due to the push given to food security through Green Revolution in the 1960s, millets were rendered as ‘orphan crops’ – less consumed and almost forgotten.

Before the Green Revolution, millets made up around 40% of all cultivated grains, which has dropped to around 20% over the years. Not only has the consumption of millets declined, but the area under production has been replaced with commercial crops, oilseeds, pulses and maize.

**Answers of MCQs**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
b	b	b	b	c	c	b	b	a	a	a	b	c	d	d	c	c	c