Indian Agriculture

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Highlights

- Share of Agriculture in GDPFC in2013-14 @2004-05 prices -13.9%.
- Share of Agriculture in GVA @basic prices in 2021-22 (2011-12 Series)- 15.1%.
- Employment (2022) – 43% of total workers.
- Share in exports (2021-22) 11.9%.
- Agricultural Growth Rate (2022-23)- 4.0%.
- Total foodgrain production – 330.5 Mn. Tones.
- Total foodgrain productivity (Kgs. Per Hector) – 2500.
- Total Agricultural Credit- Target for 2023-24- Rs. 20,00,000 Crore.
- Food Subsidy- Rs. 2,12,332 crore.
- Fertilizer subsidy- Rs. 2,25,200 crore.

Introduction

- Agriculture remains the most important sector of Indian economy, in pre and post independence periods.
- Agriculture has always been the backbone of the Indian economy and despite concerted industrialization in the last six decades, agriculture still occupies a place of pride.
- The significance of agriculture in national economy can be best explained by considering the role of agriculture in Indian economy.

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Key Features of Indian Agriculture

- Low production and productivity.
- Dependence on monsoon.
- Subdivision & fragmentation of land.(ઉપવિભાજન અને ખંડ વિભાજન)
- Large scale poverty & rural indebtness.
- Traditional techniques of production.
- Unemployment & underemployment.
- Regional disparities.
- Crop failure.

Role of Agriculture in Indian Economy

1. Share of agriculture in National Income:

Year	Share of Agriculture in GDP
1950-51	53.1 %
2013-14	13.9 %
2019-20	17.8 %

As compared to other developed nations this percentage is still high. For instance, in UK , USA & Japan the share is merely 2 percent per annum.

- 2. Largest Employment providing sector: India's workforce is estimated to be nearly 56.5 Crore, of which more than 45 per cent are employed in agriculture(Economic Survey,2023-24)

Year	Engaged working Population
1950-51	72.1 %
1993-94	64.8 %
2011-12	48.9 %
2019-20	43.21%

Role of Agriculture in Indian Economy

3. Provision of food surplus to the expanding population:

As population rises the demand for food also increases. Agriculture is the sector which fulfills the need of growing population in India.

4. Contribution to Capital Formation:

Since agriculture happens to be the largest industry in India it can play an important role in pushing up the rate of capital formulation. The following policies are advocated to extract surplus from agriculture-

a. Transfer of labour & capital from farm to non-farm sector,
b. Taxation of agriculture, and
c. Turning the terms of trade against agricultural products.

Ultimately , generation of surplus in agriculture depend on increasing the agricultural productivity.

Role of Agriculture in Indian Economy

5. Providing Raw material to industries:

Particularly to Sugar industry, Jute industry, cotton industry, edible oil industry & other entire range of food processing industry etc.

6. Market for industrial product:

Since more than 2/3rd of population in India lives in rural areas, increased rural purchasing power is valuable stimulus to industrial development. In other words, the development of rural areas leads to the development of manufacturing industry like cloths, tea, soaps, detergents etc.

7. Role in Poverty Reduction:

Agriculture presently contributes 15 % of India's GDP yet it continues to employ more than the half of the workforce. The experience of BRIC indicates that a 1% growth in agriculture is at least 2-3 times more effective in reducing poverty than the same growth emanating from non-agricultural sector.

8. Share in Exports:

Year	Share of Agricultural Exports in Total exports
1960-61	44.2%
2019-20	11.2%

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Nature of India's Agriculture

- India's agriculture was backward and qualitatively traditional in nature at the time of independence. However, it is not sufficient to call Indian agriculture backward, traditional & stagnant & leave the discussion here. We must examine the causes for this state of affair. Lets examine some causes in detail-

1. Feudal relations in production : જમીન મેહેસુલ ઉધરાવવા ની પ્રથા

   At the time of independence 3 types of land tenure system (જમીન માલિકી ની પ્રથા) were existing- *Zamindari, Mahalawari & Ryotwari*. Approx 57 % of area of the country was under the *Zamindari* system, 38 % was under *Ryotwari* and 5% was restricted to *Mahalawari* system. These system was a major obstacle to the agricultural development.

Nature of India's Agriculture

2. Usurious capital and rural indebtness:

During the pre-independence period, money lenders and *Mahjans* ruled the roost as there was no other credit agency worth the name. In 1951, as much as 71.6 % of rural credit was taken from non-institutional sources of agricultural credit. Taking advantage of their position, they exploit farmers in number of ways. It is rightly said once in debt always in debt.

3. Labour market Dualism:

Because of excessive pressure of population on land (high land-labour ratio), wages in the agricultural sector remained to be considerably lower as compared to the modern industrial sector , which leads to labour market dualism.

Nature of India's Agriculture

4. Outmoded farming techniques:

The traditional Indian agriculture depends on the biological sources of energy, rains & dung manure. Till 1966 Indian farmers uses obsolete kind of techniques of production. It is only after the advent of green revolution modern techniques of production were initiated particularly in Punjab, Haryana & Western Uttar Pradesh. At present we have technological dualism in Indian agriculture.

5. Fluctuations & Instability in crop output:

From The following table we reveals that approx 53% of GCA continues to depend on rainfall, which means nature play a major role in determine the level of agricultural production.

Year	Gross Cropped Area(GCA) [In Mn. Hectares]	Gross Irrigated Area(GIA) [In Mn. Hectares]	Percent of GCA to GIA
1950-51	131.89	22.56	17.1
2011-12	195.25	91.53	46.9

Nature of India's Agriculture

6. Diversities in agricultural sector & problem of generalization:

India is geographically very vast nation. Different regions exhibit entirely different characteristics so that no one plan can be conceived for all agricultural regions of the country. The nature of soil, magnitude of rainfall, availability of water etc. differs region to region. There is substantially regional inequalities also in regard to subdivision & fragmentation of holding. In such situation we can not make one agriculture policy.

Major Crops of Indian Agriculture

- The agricultural crop year in India is from *July to June*. The Indian cropping season is classified into two main seasons- (i) kharif and (ii) rabi based on the monsoon.

- The kharif cropping season is from *July to October* during the South-West/Summer Monsoon and the rabi cropping season is from *October to March* (North-East/Returning/Winter Monsoon).

- The crops grown between March and June are summer crops, known as *jayads*.

- The kharif crops include rice, maize, sorghum, pearl millet/bajra, finger millet/ragi (cereals), arhar (pulses), soyabean, groundnut (oilseeds), cotton, etc. The rabi crops include wheat, barley, oats (cereals), chickpea/gram (pulses), linseed, mustard (oilseeds) etc.

Cropping Pattern in India (ભારત માં પાક ની તરેહ)

- By crop pattern, we mean the proportion of area under different crops at a point of time, changes in this distribution over a period of time, and factors determining this change in distribution.

- Cropping pattern in India is determined mainly by natural factors like rainfall, climate and soil conditions. However, technological factors have also played an important part. For instance, consequent up to the adoption of the new seed –fertilizer technology (generally know as the High Yielding Varieties Programme)

Phases of Cropping Pattern in India

Phase	Description
Pre-Green Revolution Period	In this phase Indian farmers are growing such products which is primarily decided by the socio-cultural & economic factors. This is the period of subsistence farming with high dependency of population for livelihood on it.
Green Revolution Period	Under the New Agricultural Strategy (NAS) more popular as green revolution (since1965) there is a significant shift in cropping pattern. The main forces of changes were economic, infrastructural & technological. High yielding seeds, financial support of chemical & other inputs & fixation of MSP gave boost to the farmer to grow the crops of their choice.
Post- Green Revolution Period (Reform Period)	Another wave of changes in cropping pattern is found to be seen in 1991. In this period the following opportunities & challenges were seen in agriculture sector-issue of food security, new opportunities for farmers for their exports after globalisation, ecological sustainable farming is need for the hour, GoI proposes the Second Green Revolution in2002.

Cropping Pattern in India

- Significant facts about the cropping pattern in India are summarized below-
- 1. Food crops including cereals, millets, pulses ,vegetables & fruits cover mere 3/4th of total cropped area. Of the total area under food grains a large proportion is occupied by cereals.

Year	Total Area (Million Hectares)	Share of food grain	
		Share of cereals	Share of Pulses
1950-51	97.3	78.2 (80.4%)	19.1(19.6%)
2020-21	129.3	100.5 (78%)	22.0(17.01%)

Crops	1950-51	1970-71	2006-07
Food grains (અનાજ)	75	74	64
Non-food grains (બિન અનાજ)	25	26	36
All Crops	100	100	100

Cropping Pattern in India

Crops	1950-51		2020-21	
	Area covered [In Mn. hectares]	Percent of total area	Area covered [In Mn. hectares]	Percent of total area
Food Crops (ખાદ્ય પાક)				
Rice	30.8	31.6	45.1	34.9
Wheat	9.8	10.0	31.5	24.4
Cereals	-	28.6	-	16.8
Commercial crops (વેપારી પાક)				
Sugarcane	1.7	-	4.9	-
Cotton	5.9	-	13.0	-
Jute & Mesta	0.6	-	0.7	-

Source: Mishra, Puri & Garg. (2022). Indian Economy, H.P.H., Mumbai

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Cropping Pattern in India

- Main Conclusions:

1. Area under wheat has increased both in absolute & relative terms particularly in Punjab, Haryana, U.P. & Bihar.

2. Rice is grown on more than 1/3rd of the total area under food grains.

3. Area under coarse Cereals like Jowar, Bajara, Maize etc. gains & pulses has considerably shrunk.

4. The area under oilseeds expanded significantly.

Factors Affecting Crop-Pattern

Determinants

Natural Factors (Nature of Soil, Type of climate, extent of rainfall etc.)	Economic Factors (Prices of agricultural goods, income of farmers, size of holdings, availability of inputs, etc.)	Historical Factors (Ownership of land, inherent Indebtness)	Social Factors (Social environment, customs, traditions, outlook towards material things etc.)	Government Policy (Policies related to different crops, exports, taxes, subsidies, credit availability etc.)

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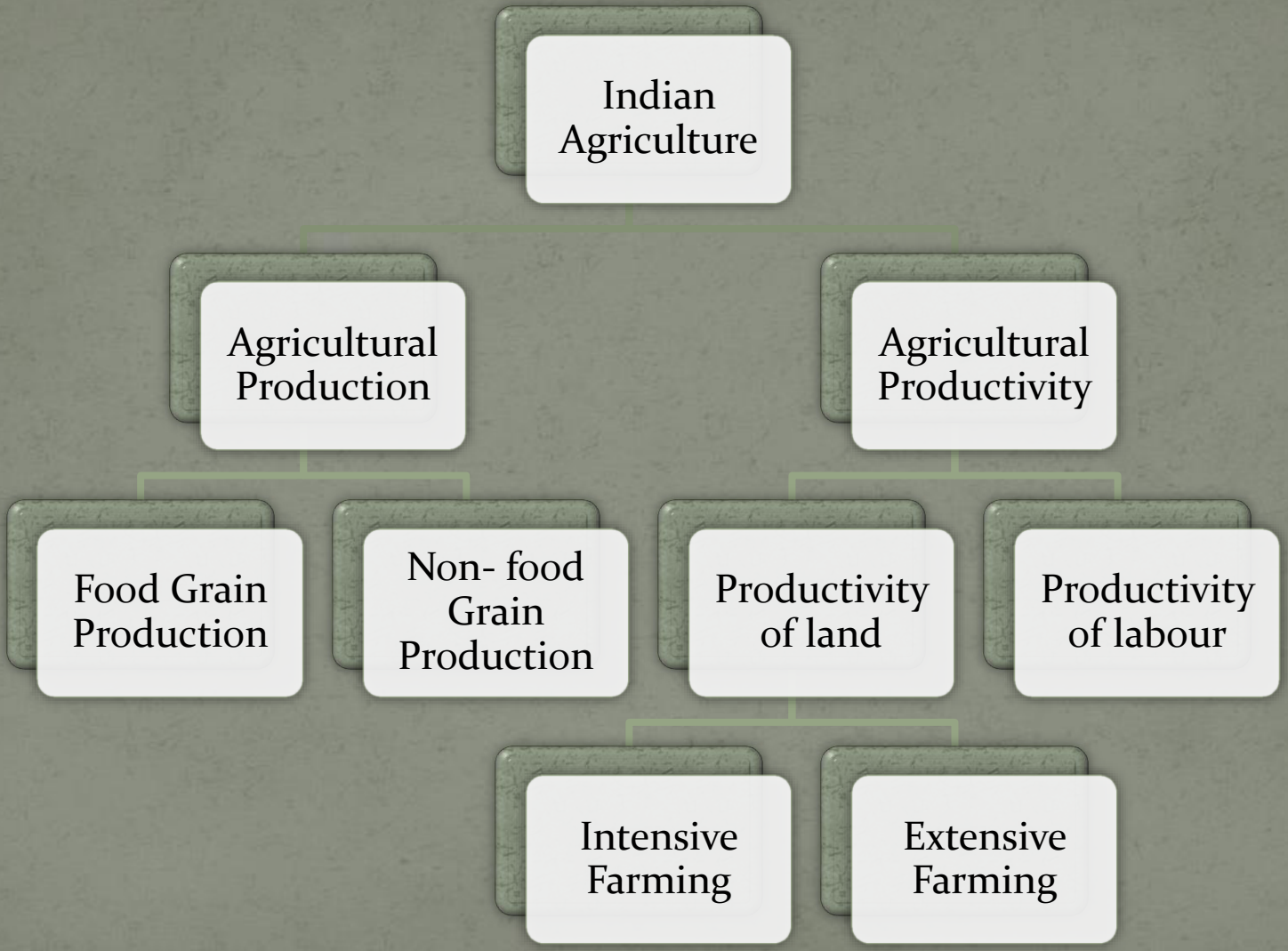
Agricultural Production & Productivity

- Agricultural production has two components viz., food grains and non-food grains.
- Food grains production touched the record level of 308.6 Million tons in 2020-21. The highest level ever recorded in the country.

Trends in Agricultural Production (1950-51 to 2021-22)

Q	1950-51	1960-61	1970-71	1980-81	1990-91	2020-21	2021-22	2022-23
Total Food grains (In Mn. Tonnes)	50.8	82.0	108	132	176.0	310.7	315.7	330.5
Yield Per Hectare (In Kgs. Per Hectare)	552	710	N.A.	1023	1380	2394	2419	2500

Trends in Agriculture



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Yield Per Hectare of Major Crops In India

Crop	1950-51	1960-61	1980-81	1990-91	2000-01	2020-21	2021-22	2022-23
Rice	668	1013	1336	1740	1901	2717	2809	2844
Wheat	655	851	1630	2281	2708	3521	3507	3543
Jowar	353	533	660	814	764	1009	1110	NA
Bajra	288	286	458	658	688	1420	1436	NA
Maize	547	926	1159	1518	1822	3199	3349	NA
Pulses	441	539	473	578	544	885	892	944
Total Foodgrain	552	710	1023	1380	1626	2394	2419	2500
Oilseeds	481	507	532	771	810	1247	1292	1362
Cotton	88	125	152	225	190	451	445	NA
Jute	1043	1049	1245	1833	2026	2591	2774	NA

Source: G.o.I., Economic Survey(1980-81;2022-23)

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Productivity of Land in Few Countries (2018/2020) (Kgs. Per Hectare)

Rice (2020)*	Wheat (2020)*	Maize (2020)*	Groundnuts (2012)	Sugarcane (2020)*
India (4138)*	India (3440)*	India (3006)*	India (984)	India (80497)*
China (7047)*	China (5942)*	China (6318)*	China (3572)	China (79888)*
Japan (7161)*	U.K. (6657)	U.S.A. (10761)*	U.S.A. (4699)	Peru (1,27,812)
USA (8349)	France (6680)*	France (9085)	Japan (2409)	Egypt (1,15,329)
Egypt (9530)	Egypt (6582)	Philippines (2856)	Brazil (7344)	Brazil (75604)
World (4717)*	World (3474)*	World (5815)*	World (1646)	World (70483)*

Source : GoI, Agricultural Statistics at a Glance, 2023, New Delhi., Table6.1, pp.382-3

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Causes of Low Productivity

- The causes of low agricultural productivity in India can be categorized in three broad heads-

General Causes

1.Social Environment

2.Pressure of population on land.

3.Land degradation.

Institutional causes

1. Land tenure system.

2.Lack of credit and marketing facilities.

3.Uneconomic holding.

Technical Causes

1.Outmoded agricultural techniques.

2.Inadequate irrigation facilities.

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Measures to Increase Production & Productivity

1. Implementation of land reforms.
2. Integrated management of land & water resources.
3. Improved seeds.
4. Better quality fertilizers.
5. Irrigation.
6. Consumption of power/ rural electrification.
7. Cropping intensity.
8. Technological advancement.
9. Plant protection.
10. Provision of credit & marketing facilities.
11. Incentives to producers/ farmers.
12. Better management.
13. Agricultural research.

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Land Reforms
(જમીન સુધારણા)

- Changes in the agrarian structure can be occurred in either of two ways, (i) as a result of the spontaneous operation of socio-economic process, & (ii) as a result of direct intervention in the agrarian structure.

- *Changes brought about in the agrarian structure through direct intervention are characterized as* ***land reforms.***

System of land Tenure In Pre-Independent India

Land Tenure System	Objective	Area under System
Zamindari System	Collection of rent from farmers for the Company- Introduced by East India Company in 1793 by Lord Cornwallis	West Bengal, Bihar, Uttar Pradesh , Orissa , Andhra Pradesh & Madhya Pradesh
Mahalwari System	Introduced by William Bentinck. The basic purpose is to collect land revenue from farmers & depositing in the treasury of village headman (or co-share holder).	Agra, Oudh, Madhya Pradesh, Punjab.
Ryotwari System	To pay land revenue to the Government by cultivators & no intermediaries between Govt. & Cultivators.	Tamil Nadu, Maharashtra, Barar, East Punjab, Assam & Coorg.

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Objective of Land Reforms

- To remove the impediments to increase in agriculture production as arise from the agrarian structure inherited from past.
- To eliminate all forms of exploitations and social injustice within the agrarian system.
- To provide security to the tiller of soil and assure equality of status and opportunity to all sections of the rural population.

Scope of Land Reforms

1. Abolition of intermediaries.

2. Tenancy Reforms – regulation of rent, security of tenure for tenants & conferment of ownership right.

3. Ceiling & floors on land holding.

4. Agrarian reorganization including consolidation of holding and prevention of sub-division & fragmentation of land.

5.Organisation of Cooperative farms.

Reason for failure of land reforms

- Snags in Legislation-

1. Definition of personal cultivation – not satisfactory.
2. Limits for retention of land for personal cultivation.
3. Transfer of land to the family members.
4. Problem of voluntary surrenders.
5. Inadequacy in ceiling laws.

- Lack of Political Will.

- Apathy of Bureaucracy.

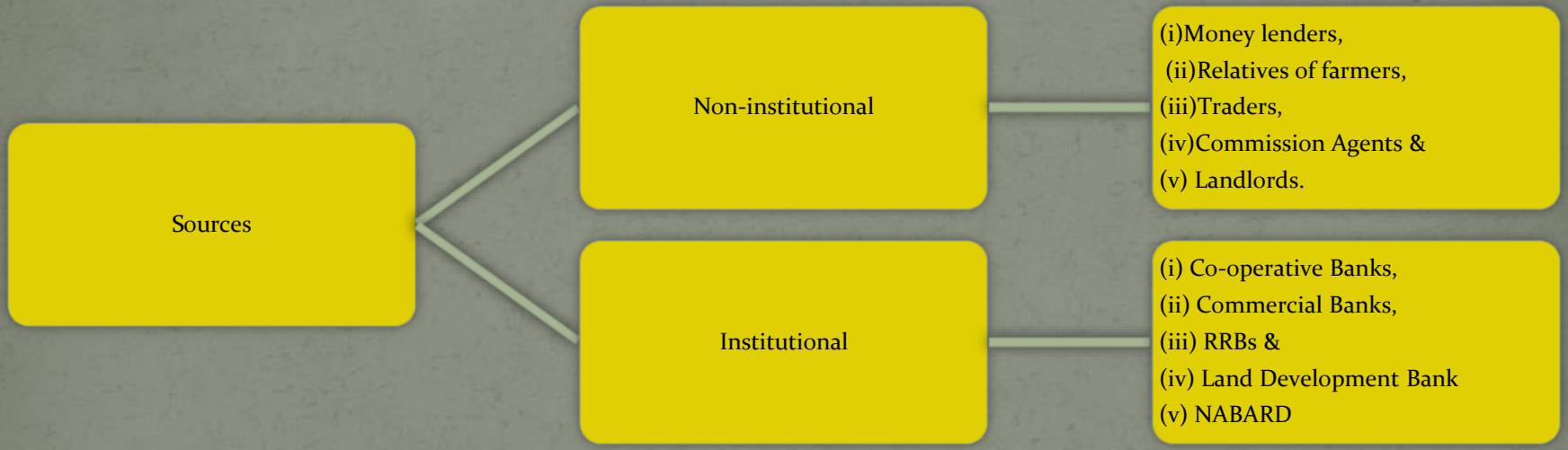
Agricultural Finance

- Agriculture in India is an unorganised profession. Its success & failure depends, to a large extent, on climatic factors. Indian agriculture largely rely on monsoon.

- Moreover, agriculture finance is also one important factor affecting the development of agriculture.

- Finance is to be considered as a life blood for any sectoral development.

Sources of Agricultural Finance



At the time of independence, the most important source of agriculture credit was money lenders. In 1951, money lenders accounted for as much as 71.6 % of rural credit. However, in 2002 this percentage dropped down to 30%. This shows money lenders still provide a large portion of the total credit that farmers receive.

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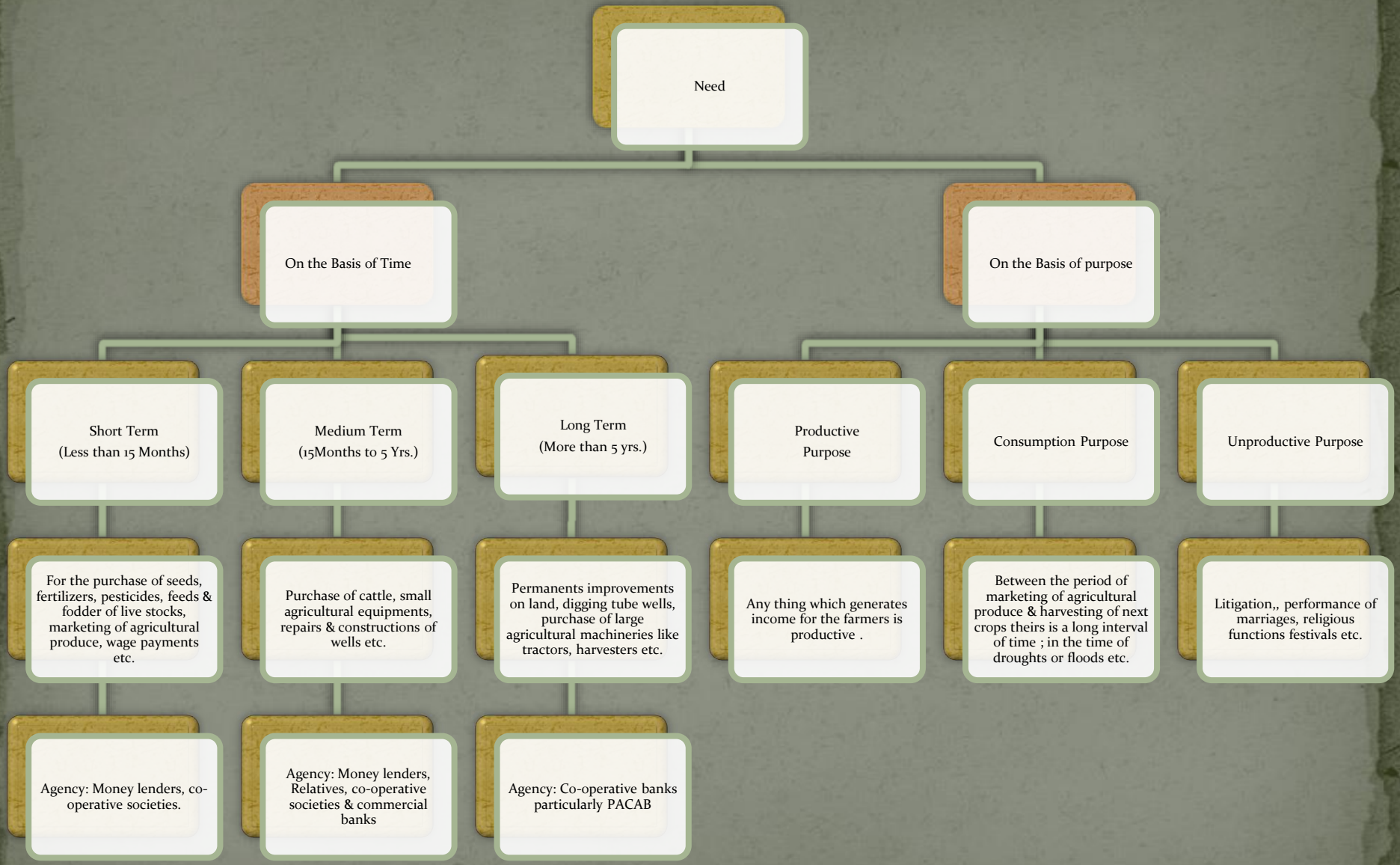
Need for Agricultural Finance



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Institutional Credit to Agriculture

Year	Co-operatives (In Percent)	Regional Rural Banks (In Percent)	Commercial Banks (In Percent)	Total Credit (In Rs.Crs.)
1970-71	100	NA	NA	744
1980-81	61.6	NA	38.4	3292
1990-91	49.0	3.4	47.6	9830
2000-01	39.4	8.0	52.6	52827
2010-11	16.5	9.5	73.8	4,68,291
2019-20	10.9	11.9	77.2	13,73,766
2020-21	12.1	12.1	75.8	15,75,398
2021-22	12.7	11.8	75.5	17,09893

Source: 1. RBI, Annual Report,2020-21, Mumbai,2021 Table: IV.2 p. 119
2. Rakesh Mohan, *Agriculture Credit in India*, EPW,March,18,2006T-1,p.1016

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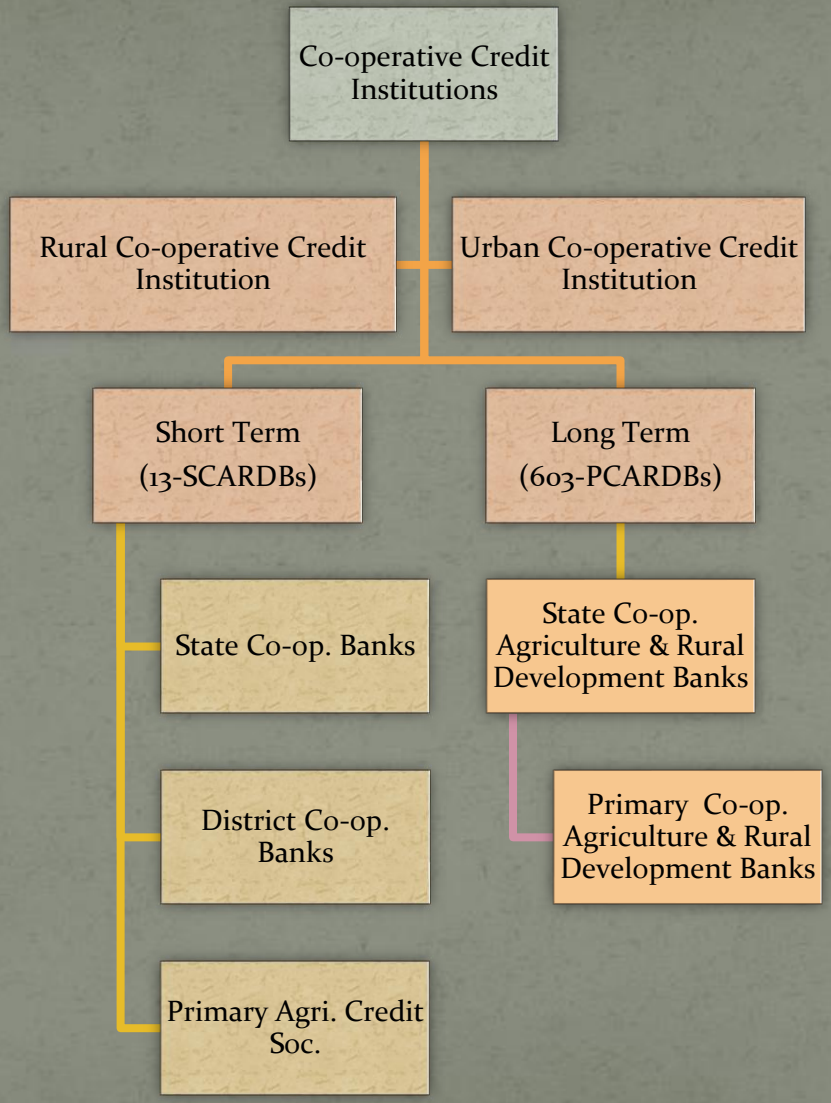
Institutional Sources of Agriculture Finance –

Co-operative Credit Institution

- The history of Cooperative credit is very old in India. In fact, the cooperative movement was initiated in 1904 through establishment of Cooperative Credit Societies. These societies were organized to relieve the indebtness of rural people & promote thrift.

Structure of Co-operative Credit Societies/ Bank



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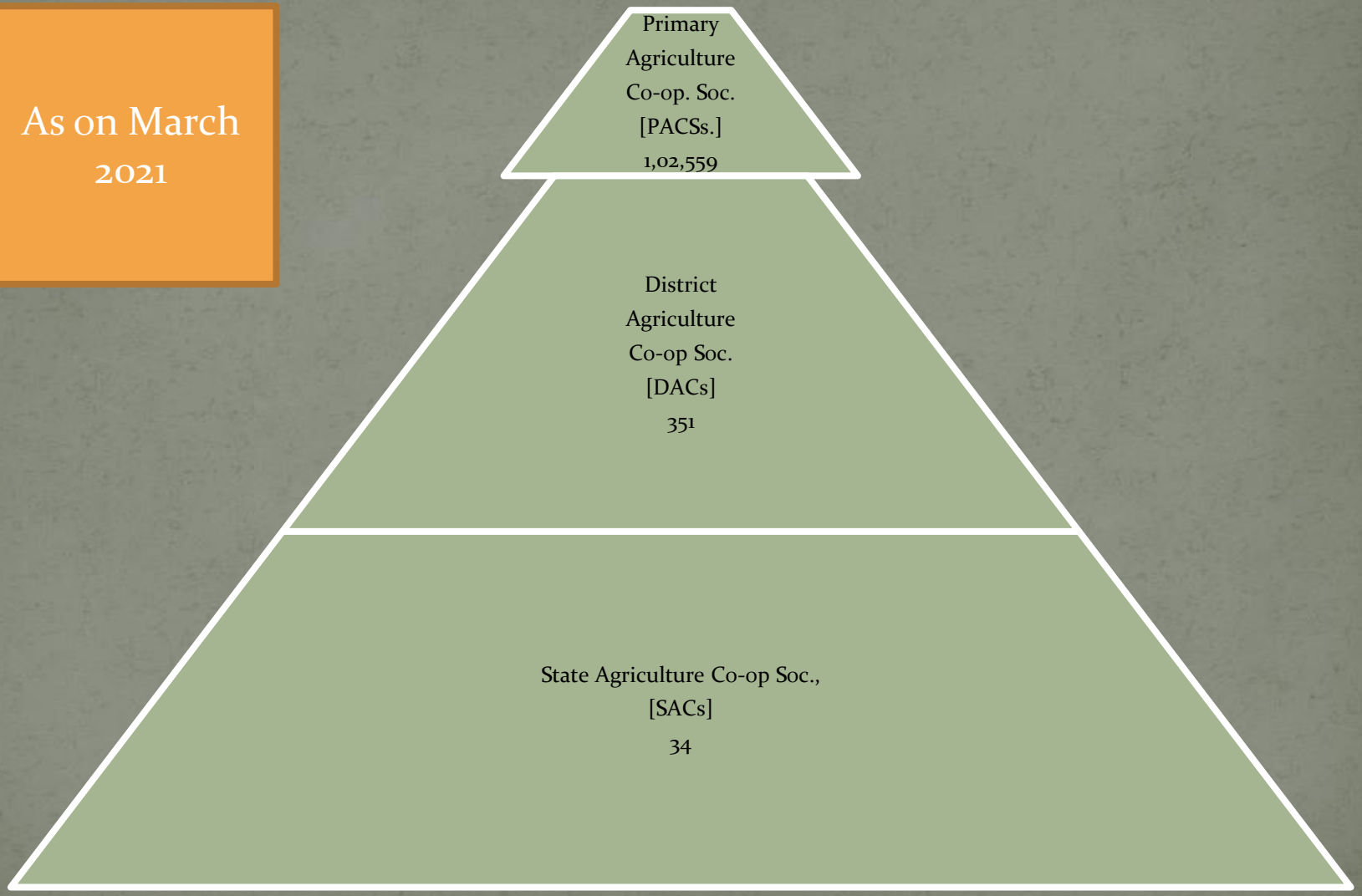
Three Tire Organizational Structure

As on March 2021



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Progress of Co-operative Banks in Rural Credit

Year	Total Amount (In Rs. Crore)	Percent to the total Agriculture Credit
1950-51	23	3.1
1960-61	203	15.0
1970-71	N.A.	22.7
2013-14	1,19,963	16.9
2019-20	1,49695	10.9
2021-22	2,17,848	12.7

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Evaluation of Co-operative Banks

- High dependence on higher credit institutions.
- Problems of over dues.
- Substantial losses.
- High Non-Performing Assets (N.P.As.)
- Major beneficiaries are big farmers.
- Regional disparities.
- Administrative problems.
- Politicalization.

Commercial Banks

- These are the profit seeking banks. Therefore, the commercial banks tended to concentrate on the industrial sector of economy.
- Over a long period, the share of commercial banks in rural credit was meagre. For instance, it was only 0.9 percent in 1950-51 & 0.7 in 1961-62. However, in recent times, particularly in 2013-14, commercial bank accounted for 71.5 percent of institutional credit provided to agriculture (Rs. 5,09,005 Crs out of Rs. 7,11,621 Crs.).
- It was only after the nationalization of 14 commercial banks in 1969 followed by another 6 more banks in 1980, these banks open up in rural areas & have increased advances to these areas considerably.
- In 2021-22, the commercial banks accounted for 75.5% of institutional credit provided to agriculture(Rs. 12,91,454,crs out of Rs. 17,09,893)

Growth of Commercial Banks

No. of Branches

Year	Total Branches	Rural	Urban
1969	8262	1832 (22.2%)	6430 (77.8%)
2002	66239	32459 (50%)	33780 (50%)
2004	125309	81481 (65%)	43828 (35%)
2014	121535	46976 (38.7%)	74559 (61.3%)
2019	1,45,555	51,594 (35.4%)	93,961 (64.6%)

Direct Finance

Year	Finance Given (In Crs)
1969	40 (1.3%)
2001-02	38,137 (11.2%)
2003-04	51,485 (10.6%)
2013-14	N.A. (35 % to 37%)
2019-20	10,61,215 (77.2%)

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National Bank for Agriculture & Rural Development (NABARD)

- The most development in the field of rural credit has been the setting up of NABARD in 12th July, 1982. IT took over from RBI all the functions that the later performed in the field of rural credit.
- NABARD is now the apex bank for rural credit.

https://www.nabard.org/

Genesis of NABARD

- NABARD came into existence on 12 July 1982 by transferring the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC).
- It was dedicated to the service of the nation by the late Prime Minister Smt. Indira Gandhi on 05 November 1982. Set up with an initial capital of Rs.100 crore, its' paid-up capital stood at Rs.14,080 crore as on 31 March 2020. Consequent to the revision in the composition of share capital between Government of India and RBI, NABARD today is fully owned by Government of India.

Vision & Mission of NABARD

Vision

Development Bank of the Nation for Fostering Rural Prosperity.

Mission

Promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.

What NABARD do?

- NABARD initiatives are aimed at building an empowered and financially inclusive rural India through specific goal-oriented departments which can be categorized broadly into three heads: Financial, Developmental and Supervision. Through these initiatives NABARD touch almost every aspect of rural economy.

- Through these initiatives NABARD touch almost every aspect of rural economy. From providing refinance support to building rural infrastructure; from preparing district level credit plans to guiding and motivating the banking industry in achieving these targets; from supervising Cooperative Banks and Regional Rural Banks (RRBs) to helping them develop sound banking practices and onboarding them to the CBS platform; from designing new development schemes to the implementation of GoI's development schemes; from training handicraft artisans to providing them a marketing platform for selling these articles.

Functions of NABARD

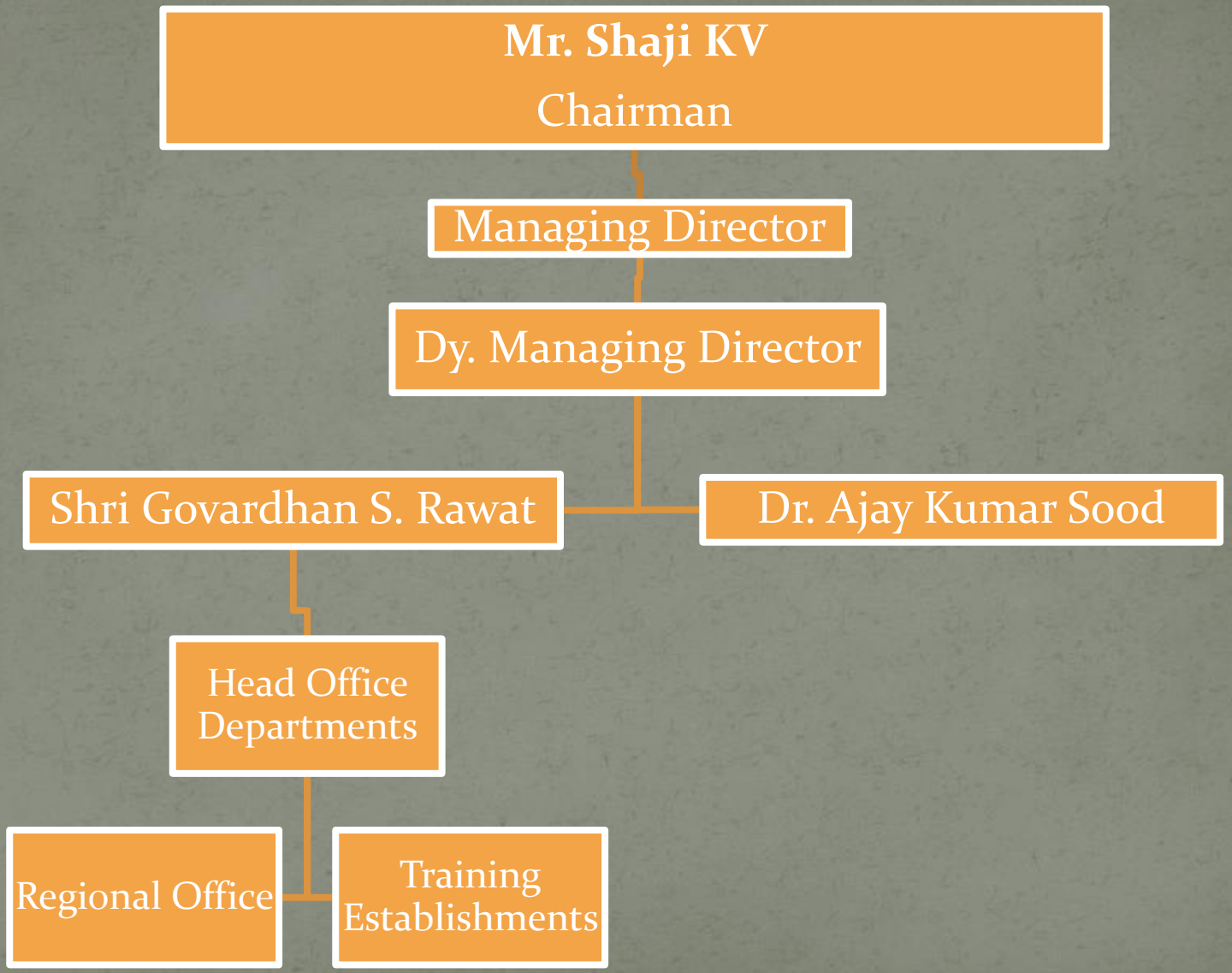
1. To serve as an apex financial agency for the institutions providing investment & production credit for promoting various development activities in rural areas.

2. To take measures towards institutional building for improving absorptive capacity of credit delivery system, including monitoring, formulation & rehabilitation schemes, restructuring of credit institutions & training of personnel.

3. To coordinate the rural financing activities of all institutions engaged in development work at the field level & liaison with GoI, the State Governments, the RBI & other national level institutes concerned with policy formation.

4. To undertake monitoring & evaluation of projects refinanced by it.

Organizational Structure of NABARD



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NABARD & Rural Credit

Initiatives	Date of Implementation	Object
Credit Extension	Since 1982	To provide short term credit facility for marketing of crops, pesticulture activity etc.
Rural Infrastructure Development Fund	1995-96	To provide funds to the State Governments & State owned cooperations to enable them to complete various rural development activities.
Microfinance Innovations	N.A.	To provide credit to poor families up to Rs.25000 without any collateral securities.
Kisan Credit Card Scheme	1998-99	To facilitate short term credit tot farmers.
Credit Monitoring Agreement	2000-01	To give more freedom & discretion to cooperative banks to operate.
Refinance under SGSY	N.A.	To finance under SGGY to Cooperatives & RRBs.
Cooperative Development Fund	1993	To strengthen the cooperative credit institutions.
Supervision	Since 1998-99	To supervise the activities of rural credit institutions.

Critical Review of Commercial Banks

- Quality deterioration.
- Ignore rural sector.
- High establishment cost.
- Bad recovery position.
- Improper management in providing resources.
- Reduction in rural deposit credit ratio.
- Small & marginal farmers are less beneficiaries.
- Problem of coordination.
- Failure in achieving targets in rural area.

Agricultural Marketing In India

Marketing of the produce is the most important activity of the farmer. There are many ways by which the farmer may dispose his surplus produce.

1. The first and the most common method is to sell away his produce to village money lenders cum traders.

2. The second method adopted by the Indian farmers is to dispose his produce in the weekly village market called- "*hat*".

3. The third method is through the *mandies* in small & large towns. In *mandies* they dispose their proceed to the whole sellers called "*arhatiyas*".

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Need for Agricultural Marketing

- To fix suitable price so as to fulfill the interest of producers & consumers.
- To increase credit suppliers.
- To provide adequate warehousing facilities.
- To make consumers & producers informed about the market conditions.
- Organised agency for marketing.

Defects in Agricultural Marketing System

- Inadequate facility of credit.
- Lack of storage & warehousing facilities.
- Inadequate means of transport.
- Poverty & indebtness.
- Malpractices in buying & selling in mandies.
- Absence of grading & standardization.
- Lack of collective bargaining.
- Non-availability of market information.
- Large scale price spread.
- Inadequacy of institutional marketing.

Evils or Consequences

- Marginal earning.
- Little incentives.
- Low marketable surplus.
- Obstruct innovative farming.
- Difficulties for planning.

Measures to Improve the System

1. Organisation of regulated markets.
2. Availability of credit.
3. Grading & standardization.
4. Use of uniform & standard weights.
5. Godown & storage facilities.
6. Efficient transport management.
7. Dissemination of market information.
8. Directorate of marketing & inspection - market inspection, research & training.
9. Co-operative farming.
10. Fixation of fair price by the Government or Stabilization of price.

Cooperative marketing

- Advantages:

1. Increase bargaining strength of the farmers.
2. Direct dealing with final buyers.
3. Provision of credit.
4. Easier & cheaper transport.
5. Storage facility.
6. Grading & standardization.
7. Marketing intelligence.
8. Influencing market prices.
9. Provision of inputs & consumer goods.
10. Provision of agricultural produce.

e- National Agricultural Marketing (e-NAM)

- e-National Agriculture Market (e-NAM) is an online trading platform that connects agricultural markets across India. This was implemented on 14th July, 2022.
- **Purpose:**

The goal of e-NAM is to create a unified national market for agricultural commodities by connecting existing markets on a single online platform.

- **Features:** e-NAM offers a variety of services, including:

- A transparent and competitive price discovery system
- Online payment facility
- Quality assessment using AI-based equipment
- E-bidding
- Direct e-payment settlement into farmers' accounts
- Information on commodity arrivals, quality, and prices

https://enam.gov.in/web/

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e-NAM

- **Implementation:**

The Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing e-NAM under the Ministry of Agriculture and Farmers' Welfare. All participating states provide the software for e-NAM at no cost.

- **Benefits:**

e-NAM provides better marketing opportunities for farmers and facilitates traders in bidding online.

- **Status:**

As of February 2024, 1,389 mandis from 23 states and 4 UTs have been integrated into e-NAM. Over 1.77 crore farmers and 2.53 lakh traders have registered on the platform.

Agricultural Pricing & Policy

- Prices of agricultural commodities increased more or less continuously over the planning period. The only exception is the period of first plan when prices actually fell.
- Prices of the most agricultural crops have shown a rising trend & have contributed their mite in further pushing up the index of agricultural prices.

Trends in Agricultural Prices

Year	Agricultural Price	Base year
1950-51	110	1952-53
1960-61	123.8	1952-53
1970-71	201.4	1960-61
1980-81	236.5	1970-71
1993-94	271.2	1980-81
2004-05	186.7	1993-94
2013-14	233.0	2004-05
2020-21	154.3	2011-12

Types of Agricultural Prices

- Procurement Price
- Minimum Support Price
- Issue Price

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Need for Agricultural Price Policy

- To safeguard the interest of both producers & consumers.
- To ensure that farmers should not penalized for producing more.(to maintain buffer stock)
- Not to allow prices to rise exorbitantly above certain level & not allowing them to fall below a certain minimum level.

Objectives of Agricultural Price Policy

1. To protect or insure the producer through guarantee or Minimum Support Price (M.S.P.).
2. To induce the desired outputs of different crops according to growth targets.
3. To induce an increase in agricultural output through large inputs & adoption of high-yielding seeds, fertilizers & water responsive technology.
4. To induce farmers to part with a large proportion of food grain production as a marketable surplus.
5. To protect the interest of consumer against an excessive rise in price.

Agricultural Policy in India

1.Organization of food zones:

To introduce the element of price stability in agricultural prices, food zones were organized in March,1964, in which the country is divided in 8 wheat zones. Rice zones were established in south India.

2. Fixation of Minimum Support Price & procurement prices by the Government:

The Food grain Price Committee, 1964 recommended the setting up of an Agricultural Price Commission (A.P.C.) which was consequently established on January,1965 with the objective of balancing & integrating price structure. A.P.C. was renamed as Commission for Agricultural Costs & Prices (C.A.C.P.) in 1985.

3. Rationing & sales through fair price shops:

The Public distribution System (P.D.S.) in our country operates through a network of ration shops & fair price shops. The total no. of fair price shops has increased from 2.39 lakh in March,1979 to 4.75 lakh in preset times.

4. Other Steps:

Building up of buffer stocks, State trading, nationalization of wholesale trade in wheat & rice, procurement from wholesalers, imports of food grains etc.

Evaluation of Price Policy

1. Injecting an element of certainty & confidence.
2. Contribution to inflationary trend.
3. Bias in favour of surplus states.
4. Adverse impact on investments.
5. Wrong criterion for calculating MSP.
6. Bias in favour of large famers.
7. Flaws in PDS.
8. Impact on Rural poor.
9. Price incentives & fiscal squeeze.

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Agricultural Subsidies & Food Security in India

- The issue of agricultural subsidy is highly politically sensitive issue.
- Subsidies on agricultural inputs such as irrigation, power & fertilizers are necessary to enable the poor & marginal farmers. However, the opponents have argued that the magnitude of the agricultural subsidies have risen to a very high level in India & is now fiscally unsustainable.
- Moreover, critics argue that continuation of agricultural subsidies is against the spirit of the Agreement of Agriculture (AoA)as adopted by the W.T.O.

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Farm Subsidies

- Farm subsidies form an integral part of the Government's budget. In case of D.Cs., the agriculture or farm subsidies compose nearly 40 percent of the total budgetary outlays while in India's case it is as much lower as just 7.8 percent of G.D.P. and of different nature.

- Food security system of the Government has been aimed at twin objectives-

(i) Provision of minimum nutritional support to the poor through subsidized food grains.

(ii) Ensuring price stability in different States.

- India spends about Rs. 1,60,000 crore ever year or roughly 2 percent of its GDP on subsidies, all indirectly.

Types of Farm Subsidies

Direct Farm Subsidies

- These are the kinds of subsidies in which direct cash incentives are paid to the farmers in order to make their products more competitive in global markets.
- This helps farmers to provide right levels of purchasing power & to raise their living standards.

Indirect Farm Subsidies

- These are the subsidies which are provided to the farmers in the form of cheaper credit facilities, farm loan waivers, reduction in irrigation & electricity bills , fertilizers, seed, & pesticides subsides as well.
- This subsidy also provide to make farm products more competitive in the global markets.

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Food Security in India

- The concept of Food Security was coined in 1986 in World Development Report.
- Food Security implies access by all people at all times to sufficient quantities of food to lead an active and healthy life.
- Food & Agriculture Organization (FAO) defined food security as " ensuring that all people at all time have both physical & economic access to basic food they need."
- Staatz (1990) defines food security as "the ability to assure , on long term basis, that the food system provides the total population access to timely, reliable & nutritionally adequate supply of food."
- This requires adequate supply of food (quantitative aspect) and enough purchasing capacity with the individuals to demand adequate levels of food (qualitative aspect).
- To tackle the quantitative and qualitative aspects of food security problem, the Government of India (GoI) has relied on the following three **Food based Safety Nets-**

(i)Public Distribution System(P.D.S.)

(ii)Integrated Child Development Services (I.C.D.S.)

(iii)Mid-day Meal Programme (M.D.M.)

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Stages of Food Security in India

Stages	Description
I	The most basic need from the point of view of human survival is to make an adequate quantity of cereals available to all.
II	In second stage, we may think of food security as the adequate availability of cereals & pulses.
III	In third stage, food security should include cereals, pulses, milk & milk products.
IV	In the forth & final stage, food security should include cereals, pulses, milk, milk products, vegetables & fruits, eggs, fish and meat.

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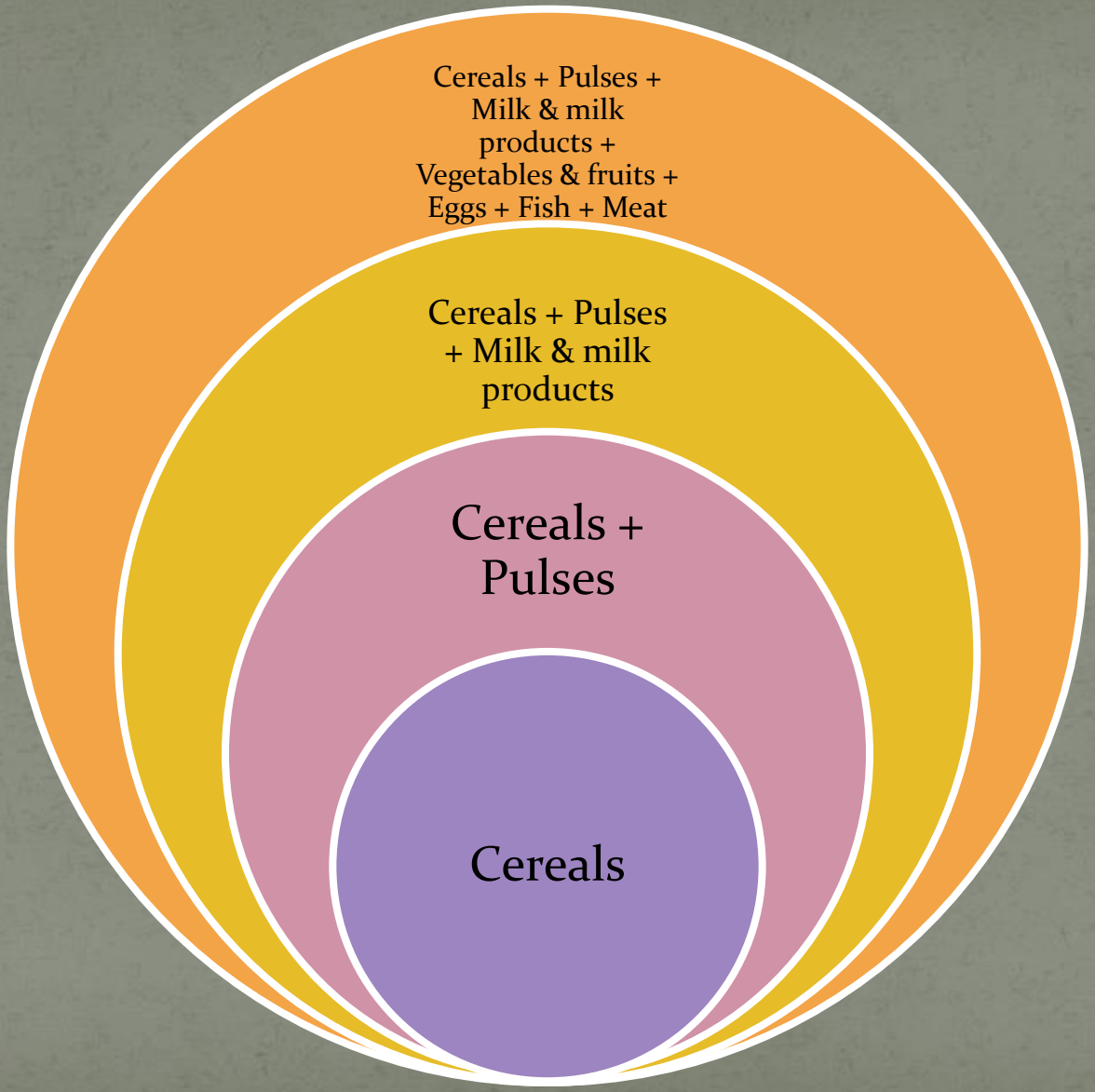
Stages of Food Security



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The Nature of Problem

- The Quantitative Aspect:

Chronic food shortage that a country faced in the post independence period, focus the food policy to achieve self sufficiency.

- The Qualitative Aspect:

- According to the Global Hunger Index -2021, India ranks 101 out of 117 developing nations which is behind Nepal(76) , China , Sri Lanka, Pakistan (76) & Bangladesh(92).

- India's Huger index Score for 2021 was 27.5which indicates a very serious situation as against 7.7 for China & 25.5 for Sri Lanka & 21.9 for Nepal.

- Proportion of undernourished in the population of India was 25.7 percent (i.e. one out of six persons) during 2018-20.

- As many as 34.7 percent of children under 5 were under weight during 2019-20. (i.e., one out of every third child).

- In 2019, under 5 mortality rate was 3.4 % higher than Bangladesh & Nepal where it was 3.3 % & Sri Lanka where it was 0.7 %.

Various Schemes & Programmes

Schemes/Programme / Mission	Year of Inception	Objectives
National Food Security Mission	2007	It is a crop development scheme of the Govt. aims at additional production of 10, 8 & 2 Mn. tones of rice, wheat & pulse by the end of 2011-12.
Macro Management of Agriculture	2008	To improve the efficiency in complementary efforts of the States towards enhancement of agriculture production a& productivity.
Rastriya Krishi Vikas Yojna	2007-08	This yojna started for incentivizing States to enhance public investment to achieve 4 % growth rate in agriculture & allied sectors during 11th Plan.
National Horticulture Mission	Tenth Plan	To develop the wide range of crops, fruits, vegetables, roots, flowers, medicinal plants, spices etc. as it provides livelihood security, employment & income.
National bamboo Mission		To promote holistic growth of bamboo sector by adopting area base strategy under bamboo cultivation and marketing.
National Agriculture Policy	July 28, 2000	To promote agricultural exports after fulfilling domestic demand.
National Food Security	5th	To provide food & Nutritional security in human

W.T.O. & Agricultural Subsidies

- The subsidies provided by the Government to agricultural sector is termed by the W.T.O. as Aggregate Measure of Support (A.M.S.).It is calculated in terms of product & input subsidies.

- The W.T.O argues that the product subsidies like MSP & input subsidies (non-product) like credit, fertilizers, irrigation & power will cut production cost of farming & will give undue advantages to such countries in their access to the World's market- such subsidies are called to cause "Distortions" to the world trade.

- Such subsidies are not permitted in one sense as they have a minimum permissible limit under the provision which is 5 to 10 percent of their total agricultural output in the case of DCs & LDCs.

The Boxes

The agricultural subsidies , in the W.T.O. terminology have in general been identified by "Boxes" have been given the colors of the traffic lights.

Boxes	Description
Amber Box (means slow down i.e., to be reduced)	All agricultural subsidies which are suppose to distort production & trade covers under this Box i.e., all agricultural subsidies except those which fall into the blue or green boxes. (Limit between 5-10%)
Blue Box (means to limit the level of production)	This is Amber Box with conditions. The conditions are designed to reduce distortions. Any subsidy that would normally in Amber Box, is placed in the Blue Box if it requires farmers to go for a certain level of production.
Green Box (means permitted)	The agricultural subsidies which cause minimal or no distortions to trade are put under Green Box. It includes all forms of Govt. expenses which is not targeted for a particular product & all direct income support to farmers. It covers subsidies related to public storage ,pest & disease control, R&D etc.
Social & Development Box (S & D) (means provision of some exemption for LDCs)	It allows the developing countries for some subsidies to the agricultural sector under certain conditions. These conditions are related with the human development issues such as poverty, minimum social welfare, health support etc. esp. for one who lives BPL.
Red Box (means forbidden)	Practically, there is nothing like Red Box. However, the subsidies which exceeds the limit of are dangerous for the development of other nations. So it is to be identified as colour Red.

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Export Subsidies

- For export subsidy the W.T.O. has provisions in two categories-

(i) Reduction in total budgetary support on export subsidies, and

(ii) Reduction in the total quantity of exports covered by subsidy.

- Higher reduction commitment for the Developed Countries & lower for Developing Countries are the provisions.

Green Revolution

- In the mid of 60s , the Indian Government introduced a modern agricultural technology known as New Agricultural Strategy with a view to improve agricultural production & productivity & attain self sufficiency in food supply. The new agricultural strategy brought about what is known as Green Revolution in terms of agricultural inputs & output.

- The green revolution refers to an agricultural revolution in green crops which leads to quantitative & qualitative increase in food grains particularly Wheat in the year 1966-67.

Features of Green Revolution

- New Agricultural Strategy.
- High-yielding variety seeds.
- Modern implements.
- Improved fertilizers.
- Good irrigation facility.
- Accessibility of credit & marketing facilities.
- Guarantee Price.
- Multiple cropping.

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Progress in Production of Wheat & Rice

Year	Wheat (In Mn. Tonnes)	Rice (In Mn. Tonnes)
1960-61	11	35
1980-81	36	54
1999-00	76	90
2009-10	81	89
2020-21	109.4	122.3
2022-23	112.7	135.5

The overall contribution of wheat to total food grins has increased from 13 percent in 1950-51 to 36.2 percent in2013-14.

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Evaluation of Green Revolution

Achievements:

(i)Increase in production.

(ii)Increase in productivity.

(iii) Creation of employment opportunities.

(iv) Self sufficiency in food grain.

(v) High income to farmers.

(vi) Increased investment.

Failures:

(i)A capitalist revolution.

(ii) Personal inequalities of income.

(iii) Regional disparity.

(iv)Wheat Revolution-Not Green Revolution.

Highlights of Agriculture Revolutions

Colour	Description
Green (Wheat)	Wheat The early 1960s was the phase of the Green revolution in India. It led to an increase in higher-yielding varieties of seeds due to improved agronomic technology. It allowed the then developing country, India, to overcome poor agricultural productivity.
White (Milk)	Verghese Kurien, the Father of the White Revolution was a social entrepreneur. His "billion-litre idea", Operation Flood made India the world's largest milk producer and dairy farming India's largest self-sustaining industry.
Blue (Acquagri)	Blue revolution made the emergence of aquaculture an important and highly productive agricultural activity.
Yellow (Oilseeds)	India achieved the status of a self-sufficient and net exporter. An all-time record of 25 million tonnes of oilseeds production from annual oilseed crops was attained during the early nineties.
Pink (Meat)	The boom of export and production of meat in India is the period of the Pink Revolution. It denotes the technological revolution in the poultry and meat processing sector.
Silver (Eggs)	The production of eggs was tremendously increased during the Silver Revolution phase. The increased production of eggs was made possible due to medical science and more protein-rich food for the hens.
Golden (Bananas & Mangos)	The period between 1991 to 2003 is known as the period of the Golden Revolution. This made India a world leader in the production of bananas, mangoes, etc. and provided sustainable livelihood and nutrition options.

Rural Indebtness in India

- Rural indebtness is the common feature of Indian agricultural farmers.
- Indian farmers have been systematically exploited by money lenders & land lords.
- The small & marginal farmers continue to take debts from money lenders at a high rate if interest & thus fall into *debt traps*. They never comes out from their indebtness. Therefore, it is well said, *'Once in Debt- Always in Debt'*.

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Incidence of Rural Indebtness

- The incidence of indebtedness (IOI) in rural India is 35%. This means that 35% of rural households in India are indebted. Of these, 17.8% are indebted to institutional credit agencies, 10.2% to non-institutional agencies, and 7% to both.
- The proportion of rural households that reported outstanding debt has grown from 47.4 per cent in 2016-17 to 52.0 per cent in 2021-22, even as their average monthly income jumped 57.5 per cent in the same period, the latest All India Rural Financial Inclusion Survey (NAFIS) 2021-22 by NABARD said on 9th Oct.,2024.

Causes & Remedies of Rural Indebtness

- Causes:
  - Poverty.
  - Multifarious credit requirements.
  - Redemption of old debts.
  - Malpractices by money lenders.
  - Paying off Inherent debts.

- Remedies:
  - Clearing old debts.
  - Control over money lenders & land lords.
  - Provision of alternative sources.
  - Providing education to farmers.

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Buffer Stock

- India has policy of maintaining the minimum reserve of food grains (only for wheat & rice) so that food is available throughout the country at affordable prices round the year.
- The main supply from here goes to the TPDS (Targeted Public Distribution System was renamed for PDS in 1997)& at that times goes for Open market Sale to check the rising prices, if needed.
- The Buffer Stocking Norms (in 2005) was revised by the Government by mid -2014 in the back drop of increased requirements of food grains to run TPDS in last few years.
- As the income levels of BPL grows, in future, the buffer stock norms for the food grains are supposed to be revised downwards.
- On 1st January,2005 the level of Buffer stock are maintained at 25 Mn. tonnes, which has been revised to 21.41 Mn. tonnes.

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