

**WEEKLY
FOCUS**

#60, MAR 2022

VISIONIAS
INSPIRING INNOVATION

AGRICULTURE OVERVIEW

From Production-centric to Farmer-centric



INTRODUCTION

India is a global agricultural powerhouse. It is one of the world's largest producer of wheat, rice, cotton, milk, pulses and spices among others. It also has the world's largest cattle herd (buffaloes) population. Despite this, the custodians of this sector, the farmers can hardly make the ends meet and face plethora of problems from socio-economic insecurity to chronic indebtedness.

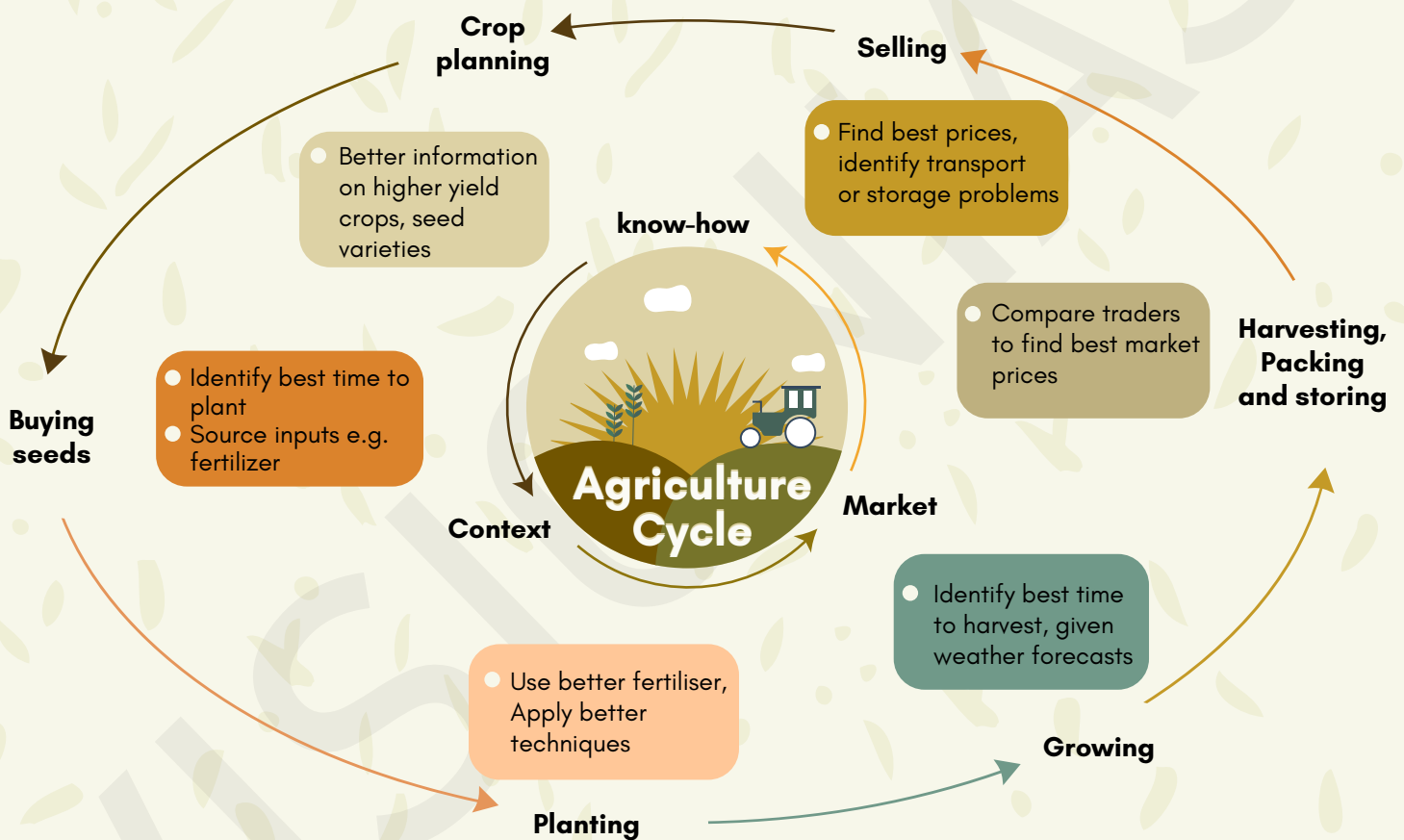


To understand why this dichotomy prevails, it is important to understand the significance of Indian agriculture and its growth. What all comes under its umbrella? How did this sector evolve and what trends do aggregate numbers showcase? What are the challenges that it faces? And, what can be done to overcome these challenges and make the sector farmer-centric?

The idea behind this document is to showcase the larger picture of the agricultural sector. For exploring the sub-sectors of agriculture in more detail, a series of documents will be released.

Agricultural Series

The agricultural series aims to touch upon all the areas of agriculture from input, production, socio-economic and environmental viability to the extension and infrastructural services. The same will be covered in a series of documents. With the help of these documents, we would be able to touch upon all areas of the agricultural cycle.



Why is agricultural growth important?

Initiator of Economic Growth: Agricultural modernization prepares conditions for industrialization by boosting labor productivity, increasing agricultural surplus to accumulate capital, and increasing foreign exchange via exports.

Food and Nutritional Security: Agricultural growth can ensure self-sufficiency in food production and improves human capital by better nourishing the population.



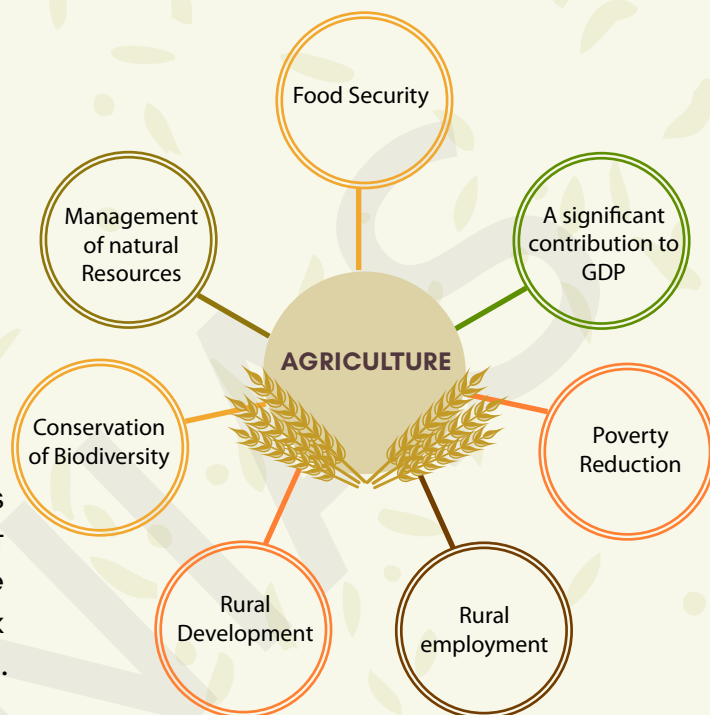
Elimination of poverty: Besides increasing farmer's incomes, agriculture growth can contribute to poverty reduction by stimulating economic development outside of the agricultural sector, and thus leading to higher job and growth creation.

Evidences suggest that the rate with which agriculture sector reduces rural poverty is at least twice of what the rest of the economy does.

Enabling rural transformation for inclusive development:

Growth in agriculture has an ancillary effect on the surrounding area in the form of higher purchasing power, development of infrastructure and higher educational attainment among others. This transformation creates a virtuous cycle where higher investment in human capital translates to further transformation of rural landscape and inclusive development in the longer run.

More than an occupation: In communities across the world and especially in India, agriculture is not merely an occupation but an essential part of the culture. Various festivals, a large portion of the folk literature etc. is built around agricultural activities.



What comprises India's Agriculture?

Crop Sector (61.31%)

Plantation Horticultural & other crops

- Drugs & Narcotics
- Condiments & Spices
- Other crops
- By Products

Field Sector Crops

- Cereals
- Pulses
- Oilseeds
- Sugars
- Fibres

Live stock (26.8%)

- Milk group
- Meat Group
- Eggs
- Wool & Hair
- Silk Worm & Honey Cocoon
- Dung
- Increment in livestock

Fisheries (4.5%)

- Inland fish
- Marine fish

Forestry (7.39%)

- Industrial Wood
- Firewood
- Non-timber Forest product

IN CONVERSATION! Farming is a 'Way of life'

Vinay: Hey Vini. I heard you went to a Farmstay last week. What is that?

Vini: Hi Vinay. A farmstay is a farm offering accommodation to paying guests. They let you see and experience the farming activities first hand.

Vinay: That sounds great. What kind of activities did you get to experience?



Vini: I got to experience all the activities which were part of their daily routine, from grazing of animals in the early morning to examination of the fields in the evening.

Vinay: Must be very enriching. But I have one question. The farming activity seems to take up the whole day from morning to evening, when do they get the time relax, recreate or socialize?

Vini: Yes Vinay, they actually don't get a lot of free time. But unlike our lifestyles where personal, professional and social life are different, for farmers they are all connected to each other.

Vinay: How?

Vini: I was lucky enough to see the first two days of the Pongal celebration, which is a Harvest Festival. The festival is dependent on the agricultural cycle of sowing and harvesting, it includes folk songs, dances, skits etc. This is social life in the villages.

Vinay: You mean to say that the lifestyle of farmers, their social engagements and their personal life are all weaved around their practice of agriculture.

Vini: Yes! Also, a large part of their consumption patterns, the location where they live and recreational activities that they do are dependent on the kind of crop that they grow.

Vinay: After such a long day in the field, hardly any people must be engaging in recreational activities.

Vini: You would be surprised to know that almost everybody was engaged in some kind recreational activity after work. The functional fitness of farmers is extremely high. They do this level of physical work every day, 7 days a week.

Vinay: Very impressive. Your experience suggests that agriculture is a different world in itself.

Vini: I agree. Farming is not merely an occupation, it's a way of life.



Evolution of India's agricultural journey

The history of Agriculture in India **dates back to Indus Valley Civilization Era** and even before that in some parts of Southern India. This translated to a rich, vibrant, and diverse agricultural culture in the country.



Given the **food deficiency** that prevailed and the **continued growth of population** since independence, the growth strategy for agriculture has been **largely production centric**. The sector received incentives, that have helped the nation to achieve high levels of production for its food security.

This pursuit of self-sufficiency led to following developments-

- ✦ **First two five-year plans (1951-61) and the food crisis:** The initial focus was on solving the food crisis that India was facing and ease the critical agricultural raw material situation, particularly the acute shortage of raw cotton and raw jute.
 - ✦ Various committees were created to investigate the solutions for food crisis including Maitra Committee (1950), Mehta Committee (1957), Venkatappaiah Committee (1966).
- ✦ **The decade of structural changes:** The policies that came to make a major and long-standing impact in the agriculture sector were adopted in mid-1960s. These measures included production subsidies, minimum support prices, public procurement, storage, and distribution of foodgrains, as also trade protection.
 - ✦ This was also the time when new high yielding varieties of wheat and dwarf varieties of rice were introduced. The dramatic increase in productivity created by this came to be known as the **Green Revolution** (concentrated in Punjab, Haryana and western UP).
- ✦ **First major review:** India appointed the **National Commission on Agriculture in 1970**, to review the progress of agriculture in the country and make recommendations for its improvement and modernisation.
 - ✦ This Commission released its final report in 1976. It refers to agriculture as a comprehensive term, which includes crop production together with land and water management, animal husbandry, fishery, and forestry.
- ✦ **Gradual growth (1970s and 1980s):** The country expanded its irrigated area, promoted increased use of chemical fertilizers and pesticides, and improved access to institutional credit. It led to considerable rise in agricultural production making India self-sufficient in food-grains at the national level.
 - ✦ Gradual growth created suitable conditions for initiating the **Second Green Revolution** (concentrated on Eastern and central part of the country), White Revolution (initiated by National Dairy Development Board (NDDB)) and others like Blue Revolution (fisheries). These revolutions further accelerated the pace of growth.
- ✦ **1991 reforms and Agricultural Exports:** The exports of agri-products especially fruits and vegetables jumped significantly after 1991.
- ✦ **Production not translating to income:** The production levels were growing but the same was not seen in agricultural growth rates and farmer incomes. In the light of this, a National Commission for Farmers was constituted in 2004 under the chairmanship of Professor M.S. Swaminathan to suggest methods for faster and more inclusive growth for farmers.
 - ✦ The Commission made comprehensive recommendations covering land reforms, soil testing, augmenting water availability, agriculture productivity, credit and insurance, food security and farmers competitiveness.
- ✦ **Doubling Farmer's Income:** To follow through on the idea of growth of farmers, a committee had been constituted under the chairmanship of Ashok Dalwai to suggest agricultural reforms to double farmer's income.

These events created the current agricultural ecosystem and shaped the recent trends that are prevalent in the sector.

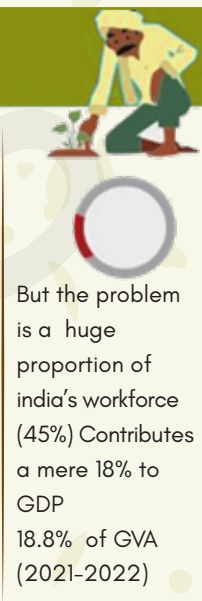
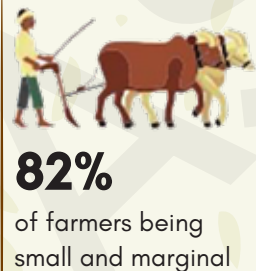
What are the recent trends in the agricultural sector?

AGRICULTURE THE GREAT GIANT

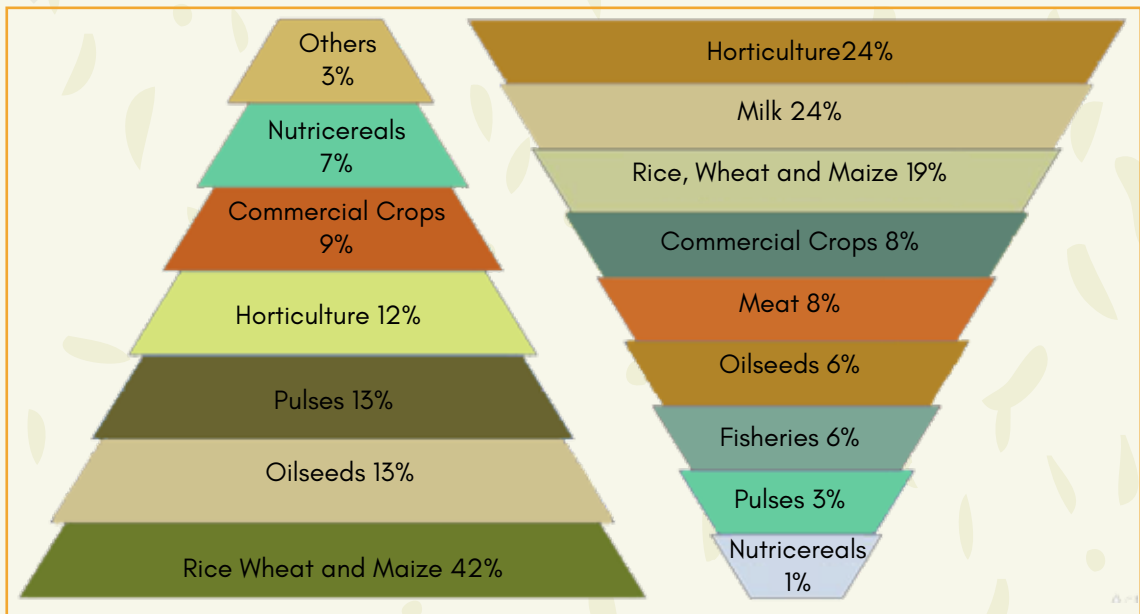
Agriculture sector is unquestionably the largest livelihood provider in India, Contributing significantly to India's GDP



70%
of rural households still depend primarily on agriculture.



- Agricultural Growth:** Overall growth in agriculture moves parallel with the crop sector, which is also established from the year-on-year fluctuations in different sub-sectors. Livestock sector is growing at an appreciable and sustainable rate and is ahead among all sub-sectors.
- Livestock sector is likely to emerge as engine of growth** of agricultural sector and can be relied upon for risk mitigation and minimizing the losses for the farmers, given in case of worst outcomes from other sub-sectors.
- Area shares of crops:** Rice and wheat still occupy more than 1/3rd share in the cropping pattern.
 - The share of nutri-cereals has gone down substantially during the last four decades.
 - The area share of fruits and vegetables has expanded overtime, signaling the orientation of demand and production for high value crops.
- Value share of crops:** The share of paddy and wheat has declined overtime despite increase in area, technological advancements and increasing price trends.
 - The value shares of fruits and vegetables have increased substantially on account of significant area expansion, productivity improvements along with increase in prices (though being highly volatile).



Agricultural trade:

Agricultural exports and imports have also increased considerably during the last 25 years. However, since 2013-14 there is deceleration in India's net agricultural trade, primarily because of decline in the exports of agricultural commodities.

The share of both the agricultural imports and exports has declined considerably in the overall trade during the last 25 years, on account of increased share of manufactured and other value-added products.

Investment in Agriculture: While public investment has remained stable between 2-3 per cent over the years, the private investment has fluctuated.

Size of farms:

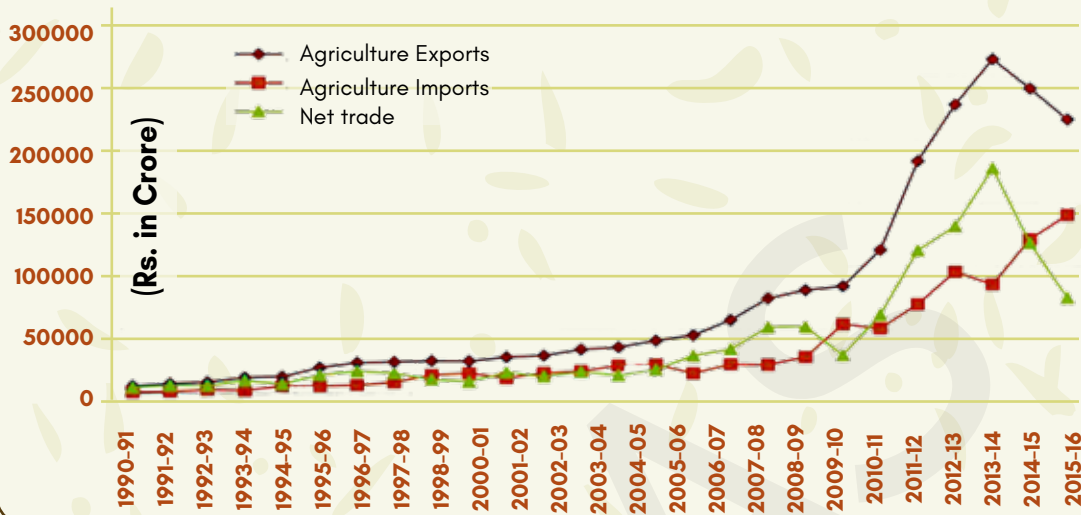
Between 1995-96 and 2010-11, the average farm size declined from 1.41 ha to 1.15 ha. Smallholders now cultivate 42 per cent of operated land and constitute 83 per cent of total landholdings.

Shift in consumption expenditure:

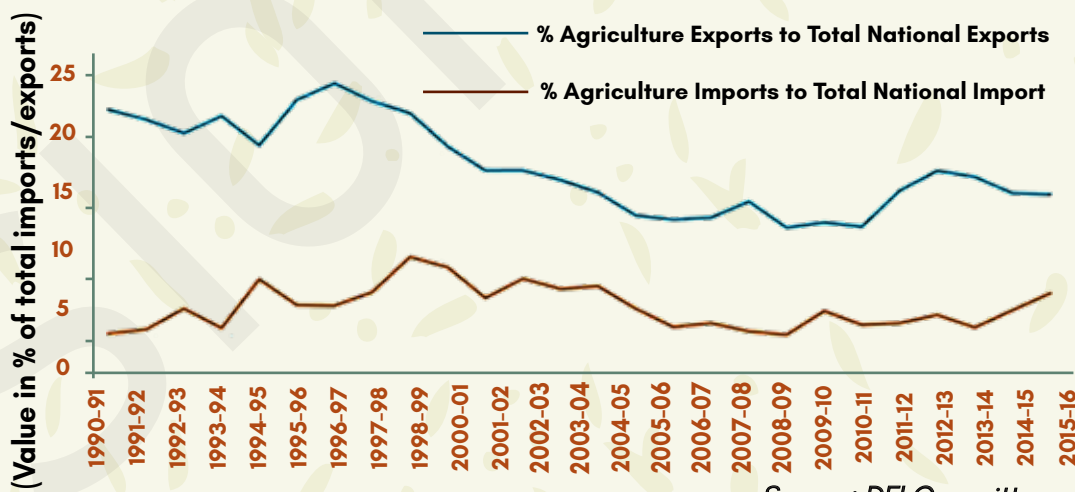
Among consumers, an increasing trend towards non-food expenditure is clearly visible and the trend is expected to continue in near future.

Expenditure on durable goods, has more than doubled, from 1993-94 to 2011-12.

Trends in agricultural Exports and Imports of India

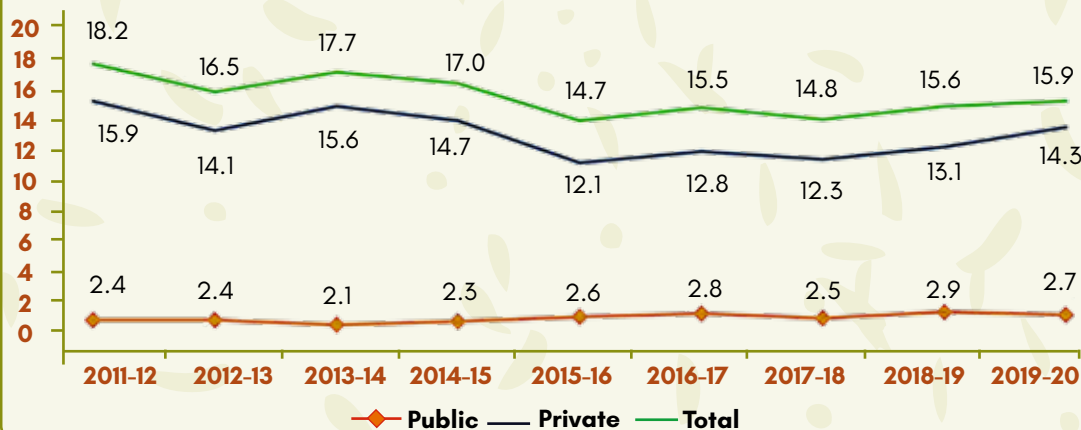


Contribution of Agricultural Trade to total National Trade



Source: DFI Committee

Percentage Share of GCF in Agriculture and Allied Sectors Relative to Its GVA (at 2011-12 basic prices)



Source: Based on data of DAFW and Agricultural Statistics at a Glance, 2020.

What are the milestones that the sector has been able to achieve?

🌿 **Decreased dependence on agriculture:** Percentage of population dependent on agriculture declined to 48 per cent in 2011, from a high of 85 per cent in 1951.

🌿 The recent trends also suggest movement towards a **general reduction** in cultivators and agricultural workers to total workers in the country.

🌿 **Record Production of Foodgrains and other agricultural products:**

The average production of foodgrains has increased, especially in the last decade aided by higher agriculture credit, public and private investment, increased usage of quality seeds and fertilizers, expansion of acreage under irrigation and increase in cropping intensity.

🌿 Key role has been played by the National Food Security Mission.

🌿 **Diversification towards**

Horticulture Crops: Horticulture

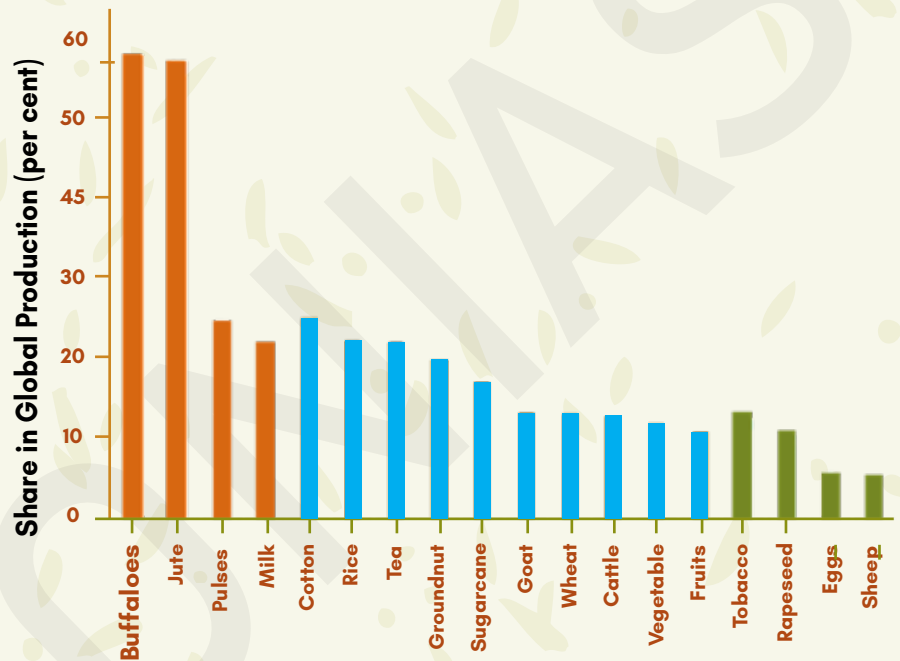
production has outpaced foodgrains production since 2012-13 and it currently accounts for around 35 per cent of total value of crop output in the agriculture sector.

🌿 **Growing Importance of Allied Activities:** The allied sector has steadily gained importance in the last decade led by strong growth in animal husbandry and fish production. This trend **could increase the supplemental income of farmers.**

🌿 **Changing Dynamics of Agricultural Trade:** India has emerged as a leading producer of various agricultural commodities in the world, its share in global trade of agricultural and allied sector products has doubled from 1.1 per cent in 2000 to 2.2 per cent in 2018.

🌿 **Development of the Agri-input industry:** The fertilizers and pesticide industries have grown significantly which can be seen with growing production levels. Also, the overall irrigation levels have grown more than 3 times since independence (although they are still lower as compared to developed countries).

India is a Major Producer of Various Agricultural Commodities in the World



Note: Orange, blue and green bars indicate ranks 1st, 2nd and 3rd in the world; values pertain to 2018.
Source: FAO.

Almost every quantitative aspect of the agricultural sector from availability of seeds and fertilizer to production of crops has seen evident growth. **But this quantitative growth has not translated to qualitative change** such as improved human development for farmers, rural growth, or inclusive development.



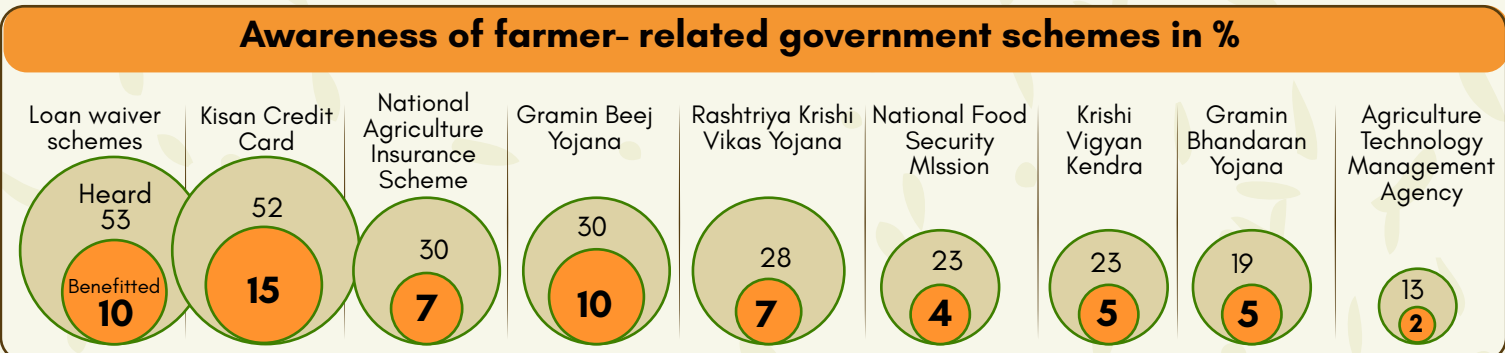
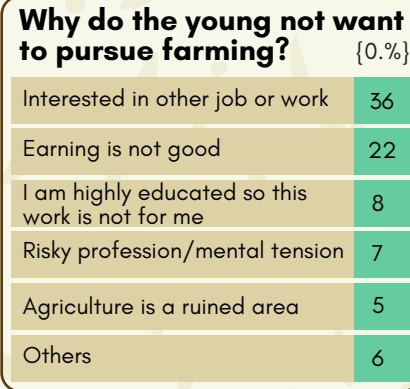
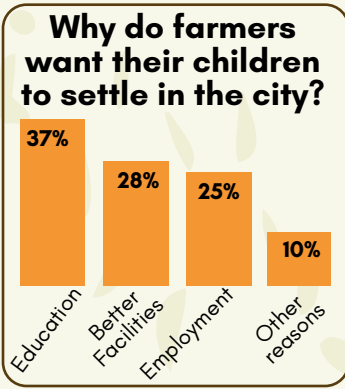
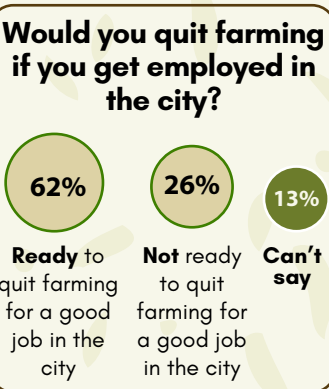
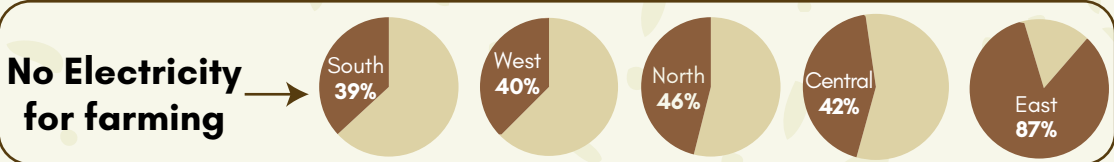
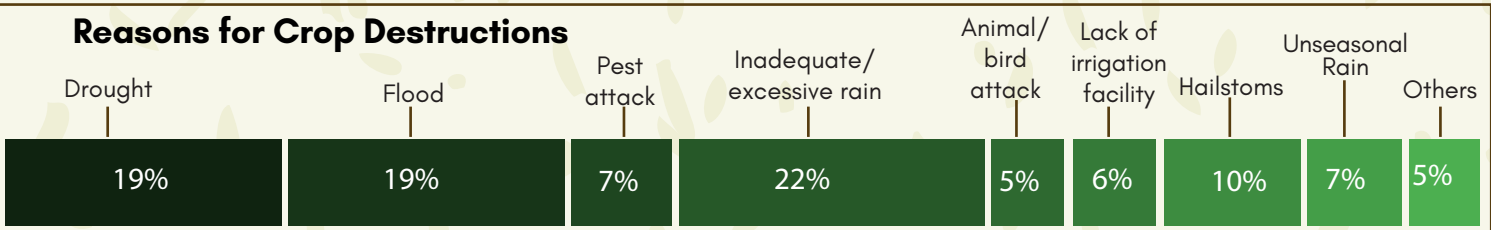
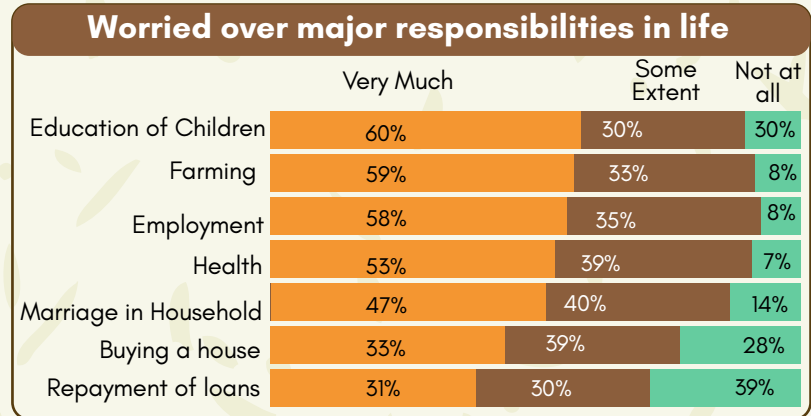
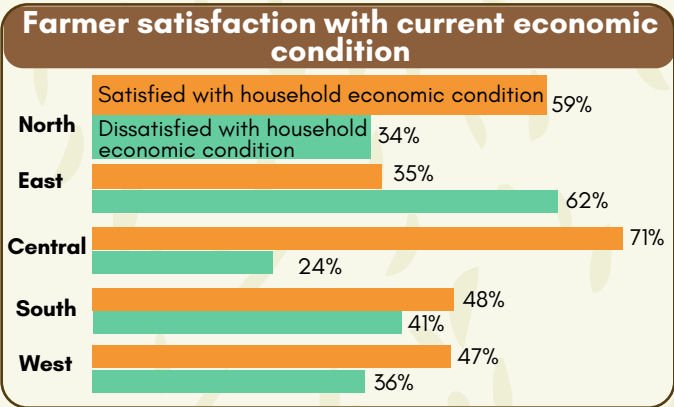
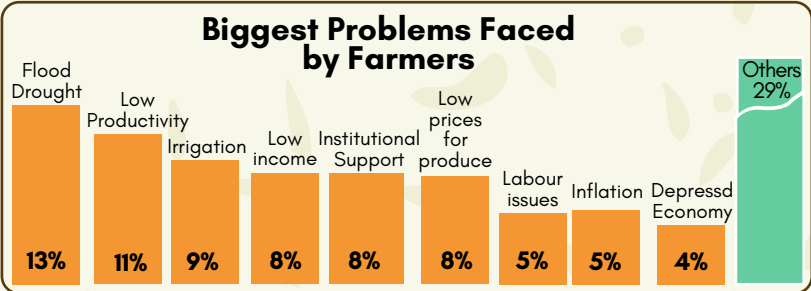
What are the persistent challenges in the Agricultural Sector?

- Large dependence on the vagaries of nature:** The persistent cycle of flood and drought, the unpredictability of rainfall and the perennial threat of wildlife or pest invasion increases uncertainty and helplessness of the farmers.
 - ✿ The problem has further aggravated due to effects of climate change i.e., increased erraticism of weather and increased frequency of natural disasters among others.
- Low productivity:** The level of production has increased multifold, but the level of productivity remains low (when compared with global averages). The reasons for this range from poor quality of seeds, pesticides, and fertilizers, lack of irrigation, knowledge gap among farmers to structural issues in usage of laws and policies.
- Depressing circle of low-farm income:** Gradually growing cost of cultivation and cost of living accompanied with low and fluctuating prices of produce render the net return of the agricultural enterprise negative or just enough for survival. This negates the possibility of any kind of saving or investment and the associated long-term growth.
 - ✿ The consequence of this depressing cycle is increasing distress and anxiety among farmers. Gravity of this distress can be gauged from the fact that more than 2.5 lakh farmers have committed suicide between 1995 and 2010.
- Limited institutional and infrastructural support:** Low penetration of formal agricultural credit, limited access to market and information (especially for small and marginal farmers) and negligible presence of the storage and logistical ecosystem hinders farmers in realization of the true value of their produce.
 - ✿ Poor post-production systems at institutional level aggravate the issue of agricultural waste. This negatively affects the farmers and poses a threat to food and nutritional security.
- Labour issues and migration:** There exist twin problem of lack of agricultural labour in some pockets and disguised unemployment in some.
 - ✿ Economic unviability of agriculture forces several farmers to abandon or sell their land to migrate to the cities. This phenomenon removes productive land out of the agricultural ecosystem.
- Food Inflation and Volatility in Food Prices:** The large-scale fluctuation in food prices directly affects the disposable income of farmers and indirectly projects the agricultural sector as uncertain and thus unviable for investment. This also discourages entry of new people into the farming sector.
 - ✿ For instance, scenes of farmers dumping tractor loads of tomatoes & onions onto the roads or emptying canisters of milk into drains highlight the extent of price variability.
- Poor image of farming as an occupation:** All these issues have culminated to a scenario where farming is not considered as a respectful profession. Majority of the farmers don't want their next to kin to pursue farming. This is because for majority of them farming has ceased to be a choice and has become a method to sustain life at minimal level.

Agricultural Tax: Equalizing force or Financial Burden?

Entry 46 of the 7th Schedule of the Constitution gives **powers to states** to levy taxes on agricultural income but none of the states has effectively adopted taxation of agricultural income. Also, Agriculture is **exempted from income tax under Section 2(1A) of the Income Tax Act** which defines agricultural income as "rent/revenue from land, income derived from this land through agriculture and income derived from buildings on that land". The idea behind exempting agricultural income is to protect the sector in the light of **persistent agrarian distress, informality of the sector and price fluctuations in the agricultural produce**. But in the recent past these exemptions have been **largely availed by the rich farmers** as the small and medium farmers do not come under the purview of the tax slabs anyway. Taxing of rich farmers can lead to twin benefits- one, it would **make the government accountable** for provision of infrastructure, extension services etc. for the agricultural sector. Second, the **revenue realized from it could be rechanneled into building collective resources** like rural infrastructure for all farmers. Thus, acting as an equalizing force for the sector.

THE STATE OF INDIA'S FARMERS



Disclaimer: The graphs and charts are presented to aid the understanding of the student, memorisation of these facts is not necessary from examination's perspective.

What can be done to resolve these challenges and make agriculture farmer centric?

Engaging with the farming community: Opening and creating communication channels which are two-way in nature and are representative of all sections of the farming community. Clear and regular communication would pave the way for creation of a collective voice of farmers. This could translate to more effective participation in agricultural policymaking.

Support to make agriculture financially viable: Agricultural viability is contingent upon decreased cost of production alongside adequate price realization for farmer.

To ensure this in the immediate term it would be important to support farmers at every stage – from strengthening of the credit ecosystem to ensuring remunerative price via policy intervention.

For the longer term, efforts should be made to develop the market ecosystem by strengthening the institutional systems such as e-NAM and developing the supporting infrastructure via efforts like Agri-marketing infrastructure fund.

From siloed approach to holistic approach: The elements of the agri-ecosystem such as research and development, seeds, soil, water, fertilizers and pesticides, farming techniques etc. are co-dependent on each other. An interconnected ecosystem warrants a holistic approach.

For example, the ecosystem approach adopted by the India Digital Ecosystem of Agriculture (IDEA) integrates the agricultural supply chain, precision agriculture and emerging technologies.

Policies based on clear understanding of strength and weaknesses: The agricultural policies should be based on understanding of natural elements like agro-climatic conditions and socio-economic elements like consumption patterns of domestic and global population.

Developing the linkages and extension services: The agricultural economy like any other ecosystem enhances in value if it becomes a part of longer supply chain ecosystems. To ensure the same, efforts could be made to encourage linkages like food processing industry, market development for higher quality products etc.

Prevalence of extension services also play an important role by effecting structural changes through technological development and supporting farmers via activities like information dissemination.

Creating institutional and infrastructural support systems by increasing public investment in the sector as well as strengthening and building agricultural institutions like NABARD, ICAR etc. This would act as a basic frame for the sector attracting the private sector to build upon this frame.

Strengthening the export ecosystem: The large-scale population engaged in agriculture, the prevalent scope in productivity improvement and ability to grow a large variety of crops. These ingredients make India an ideal agri-export candidate. This can be done by actively and persistently pursuing the goals of Agri-export policy, 2018.

Graduating farmers to farm entrepreneurs: The long-term transformation of the agricultural sector starts from transformation of farmer's mindset. This mindset needs to change from sustenance to profit and from survival to innovation.

Changing this mindset would require efforts from all the stakeholders. Government needs to provide a fall-back mechanism in the form of social security and the prevalent agri-entrepreneurs have to act as role model driving the change in the sector.

Agriculture Export Policy, 2018

Double agricultural exports to over **US\$ 60 billion by 2022**



Enable farmers to get **benefit of export opportunities in overseas market**



Representatives from ministries, agencies & state governments to **oversee implementation of policy**



Promote ethnic, organic, traditional & non-traditional **Agri products exports**



CONCLUSION

The agriculture sector directly or indirectly affects producer, supply chain and consumers. Therefore, every individual has a stake in agricultural reformation. This idea translates to changing approach of agricultural reform from government-led to people-led, where contribution of every stakeholder from awareness to active participation counts.

The siloed approach of 'agriculture' serving 'food security' needs to give way to a society-policy-science interface where the role of the policy is to bridge the needs and decisions of the society with scientific and environmental understanding.



TOPIC AT A GLANCE

Agriculture Overview: From Production-centric to Farmer-centric

Importance of growth in Agriculture

- 👉 **Initiator of Economic Growth** via productivity, surplus production and foreign exchange earnings.
- 👉 Improvement in human capital through **food and nutritional security**.
- 👉 **Contributes to poverty reduction** by stimulating economic growth outside of the agricultural sector.
- 👉 **Enables rural transformation** for inclusive development.
- 👉 It is **more than an occupation** as it serves as an integral part of society and culture.

Evolution of the sector

- 👉 First two five-year plans **targeted the food crisis**.
- 👉 **1960s** witnessed major **structural changes**.
- 👉 **First major review** by National Commission on Agriculture in 1970.
- 👉 **Gradual growth** was witnessed in the **1970s and 1980s**.
- 👉 **1991 reforms** significantly reformed **Agricultural Exports**.
- 👉 Acknowledgement of **Rising production not translating to farmer income**.
- 👉 **Ashok Dalwai committee** on Doubling Farmers Income.

Trends in the agricultural sector

- 👉 **Agricultural growth** remains fluctuating in nature. Livestock sector is likely to emerge as engine of growth.
- 👉 **Rice and wheat occupy more than 1/3rd area share in the cropping pattern** but not volume share. Volume share of **fruits and vegetables has been steadily rising**.
- 👉 **Agricultural trade has increased considerably** during the last 25 years.
- 👉 **Public investment in agriculture** has remained stable at 2-3 percent but the **private investment has fluctuated**.
- 👉 Between 1995-96 and 2010-11, the **average farm size declined from 1.41 ha to 1.15 ha**.
- 👉 **Increasing trend towards non-food expenditure** is visible and the trend is expected to continue in near future.

Milestones achieved

- 👉 **Decreased dependence on agriculture** from 85% in 1951 to 48% in 2011.
- 👉 **Record Production of Foodgrains and other agricultural products**.
- 👉 **Diversification towards Horticulture Crops** (accounting about 35% of total crop value).
- 👉 Growing **Importance of Allied Activities**.
- 👉 **Changing Dynamics of Agricultural Trade** with increased global share.
- 👉 **Development of the Agri-input industry** (grown 3 times since independence).

Challenges faced by the Agricultural Sector

- 👉 **Large dependence on the vagaries of nature** such as drought, flood, unpredictability of rainfall and wildlife threats.
- 👉 **Low productivity** due to issues such as poor quality of seeds, pesticides, fertilizers, lack of irrigation and knowledge gap.
- 👉 **Depressing circle of low-farm income** i.e., negligible net return leading to negligible saving and investment.
- 👉 **Limited institutional and infrastructural support** especially for vulnerable sections such as small and marginal farmers.
- 👉 **Labour issues and migration** leading to twin problem of dearth of agricultural labour and disguised unemployment.
- 👉 **Food Inflation and Volatility in Food Prices** directly affects the disposable income of farmers and indirectly projects the agricultural sector as uncertain and thus unviable for investment.
- 👉 **Poor image of farming as an occupation** as it is considered low-skilled and a profession of last resort.

Way forward to resolve these challenges and make agriculture farmer-centric

- 👉 **Engaging with the farming community** by streamlining communication channels and increase participation in agricultural policymaking.
- 👉 **Support to make agriculture financially viable** by decreasing the cost of production and ensuring price realization for farmers.
- 👉 **From siloed approach to holistic approach** encompassing all elements of the Agri-ecosystem.
- 👉 **Creating policies based on clear understanding of strength and weaknesses** such as agro-climatic conditions and consumption patterns.
- 👉 **Developing the linkages and extension services** to provide an external supporting frame for core agricultural activity.
- 👉 **Creating institutional and infrastructural support systems** by increasing public investment in the sector as well as strengthening and building agricultural institutions.
- 👉 **Strengthening the export ecosystem** by following through on the objectives of Agri-export policy, 2018.
- 👉 **Graduating farmers to farm entrepreneurs** as Agri-reform starts from transformation of farmer's mindset.