2 Rural Sector Poised to Grow

> "Once in your life you need a doctor, a lawyer, a policeman, and a preacher. But every day, three times a day, you need a farmer."
>
> —Brenda Schoepp

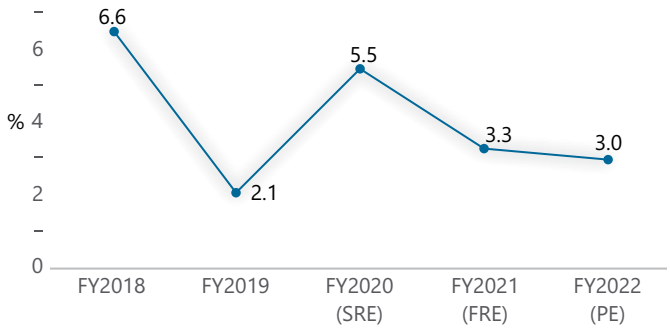
The agriculture and allied sector needs comprehensive reform and technology-driven transformation to support the aspirations of a $5-trillion economy. Input costs, availability of credit, output prices, market linkages, integration into value chains, availability of safety nets such as the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), and policy support play a crucial role in shaping agriculture both as an economic sector and a pillar of livelihood.

2.1 Celebrating record agricultural production

Agricultural sector's performance has been impressive during the last few years, reporting a compounded annual growth rate (CAGR) of 3.7% between FY2018 and FY2022 (Figure 2.1).

The estimated real agri-gross value added (GVA) of ₹21.1 lakh crore in FY2022 accounted for 15.5% of total GVA and is 6.4% higher than the pre-pandemic level.[1] The agri-GVA recorded positive growth across all products including foodgrains, cereals, pulses, and oilseeds even during the pandemic, thereby providing the country much-needed food security (Figure 2.2 A to C).

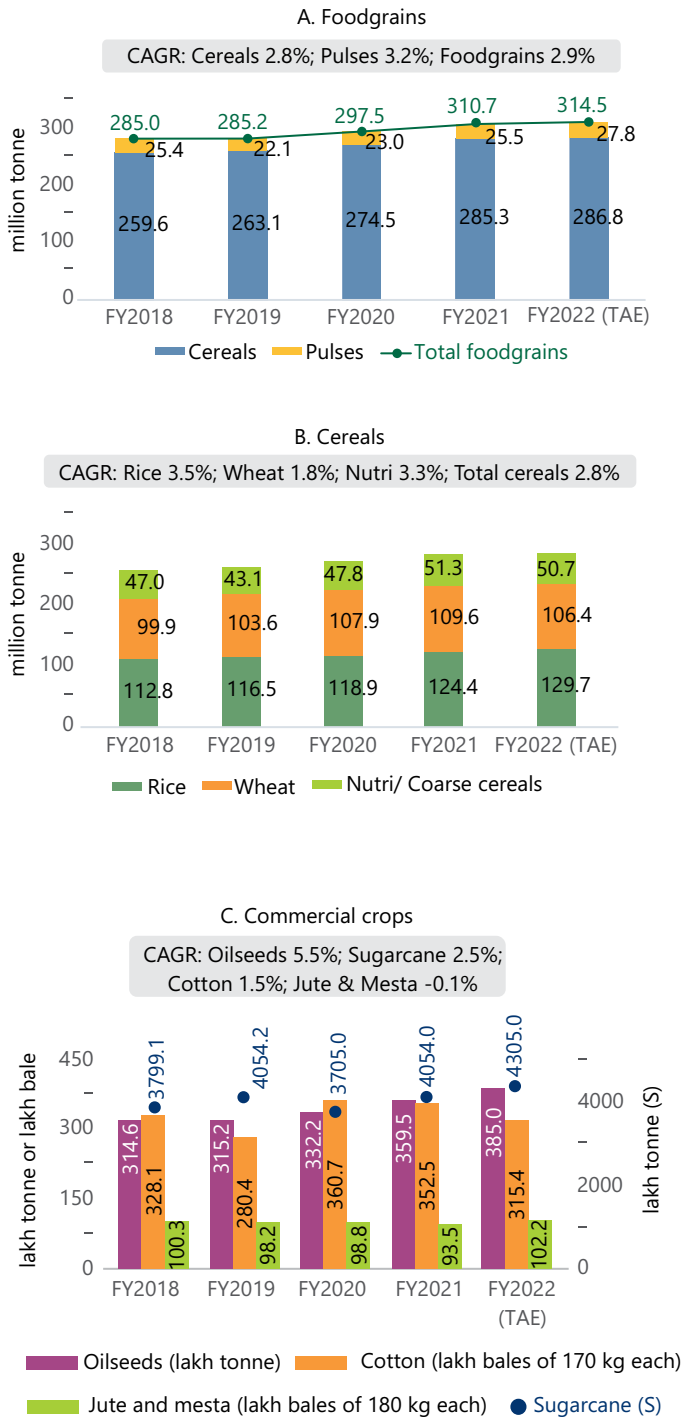
Figure 2.1: Agriculture and allied sector GVA growth at constant prices (2011–12 series)



Notes: FRE = First Revised Estimates; GVA = Gross Value Added; PE = Provisional Estimates; SRE = Second Revised Estimates.

Source: GOI (2022), Provisional Estimates of National Income 2021–22, National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India.

Figure 2.2: Agricultural production



Notes:

1. CAGR = Compounded Annual Growth Rate; TAE = Third Advance Estimates.
2. Components may not add up to the total due to rounding off.

Sources: GOI (2022), Third Advance Estimates of Production of Foodgrains (for Figures 2.2 A and B) and Third Advance Estimates of Production of Oilseeds and Commercial Crops (for Figure 2.2 C), Directorate of Economics and Statistics, Department of Agriculture, Cooperation and Farmers' Welfare, Ministry of Agriculture and Farmers' Welfare, Government of India.

Sugarcane production touched a record 4,305 lakh tonne in FY2022. Cotton production dropped by 10.5% to 315.4 lakh bales due to a 7% fall in the crop area to 123.5 lakh hectares (ha). Jute and mesta production across 7 lakh ha area is 102.2 lakh bales (Figure 2.2 C).

Horticulture production in FY2022 was estimated at 341.6 million tonne.[2] Production of fruits and vegetables was estimated at 107.1 million tonne and 204.6 million tonne respectively in FY2022. While the production of tomato and potato declined by 4.6% and 4.0% respectively, that of onion increased sharply by 19.0%.[3]

2.2 Driving growth through robust allied sector activities

Diversification into animal husbandry and fisheries is one of the primary drivers of growth in the rural economy. The livestock sector grew at an impressive CAGR of 7.9% (at constant price) in FY2015–FY2021.[4]

India continues to be the largest milk producer in the world, with production having grown by 5.8% in FY2021 to reach 209.9 million tonne.[5] The fisheries sector also grew at a strong CAGR of 9.3% (at constant prices) in FY2015–FY2021.[6]

2.3 Comparing input cost to minimum support price: Price realisation by Indian farmers

Rising input cost is a major determinant of agricultural production, yield, and farmers' income. Cost A2+FL grew at CAGR of 3.5% for paddy to 6.4% for gram between FY2018 and FY2022.[7] Cost C2 (total cost) too showed a similar growth pattern. Increase in minimum support price (MSP) over the same period did not offset the increase in cost of agricultural production in one-to-one correspondence though MSP was maintained at at least 1.5 times of A2+FL for kharif crops and 2 times for rabi crops (Table 2.1).

Major reasons for low price realisation by farmers are the absence of a competitive market structure and opacity in the price discovery system. Also, the discovered price is often not the ideal one and may not fully cover costs if it rules below the MSP. For instance, the wholesale (mandi) prices of paddy during kharif marketing season (KMS) FY2022 in West Bengal and Andhra Pradesh remained below the MSP; it was above the MSP in Uttar Pradesh (November, December,

Table 2.1 Growth in costs of production and MSP

Season/crop	*Cost of production ₹/quintal*		*CAGR% between FY2018 to FY2022 in*			*MSP to (A2+FL) ratio (FY2022)*
	A2+FL	*C2*	*A2+FL*	*C2*	*MSP*	
			Kharif			
Paddy	1,293	1,727	3.6	3.8	5.3	1.5
Arhar	3,886	5,291	4.3	3.7	3.5	1.6
Soybean	2,633	3,439	5.8	5.1	6.7	1.5
			Rabi			
Wheat	960	1,467	5.1	5.4	3.8	2.1
Gram	2,866	4,012	6.4	6.1	4.5	1.8
Rapeseed & Mustard	2,415	3,470	6.2	5.6	5.8	2.1

Notes:

1. CAGR = Compounded Annual Growth Rate; MSP = Minimum Support Price.
2. A2 = Cost borne by farmers for various inputs such as seeds, fertilisers, pesticides, hired labour, etc. plus rent paid for leased land plus interest on working capital plus depreciation on implements and farm buildings.
3. C2 = Total cost.
4. FL = imputed value of unpaid family labour.

Source: Based on data accessed from Commission for Agricultural Costs & Prices (CACP) https://cacp.dacnet.nic.in and agmarknet.gov.in.

and January) and Punjab (October and November). Similarly, the mandi prices of arhar (pigeon pea) during KMS FY2022 in major producing states, namely Karnataka, Maharashtra, and Uttar Pradesh (UP), mostly remained below MSP (Figure 2.3).[8]

Robust procurement of wheat in April and May 2021 resulted in average APMC[9] mandi prices ruling at or above the MSP in Punjab and Uttar Pradesh. In Madhya Pradesh (MP), most of the procurement took place in April when the mandi price was 111% of the MSP. While mandis were closed in Punjab in subsequent months, UP and MP witnessed wholesale prices falling below the MSP.

The mandi prices of gram (chana) during April–August of rabi marketing season (RMS) FY2022 in Rajasthan, the largest producing state, remained below the MSP due to weak procurement. In Maharashtra (May–August 2021), the second largest producer of the crop, and MP (June–August 2021), wholesale prices remained below the MSP. However, due to strong demand for gram in Kerala, where the crop is not grown, the mandi prices ranged between 129% and 142% of the MSP. Most farmers sell to local traders and hardly 14%–18% of paddy and less than 10% of other crops were sold to procurement agencies / regulated markets in agricultural year July 2018–June 2019 (AY2019).[10]

FIGURE 2.3: Market price as a percentage of minimum support price

Kharif	Paddy[a]					
	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
West Bengal	89	87	87	94	93	93
Uttar Pradesh	84	104	102	101	98	93
Punjab	101	101				
Andhra Pradesh	84	90	80	96	97	99

Kharif	Arhar[b]					
	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22
Karnataka	100	94	90	95	96	97
Maharashtra	94	91	91	95	98	99
Uttar Pradesh	101	101	98	98	99	98
Kerala	162	157	163	157	173	154

Rabi	Wheat[c]					
	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
Punjab	100	100				
Uttar Pradesh	103	100	98	84	85	90
Madhya Pradesh	111	98	95	92	92	96

Rabi	Gram[d]					
	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
Rajasthan	99	98	92	87	90	93
Maharashtra	100	96	92	89	87	96
Madhya Pradesh	100	100	95	88	93	95
Kerala	129	131	131	140	138	142

[a] 1) After procuring over 80% of the expected paddy arrival in Punjab's Agricultural Produce Marketing Committee mandis in KMS FY2022, the state government decided to close down 300 mandis / purchase centres by 10 November 2021 as paddy arrival in these mandis had declined; 2) Minimum Support Price (MSP) = ₹1,940 per quintal.

[b] MSP = ₹6,300 per quintal.

[c] MSP = ₹1,975 per quintal (April–June) and ₹2,015 per quintal (July–August).

[d] MSP = ₹5,100 per quintal (April–June) and ₹5,230 per quintal (July onwards).

Note: The arrows are a visual representation of the percentage point difference between the market price and MSP.

Source: Calculations based on data accessed from https://agmarknet.gov.in/ and Commission for Agricultural Costs and Prices, Government of India.

2.4 Improving price realisation through stronger value chains

The solution lies in forging value chains. In order to develop efficient and globally competitive agri-value chains, especially for tomato–onion–potato, farmer–producers' organisations (FPOs) can be encouraged to set up small-scale tomato pulp and puree processing plants to feed large-scale ketchup manufacturing; promote collective farming and marketing of fresh and dehydrated onions; and enable farmers to access custom hiring centres for large-scale mechanisation of potato processing to improve farm efficiency as well as reduce cost of labour.[11]

Efficiency in the fruit crop value chain can be achieved through the establishment of traceability and certification which will help ensure stronger export markets.[12] Policy recommendations for fruit crop value chains could be: (i) to develop alternative markets for perishables; (ii) providing pre- and post-harvest infrastructure by FPOs; and (iii) value chain financing.[13]

A focus on the development of tech-driven, efficient, and globally competitive dairy, poultry, and fisheries value chains could generate a wide range of value-added products for domestic and export markets and also significantly enhance the income of smallholder farmers.

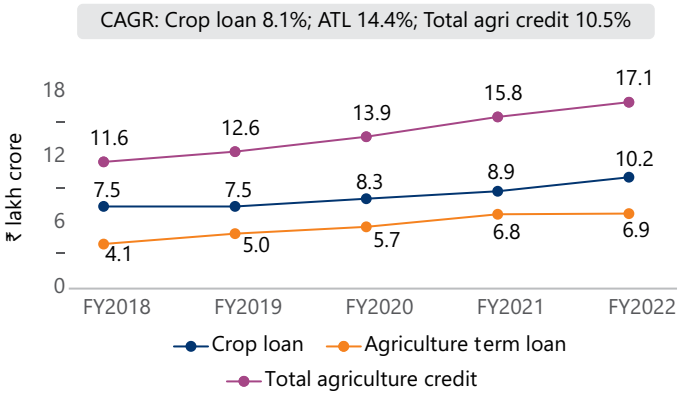
In order to develop an efficient nationwide agri-marketing system, Electronic National Agriculture Markets (e-NAMs) need to be scaled up and private markets and accredited warehouses need to function as e-NAMs. While MSPs can be increased to compensate rise in costs, market prices play a crucial role in clearing the agricultural stock as they signal the right global demand-supply situation. Hence, the real need is to reduce costs and promote sustainable agricultural systems / ecological farming and promote integrated farming models that employ circular economy principles.

2.5 Growing agriculture credit uptake

Innovative financial solutions have been instrumental for the steady rise in institutional credit to the agriculture and allied sector which, during FY2022, reached an all-time high of ₹17.1 lakh crore, having grown by a strong CAGR of 10.5% during the last five years (FY2018 to FY2022) (Figure 2.4).

To meet the institutional credit target of ₹18.5 lakh crore in FY2023, focus would be needed to ensure increased term loans to farmers, FPOs, agri-preneurs, cooperative federations, and business firms for high-growth, high-value, and diverse activities. Further, agri-tech start-ups should be provided term loans for development of digital technology for precision farming and post-harvest activities. Therefore, to accelerate capital formation in agriculture, it is imperative to increase the share of investment credit which declined from 43.3% in FY2021 to 40.2% in FY2022 (Figure 2.5).

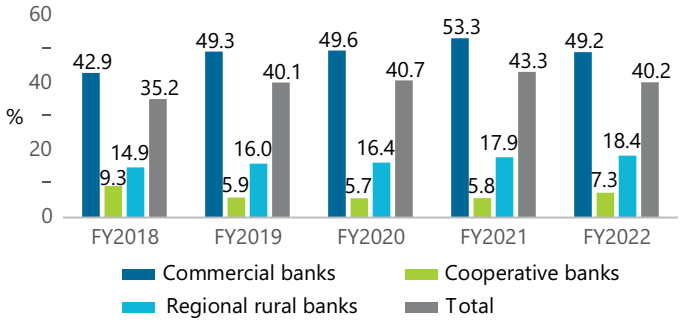
Figure 2.4: Agriculture credit disbursement



Note: ATL = Agriculture Term Loan; CAGR = Compounded Annual Growth Rate.

Source: Calculations based on data submitted by banks on ENSURE portal of NABARD.

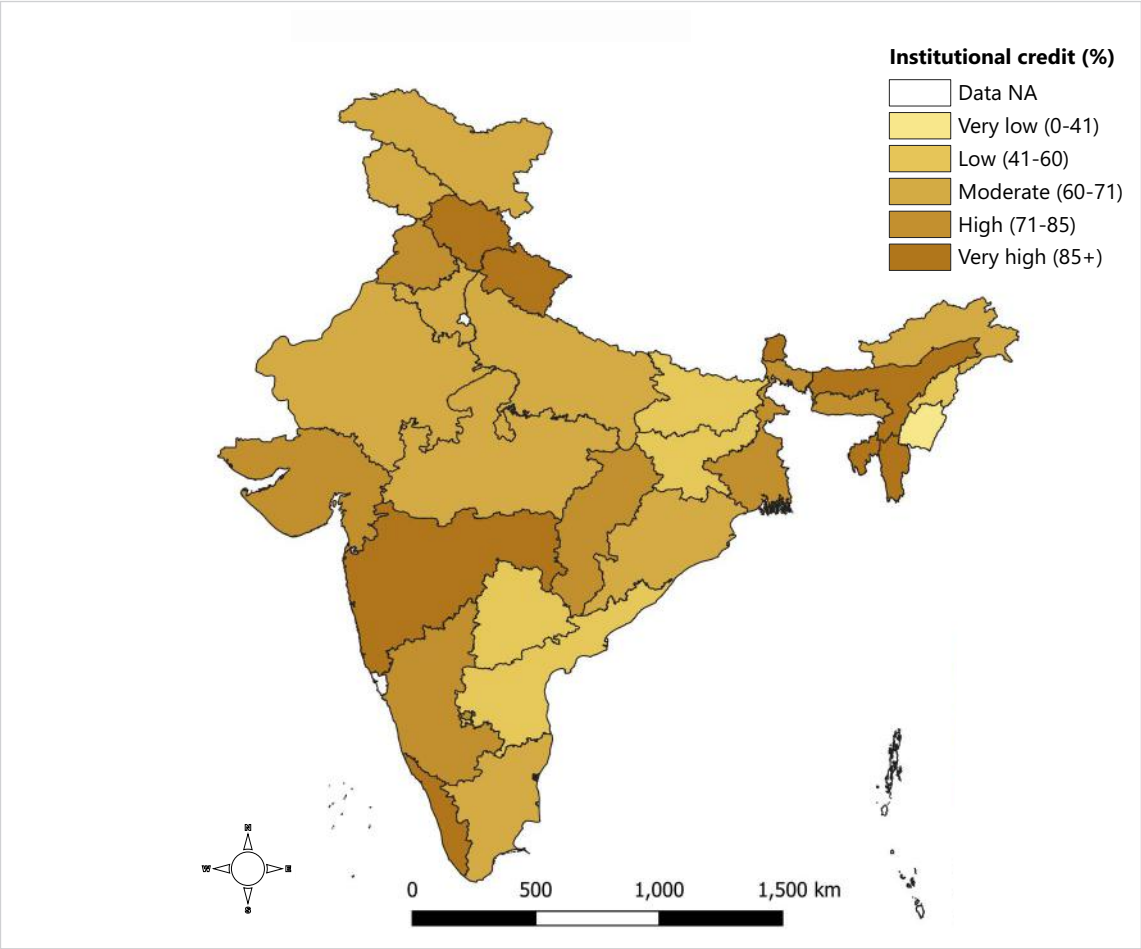
Figure 2.5: Share (%) of term loan in total agriculture credit by bank type



Source: Calculations based on data submitted by banks on NABARD's ENSURE portal.

Credit offtake by agri-households has remained sluggish overall. According to the NSS (77th round),[14] barely half the agri-households in India reported seeking loans, with institutional borrowing being lower still. While institutional credit sources accounted for 70% of all agri-credit in FY2019, up from 59.8% in FY2013, NSS (77th round)[15] reported significant heterogeneity

Figure 2.6: Percentage share of formal/institutional credit in total rural credit by state (FY2019)



Note: Data from union territories (barring Jammu & Kashmir and Ladakh) and Goa are not given separately. Average share of institutional credit across all union territories is 76%.

Source: GOI (2021), Situation Assessment of Agricultural Households and Land Holdings in Rural India, 2019, NSS, 77th Round, January to December 2019, Ministry of Statistics and Programme Implementation, Government of India.

across states. For instance, more than 80% of rural credit supply comes from formal/institutional sources in states like Kerala, Uttarakhand, Himachal Pradesh, and Maharashtra. In contrast, non-institutional sources (agricultural money lenders, professional money lenders, relatives and friends, and others) account for 57% of rural credit in Telangana, 50% in Andhra Pradesh, and 56% in Jharkhand (Figure 2.6). This clearly shows that non-institutional sources of agri-credit still persist in major parts of the country.

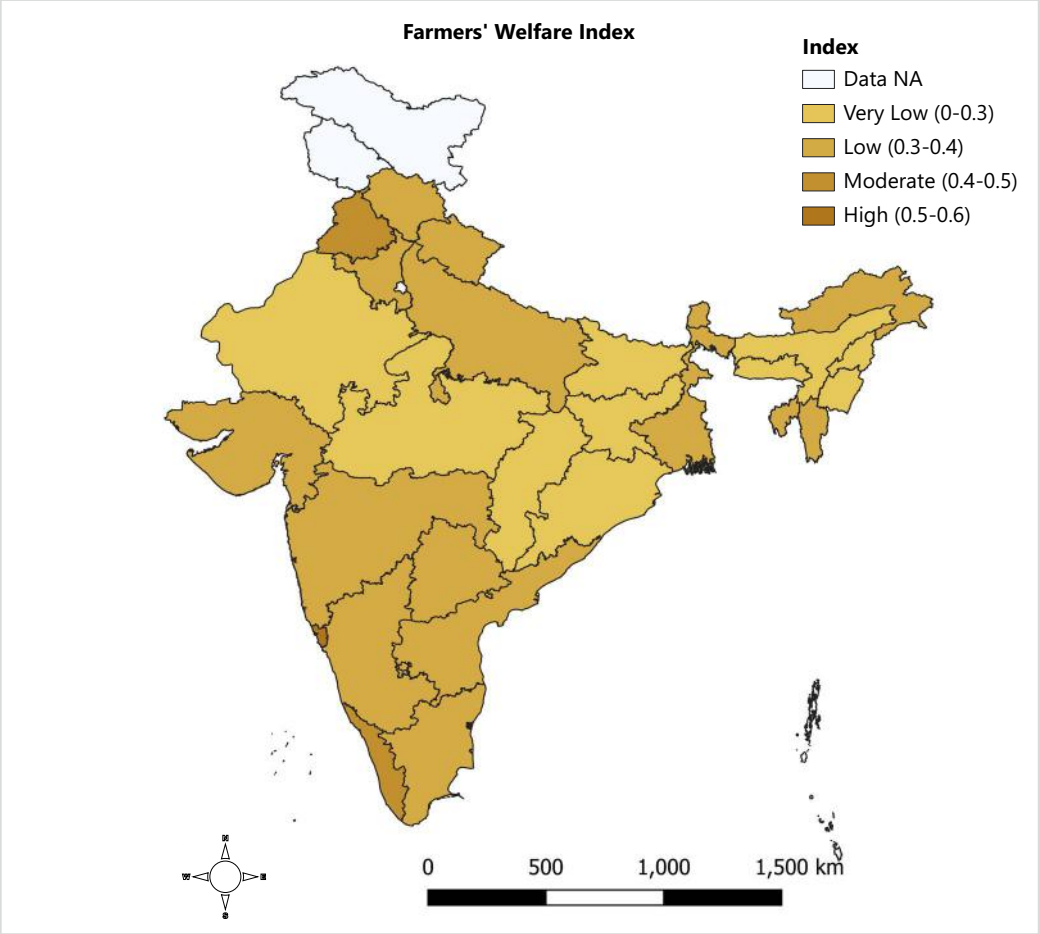
2.6 Enhancing farmers' income by boosting agri-exports

The average monthly income per agricultural household after netting out expenses was estimated at ₹10,218 (2019),[16] compared to ₹6,426 as per the 2013 survey[17] (CAGR 8%). The net receipts from crop production alone have increased by 22.6% as compared to the FY2013 SAS Report. The net receipts from other sources increased by 92.6%, with increase in overall net receipts at 59%.

While the Government of India has envisioned the doubling of farmers' income by FY2023, we must keep in mind that income is but one of the many dimensions of farmers' welfare (Box 2.1).

Box 2.1: Farmers' Welfare Index

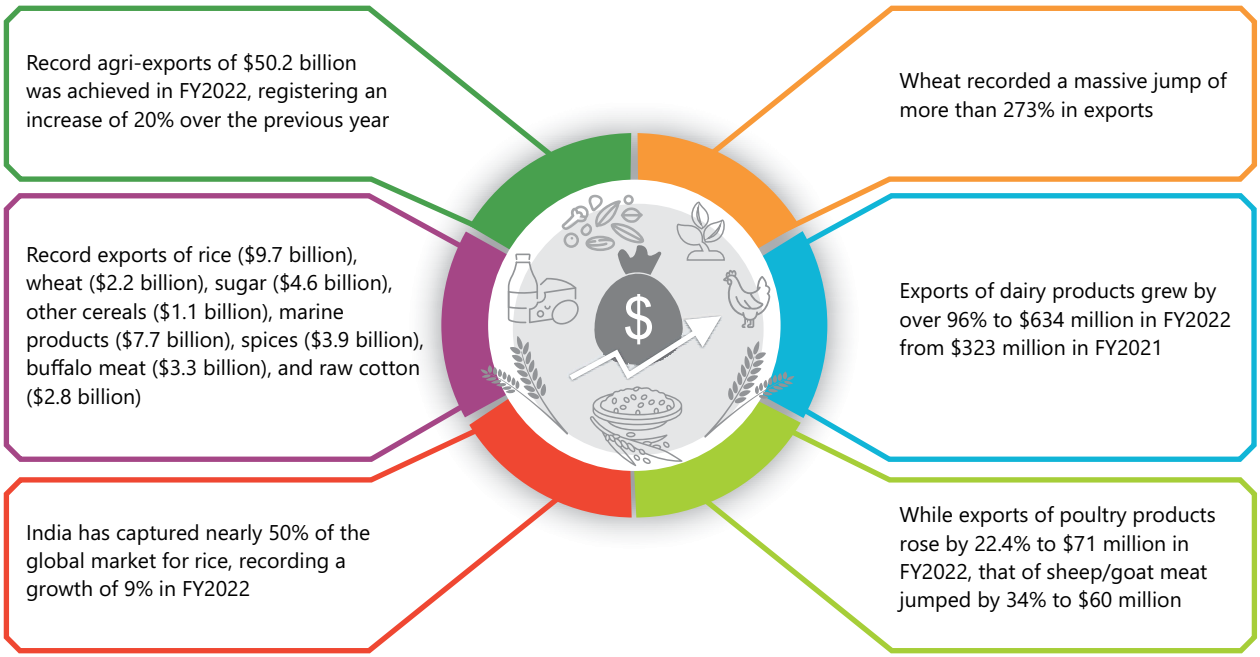
The farmers' welfare index (FaWI) is a composite index of indicators representing six dimensions: (i) production (ii) post-production (iii) infrastructure (iv) social development (v) ecological aspects, and (vi) policy and fiscal environment across states. Goa reported the highest FaWI at 0.57 and Rajasthan the lowest at 0.24.



Source: K.J.S. Satyasai, Ashutosh Kumar, and Neha Gupta (2021), 'Measuring farmers' welfare: An analysis across states of India', *Agricultural Economics Research Review*. Conference on Public Policies and Agricultural Transformation in India, Vol. 34 (Conference Number), Chapter 2 (page 21). Agricultural Economics Research Association (India), December. http://aeraindia.in/upload/16489065273802.pdf.

Nevertheless, income is a significant contributor to and closely correlated with farmers' welfare and therefore a policy priority. India is among the top ten agri-exporters in the world and continues to prioritise export of agricultural and related products to further expand farmer incomes. Having crossed the milestone of $50 billion agri-exports across a wide range of products in FY2022, India is targeting $100 billion by FY2028 (Figure 2.7).

Figure 2.7: Landmark agriculture exports achieved in FY2022



Source: Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce and Industry, Government of India.

Considering the tremendous export potential of agri-products, there is a need to boost exports through the 'One District One Product' scheme. In order to achieve $100 billion agri-exports by FY2028, the strategy should focus on the integration of value-added agriculture produce with global value chains by adopting the best agricultural practices involving productivity gains and cost competitiveness.

Robust infrastructure is a critical component of efficient agricultural and agri-export value chains, such as pre- and post-harvest handling facilities, storage and distribution, cold chain, processing facilities, roads, railways, and world-class exit-point infrastructure at ports and airports facilitating quick exports. There is a need, therefore, to attract private investments in export-oriented activities and infrastructure, in addition to public investment.

In order to ensure higher income for farmers, FPOs could be linked to agri-export zones/clusters to supply sanitary and phytosanitary-compliant agri-products.

2.7 Strengthening the rural economy: Policy support

The Indian rural economy faces several challenges. Climate change poses a major risk of loss in crop productivity and widespread asset destruction due to extreme weather events. Degradation of natural resources, loss of commons, water scarcity, etc., are some of the other challenges. Livelihood security is threatened in the face of weak inter-sectoral linkages, limited employment opportunities, and lack of skills and poor employability of the workforce, exacerbated by regional and inter-personal inequalities.

Several policy interventions have been introduced to strengthen rural economy besides income support schemes like PM–Kisan Samman Nidhi (Box 2.2). Recent announcements made in the Union Budget FY2023 helped reinforce the efforts towards sustainable growth of the rural economy (Box 2.3).

Box 2.2: Policy support for rural sector growth

- National Mission on Edible Oils–Oil Palm (NMEO-OP)
- 'One Nation One Ration Card' to ensure PDS benefit for people in transit, especially migrant workers
- Pradhan Mantri Garib Kalyan Rojgar Abhiyaan for immediate employment and livelihood opportunities to reverse migrant workers across six states of Bihar, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, and Uttar Pradesh
- Lending by SFBs to MFIs for on-lending to be classified as priority sector lending up to 31 March 2022
- Term liquidity facility of ₹50,000 crore for emergency health services by RBI up to 31 March 2022
- Collateral-free lending limit increased from ₹10 lakh to ₹20 lakh for 63 lakh women SHGs, which supported 6.85 crore households
- New RBI norms on microfinance loans—the central bank has recently removed caps on the pricing of small loans issued by NBFC-MFIs, creating a level playing field in the microfinance space
- Business model scheme on financing JLGs for SFBs and scheduled private sector banks formulated by NABARD to enable such banks to build a credible JLG portfolio

Notes: JLG = Joint Liability Group; MFI = Microfinance Institution; NBFC = Non-Banking Financial Company; PDS = Public Distribution System; RBI = Reserve Bank of India; SFB = Small Finance Bank; SHG = Self-Help Group.

Box 2.3 Union Budget FY2023 on fostering rural growth

- Facilitate a fund (through NABARD) with blended capital, raised under the co-investment model to finance start-ups for agriculture and rural enterprise, relevant for farm produce value chain.
- Implement the Ken-Betwa Link Project to provide irrigation benefits to 9.1 lakh ha of land; drinking water supply for 62 lakh people; 103 MW of hydropower; and 27 MW of solar power.
- Support post-harvest value addition; enhancing domestic consumption; and branding millet products nationally and internationally, with 2023 declared as the International Year of Millets.
- Implement a rationalised and comprehensive scheme in FY2023 to increase domestic production of oilseeds that will reduce India's dependence on oilseeds import .
- Promote 'natural farming' throughout the country, with a focus on farmers' lands in 5-km wide corridors along River Ganga in the first stage.
- With participation of state governments, provide a comprehensive package for farmers to adopt suitable varieties of fruits and vegetables, using appropriate production and harvesting techniques.
- Introduce a scheme in PPP mode for delivery of digital and hi-tech services to farmers with involvement of public sector research and extension institutions along with private agri-tech players and stakeholders of agri-value chain.
- Promote 'Kisan drones' for crop assessment, digitisation of land records, spraying of insecticides and nutrients, etc.
- Bring laggard blocks in aspirational districts under the focus of Aspirational Districts Programme in FY2023.
- Aim to implement a new 'Vibrant Villages Programme' in northern border villages that have sparse population, limited connectivity, and infrastructure.
- Earmark ₹60,000 crore to cover 3.8 crore households in FY2023 under the 'Har Ghar, Nal Se Jal' scheme.

Notes: ha = hectare; MW = megawatt; PPP = Public–Private Partnership

2.8 Towards a brighter tomorrow

Reporting good performance in the last few years, agriculture has provided much needed succour to the large Indian populace struggling through the pandemic. During FY2023 too, the sector is likely to do well, given the prediction of normal monsoons, and bolstered by initiatives such as setting up of the India Digital Ecosystem for Agriculture to provide tech-based support to farmers; policies to deploy modern technology (drones, GIS, remote sensing, etc.); income support (PM–Kisan Samman Nidhi); and the passing of Pesticide Management Bill. Endeavours for the future include the formalisation of MSP-based trading; developing a clear road map for organic farming; and increasing the pace of crop diversification.

Sustainable growth of agriculture and the rural economy needs to be turbo-charged through the following measures: massive investment in rural infrastructure, including irrigation, with a focus on water-use efficiency; enhancement in total factor productivity of crops; tech-driven agriculture; agri-tech start-ups; climate-smart agriculture; development of efficient agri-value chains; agri-marketing reforms; promotion of agri-exports; enhanced spending on research and development; modernisation of rural crafts; credit innovations; digital financial inclusion on a massive scale; and agri-risk management.

Adequate financial, skill development, and policy support for our farmers, FPOs, self-help groups, and rural entrepreneurs, especially women, by NABARD, central and state governments, the Reserve Bank of India, other banks, and developmental institutions will go a long way in stimulating the rural economy and enhancing rural income and employment. There are already several islands of high performing agriculture that inspires future agriculturists. A few success stories are presented in the next chapter.

Notes

1. GOI (2022a), Provisional Estimates of National Income 2021–22, National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India.
2. GOI (2022b), Second Advance Estimates of Area and Production of Horticulture Crops 2021-22, National Horticulture Board, Ministry of Agriculture and Farmers' Welfare, Government of India.
3. GOI (2022b), Note 2.
4. GOI (2022c), *Annual Report 2021-22*, Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India.
5. GOI (2022c), Note 4, Annexure II.
6. GOI (2022a), Note 1.
7. A2 = Cost borne by farmers for various inputs such as seeds, fertilisers, pesticides, hired labour, etc. plus rent paid for leased land plus interest on working capital plus depreciation on implements and farm buildings. FL = imputed value of unpaid family labour. | Based on data accessed from Commission for Agricultural Costs & Prices (CACP) https://cacp.dacnet.nic.in and agmarknet.gov.in.
8. Except Karnataka in October 2021, and Uttar Pradesh in October and November 2021.
9. APMC = Agricultural Produce Marketing Committee.
10. GOI (2021), Situation Assessment of Agricultural Households and Land Holdings in Rural India, 2019 and All-India Debt & Investment Survey, 2019, National Sample Survey 77th Round, January to December 2019, National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India.
11. Ashok Gulati, Harsh Wardhan, and Pravesh Sharma (2022), 'Tomato, Onion and Potato (TOP) Value Chains' in Ashok Gulati, Kavery Ganguly and Harsh Wardhan (eds.) (2022), *Agricultural Value Chains in India: Ensuring Competitiveness, Inclusiveness, Sustainability, Scalability, and Improved Finance*, Springer, Singapore.
12. Gulati, Ganguly, and Wardhan (eds.) (2022), book in Note 11.
13. Harsh Wardhan, Sandip Das, and Ashok Gulati (2022), 'Banana and Mango Value Chains' in Gulati, Ganguly and Wardhan (eds.) (2022), Note 11.
14. GOI (2021), Note 10.
15. GOI (2021), Note 10.
16. GOI (2021), Note 10.
17. GOI (2014), Key Indicators of Situation of Agricultural Households in India, National Sample Survey 70th Round, January to December 2013, National Statistical Office, Ministry of Statistics and Programme Implementation, Government of India.