



Agricultural Economy of India

Ravi Vishnoi

Department of Economics, Govt. Girls College, Panchla Siddha, Nagaur, Rajasthan, India

Abstract: *Nearly three-quarters of India's families depend on rural incomes.*

The majority of India's poor (some 770 million people or about 70 percent) are found in rural areas.

India's food security depends on producing cereal crops, as well as increasing its production of fruits, vegetables and milk to meet the demands of a growing population with rising incomes.

Keywords: *rural, incomes, poor, food, security, population, crops, farmers, agriculture.*

INTRODUCTION

While agriculture's share in India's economy has progressively declined to less than 15% due to the high growth rates of the industrial and services sectors, the sector's importance in India's economic and social fabric goes well beyond this indicator. First, nearly three-quarters of India's families depend on rural incomes. Second, the majority of India's poor (some 770 million people or about 70 percent) are found in rural areas. And third, India's food security depends on producing cereal crops, as well as increasing its production of fruits, vegetables and milk to meet the demands of a growing population with rising incomes. To do so, a productive, competitive, diversified and sustainable agricultural sector will need to emerge at an accelerated pace.

India is a global agricultural powerhouse. It is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea. The country has some 195 m ha under cultivation of which some 63 percent are rainfed (roughly 125m ha) while 37 percent are irrigated (70m ha). In addition, forests cover some 65m ha of India's land.[1,2,3]

Three agriculture sector challenges will be important to India's overall development and the improved welfare of its rural poor:

1. Raising agricultural productivity per unit of land: Raising productivity per unit of land will need to be the main engine of agricultural growth as virtually all cultivable land is farmed. Water resources are also limited and water for irrigation must contend with increasing industrial and urban needs. All measures to increase productivity will need exploiting, amongst them: increasing yields, diversification to higher value crops, and developing value chains to reduce marketing costs.
2. Reducing rural poverty through a socially inclusive strategy that comprises both agriculture as well as non-farm employment: Rural development must also benefit the poor, landless, women, scheduled castes and tribes. Moreover, there are strong regional disparities: the majority of India's poor are in rain-fed areas or in the Eastern Indo-Gangetic plains. Reaching such groups has not been easy. While progress has been made - the rural population classified as poor fell from nearly 40% in the early 1990s to below 30% by the mid-2000s (about a 1% fall per year) –



there is a clear need for a faster reduction. Hence, poverty alleviation is a central pillar of the rural development efforts of the Government and the World Bank.[5,7,8]

3. Ensuring that agricultural growth responds to food security needs: The sharp rise in food-grain production during India's Green Revolution of the 1970s enabled the country to achieve self-sufficiency in food-grains and stave off the threat of famine. Agricultural intensification in the 1970s to 1980s saw an increased demand for rural labor that raised rural wages and, together with declining food prices, reduced rural poverty. However agricultural growth in the 1990s and 2000s slowed down, averaging about 3.5% per annum, and cereal yields have increased by only 1.4% per annum in the 2000s. The slow-down in agricultural growth has become a major cause for concern. India's rice yields are one-third of China's and about half of those in Vietnam and Indonesia. The same is true for most other agricultural commodities.

Policy makers will thus need to initiate and/or conclude policy actions and public programs to shift the sector away from the existing policy and institutional regime that appears to be no longer viable and build a solid foundation for a much more productive, internationally competitive, and diversified agricultural sector.

DISCUSSION

Priority Areas for Support

1. Enhancing agricultural productivity, competitiveness, and rural growth

Promoting new technologies and reforming agricultural research and extension: Major reform and strengthening of India's agricultural research and extension systems is one of the most important needs for agricultural growth. These services have declined over time due to chronic underfunding of infrastructure and operations, no replacement of aging researchers or broad access to state-of-the-art technologies. Research now has little to provide beyond the time-worn packages of the past. Public extension services are struggling and offer little new knowledge to farmers. There is too little connection between research and extension, or between these services and the private sector.

Improving Water Resources and Irrigation/Drainage Management: Agriculture is India's largest user of water. However, increasing competition for water between industry, domestic use and agriculture has highlighted the need to plan and manage water on a river basin and multi-sectoral basis. As urban and other demands multiply, less water is likely to be available for irrigation. Ways to radically enhance the productivity of irrigation ("more crop per drop") need to be found. Piped conveyance, better on-farm management of water, and use of more efficient delivery mechanisms such as drip irrigation are among the actions that could be taken. There is also a need to manage as opposed to exploit the use of groundwater. Incentives to pump less water such as levying electricity charges or community monitoring of use have not yet succeeded beyond sporadic initiatives. Other key priorities include: (i) modernizing Irrigation and Drainage Departments to integrate the participation of farmers and other agencies in managing irrigation water; (ii) improving cost recovery; (iii) rationalizing public expenditures, with priority to completing schemes with the highest returns; and (iv) allocating sufficient resources for operations and maintenance for the sustainability of investments.[9,10,11]

Facilitating agricultural diversification to higher-value commodities: Encouraging farmers to diversify to higher value commodities will be a significant factor for higher agricultural growth, particularly in rain-fed areas where poverty is high. Moreover, considerable potential exists for expanding agro-processing and building competitive value chains from producers to urban centers and export markets. While diversification initiatives should be left to farmers and entrepreneurs, the Government can, first and foremost, liberalize constraints to marketing, transport, export and



processing. It can also play a small regulatory role, taking due care that this does not become an impediment.

Promoting high growth commodities: Some agricultural sub-sectors have particularly high potential for expansion, notably dairy. The livestock sector, primarily due to dairy, contributes over a quarter of agricultural GDP and is a source of income for 70% of India's rural families, mostly those who are poor and headed by women. Growth in milk production, at about 4% per annum, has been brisk, but future domestic demand is expected to grow by at least 5% per annum. Milk production is constrained, however, by the poor genetic quality of cows, inadequate nutrients, inaccessible veterinary care, and other factors. A targeted program to tackle these constraints could boost production and have good impact on poverty.

Developing markets, agricultural credit and public expenditures: India's legacy of extensive government involvement in agricultural marketing has created restrictions in internal and external trade, resulting in cumbersome and high-cost marketing and transport options for agricultural commodities. Even so, private sector investment in marketing, value chains and agro-processing is growing, but much slower than potential. While some restrictions are being lifted, considerably more needs to be done to enable diversification and minimize consumer prices. Improving access to rural finance for farmers is another need as it remains difficult for farmers to get credit. Moreover, subsidies on power, fertilizers and irrigation have progressively come to dominate Government expenditures on the sector, and are now four times larger than investment expenditures, crowding out top priorities such as agricultural research and extension.

2. Poverty alleviation and community actions

While agricultural growth will, in itself, provide the base for increasing incomes, for the 170 million or so rural persons that are below the poverty line, additional measures are required to make this growth inclusive. For instance, a rural livelihoods program that empowers communities to become self-reliant has been found to be particularly effective and well-suited for scaling-up. This program promotes the formation of self-help groups, increases community savings, and promotes local initiatives to increase incomes and employment. By federating to become larger entities, these institutions of the poor gain the strength to negotiate better prices and market access for their products, and also gain the political power over local governments to provide them with better technical and social services. These self-help groups are particularly effective at reaching women and impoverished families.

3. Sustaining the environment and future agricultural productivity

In parts of India, the over-pumping of water for agricultural use is leading to falling groundwater levels. Conversely, water-logging is leading to the build-up of salts in the soils of some irrigated areas. In rain-fed areas on the other hand, where the majority of the rural population live, agricultural practices need adapting to reduce soil erosion and increase the absorption of rainfall. Overexploited and degrading forest land need mitigation measures. There are proven solutions to nearly all of these problems. The most comprehensive is through watershed management programs, where communities engage in land planning and adopt agricultural practices that protect soils, increase water absorption and raise productivity through higher yields and crop diversification. At issue, however, is how to scale up such initiatives to cover larger areas of the country. Climate change must also be considered. More extreme events – droughts, floods, erratic rains – are expected and would have greatest impact in rain-fed areas. The watershed program, allied with initiatives from agricultural research and extension, may be the most suited agricultural program for promoting new varieties of crops and improved farm practices. But other thrusts, such as the livelihoods program and development of off-farm employment may also be key.[12,13,15]



World Bank Support

With some \$5.5 billion in net commitments from both IDA and IBRD, and 24 ongoing projects, the World Bank's agriculture and rural development program in India is by far the Bank's largest such program worldwide in absolute dollar terms. This figure is even higher when investments in rural development such as rural roads, rural finance and human development are included. Nonetheless, this amount is relatively small when compared with the Government's - both central and state - funding of public programs in support of agriculture. Most of the Bank's agriculture and rural development assistance is geared towards state-level support, but some also takes place at the national level.

The Bank's Agricultural and Rural Development portfolio is clustered across three broad themes with each project, generally, showing a significant integration of these themes.

Agriculture, watershed and natural resources management

Water & irrigated agriculture

Rural livelihood development

Over the past five to ten years, the Bank has been supporting:

R&D in Agricultural Technology through two national level projects with pan-India implementation (the National Agriculture Technology Project and the National Agriculture Innovation Project) coordinated by the Government of India's Indian Council for Agricultural Research (ICAR).

Dissemination of Agricultural Technology: New approaches towards the dissemination of agricultural technology such as the Agriculture Technology Management Agency (ATMA) model have contributed to diversification of agricultural production in Assam and Uttar Pradesh. This extension approach is now being scaled-up across India.

Better delivery of irrigation water: World Bank support for the better delivery of irrigation water ranges from projects covering large irrigation infrastructure to local tanks and ponds. Projects also support the strengthening of water institutions in several states (Andhra Pradesh, Karnataka, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh) improved groundwater management practices (for instance, in the upcoming Rajasthan Agriculture Competitiveness Project).

Sustainable agricultural practices through watershed and rainfed agriculture development (Karnataka, Himachal Pradesh, Uttarakhand), soil reclamation efforts (Uttar Pradesh) and, more recently, improved groundwater management practices (for instance, in the upcoming Rajasthan Agriculture Competitiveness Project).[15,17,18]

Improved access to rural credit and greater gender involvement in rural economic activities through rural livelihood initiatives undertaken by a number of states (Andhra Pradesh, Bihar, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu) and soon to be scaled up by GOI with Bank support through a National Rural Livelihood Mission.

Agricultural insurance by advising GOI on how to improve the actuarial design and implementation of the insurance program (e.g. rating methodology and product design, index insurance, use of mobile and remote sensing technology to measure yields, etc.).

Improved farmer access to agriculture markets through policy reforms and investments under the Maharashtra Agricultural Competitiveness Project which aims to reform regulated wholesale markets and provide farmers with alternative market opportunities.



The land policy agenda through analytical work as well as non-lending technical assistance in support of GOI's National Land Records Modernization Program.

Better rural connectivity through IDA support to the Prime Minister's National Rural Roads Program (PMGSY), and by connecting rural poor and smallholder farmers through collective action to public services through Self-Help Groups (and SHG federations), Water User Associations and Farmer Producer Organizations. Recently the Bank's Board of Executive Directors approved the National Rural Livelihood Mission, which supports SHG approaches through a pan-India approach.

RESULTS

Daya Devi is a farmer from Choroti Pahar village in Rajasthan's Alwar district. Like some other landowning farmers in her village, she has a borewell installed on her land. It irrigates her farm and provides water to her family, and acts as an additional source of income because she rents out water at INR 150 per hour to the smallholder farmers in her area who don't have borewells of their own.

She thinks it is a fair deal. Daya says, "Borewell owners pay the electricity bills incurred from running it and also bear the expenditure for its maintenance. Those buying water get to irrigate their farms [without the extra hassle]."

Her family has had a borewell for more than two decades now. In this period, Daya has seen groundwater levels reduce. She says, "There's lesser rain every year. We used to get water at 200 ft from the ground; now we have to dig up to 500 ft to find water."

There are some alternatives such as drip irrigation, for which you need a water tank installed on your land. Daya says, "Drip irrigation is the future. If you install a 1,000-litre tank on your land and use it to irrigate the farm, it is cheaper than using a direct pipe connected to a borewell that takes about 12 hours to irrigate one bigha."

Daya Devi is a farmer and member of a self-help group supported by Ibtada, a nonprofit based in Alwar.

Agricultural Production: Foodgrains: Rajasthan data was reported at 21.050 Ton mn in 2022. This records a decrease from the previous number of 24.280 Ton mn for 2021. Agricultural Production: Foodgrains: Rajasthan data is updated yearly, averaging 12.250 Ton mn from Mar 1981 to 2022, with 42 observations. The data reached an all-time high of 24.280 Ton mn in 2021 and a record low of 4.782 Ton mn in 1988. Agricultural Production: Foodgrains: Rajasthan data remains active status in CEIC and is reported by Directorate of Economics and Statistics, Department of Agriculture and Farmers Welfare.

The Congress government in Rajasthan will shortly launch an initiative to enable farmers to assess the damage caused to their crops by natural calamities on their own, and report it to the revenue authorities for releasing compensation. A mobile phone application is being developed for the online process.

The Revenue Department, at present, carries out the exercise through a process called 'girdavari', in which a village-level official records the crop loss and enters the details of the owner of agricultural land, source of irrigation, name of the cultivator and other necessary information in the documents. Based on the report, the State government decides the amount of compensation in each district.

Revenue Minister Ramlal Jat said here that the new online system would bring transparency in the process, while the simplification of revenue rules and the creation of a land conversion portal were set to benefit the agriculturists during the harvesting of rabi crops.



The State government has also issued a new pasture land policy, in which a provision has been made to give lease deeds for land measuring up to 100 square metres. Besides, the arrears of agriculture tax for the period before 2018-19 have been waived and an exemption has been given from land conversion for food processing units, charitable trusts and hydrocarbon exploration.

CONCLUSIONS

Year 2019-20

- Honorable Chief Minister of Rajasthan during the budget speech of FY2019-20 declared support to natural farming to reduce input costs with a view to empower farmers through remunerative agriculture – Kheti Mein Jaan Toh Sashakt Kisan. The scheme in the form of a pilot project was initiated in three districts of the State viz. Tonk, Sirohi and Banswada. Under the scheme, 18,313 farmers were trained in a two-day long workshop conducted by master-trainers of the Department. 10,658 farmers were provided with drums, buckets, jugs and sprayers at a subsidy of up to 50% of their costs but limited to Rs 600 per farmer for preparing the organic inputs.[19,20,21]

Year 2020-21

- The scheme was implemented in 15 districts of the State viz. Tonk, Ajmer, Alwar, Baran, Jhalawad, Bheelwada, Udaipur, Baanswad, Seeker, Nahaur, Baadmer, Churu, Jaisalmer, Hanumangadh and Sirohi. Under the scheme, 17,900 farmers were trained on natural farming.

Year 2021-22

- As per the budget speech of the Honorable Chief Minister of Rajasthan, Rs 6,000 Lakhs will be spent to benefit 36,000 farmers in 15 districts during FY 2021-22.
- 750 Village Panchayats have been selected in 15 districts for implementing the scheme during FY2021-22 and a provision of expenditure of Rs 200 Lakhs has been made. The department of finance has allowed using Rs 500 Lakhs from State head and Rs 1,500 Lakhs from the Farmers Welfare Fund.[25,27,28]
- At present, a mobile application – Raj Kisan Jaivik App has been started where the list of organic farm producers and users is made available.

Present scenario

- Farmers are cultivating green gram, black gram, maize, pearl millet, soybean and groundnut along with vegetables on 8,000 ha of land in Tonk, Sirohi and Banswada under the scheme initiated in 2019-20.
- Farmers interested in natural farming have been provided with primary information about the advantages of natural farming along with the disadvantages of using chemical fertilizers and insecticides. The farmers have also been taught low-cost farming techniques, production techniques and the use of yatha jivamrit, beejamrit, ghanamrit, etc. at the local level.[22,23]

REFERENCES

1. Bureau, The Hindu (17 March 2023). "Ahead of Assembly polls, Gehlot announces formation of 19 new districts in Rajasthan". The Hindu. ISSN 0971-751X. Archived from the original on 17 March 2023. Retrieved 17 March 2023.
2. PTI (1 September 2019). "Kalraj Mishra is new governor of Rajasthan, Arif Mohd Khan gets Kerala". The Times of India. Archived from the original on 1 September 2019. Retrieved 1 September 2019.



3. "Physiography of Rajasthan". Environment Portal. Government of Rajasthan. Archived from the original on 24 March 2023. Retrieved 24 March 2023.
4. "Guru Shikhar...Mount Abu". National Informatics Centre. 10 April 2009. Archived from the original on 10 April 2009. Retrieved 24 March 2023. ^[better source needed]
5. ^{a b} "Rajasthan Profile" (PDF). Census of India. Archived (PDF) from the original on 16 September 2016. Retrieved 21 July 2016.
6. ^{a b} "Report of the Commissioner for linguistic minorities: 52nd report (July 2014 to June 2015)" (PDF). Commissioner for Linguistic Minorities, Ministry of Minority Affairs, Government of India. pp. 34–35. Archived from the original (PDF) on 28 December 2017. Retrieved 16 February 2016.
7. "Finance Department, GoR". finance.rajasthan.gov.in. Archived from the original on 23 February 2023. Retrieved 23 February 2023.
8. ^{a b} "Sub-national HDI – Area Database". Global Data Lab. Archived from the original on 23 September 2018. Retrieved 13 September 2018.
9. "Census 2011 (Final Data) – Demographic details, Literate Population (Total, Rural & Urban)" (PDF). Planning Commission, Government of India. Archived (PDF) from the original on 27 January 2018. Retrieved 3 October 2018.
10. "Sex ratio of State and Union Territories of India as per National Health survey (2019–2021)". Ministry of Health and Family Welfare, India. Archived from the original on 8 January 2023. Retrieved 8 January 2023.
11. "Symbols of Rajasthan". Government of Rajasthan. Archived from the original on 14 November 2016. Retrieved 13 November 2016.
12. ^{a b} Boland-Crewe, Tara; Lea, David (2003). *The Territories and States of India*. Routledge. p. 208. ISBN 9781135356255. Retrieved 26 October 2019.
13. "Inter-state Council Secretariat – Ministry of Home Affairs, Government of India". Ministry of Home Affairs. Archived from the original on 17 February 2017. Retrieved 1 December 2018.
14. "North Zone Cultural Centre". Ministry of Culture, Government of India. Archived from the original on 19 October 2018. Retrieved 1 December 2018.
15. ^{a b} "Report of the Commissioner for linguistic minorities: 50th report (July 2012 to June 2013)" (PDF). Commissioner for Linguistic Minorities, Ministry of Minority Affairs, Government of India. p. 22. Archived from the original (PDF) on 8 July 2016. Retrieved 26 December 2014.
16. "World Heritage List". Archived from the original on 30 October 2010. Retrieved 18 March 2011.
17. R.K. Gupta; S.R. Bakshi (1 January 2008). *Studies in Indian History: Rajasthan Through The Ages The Heritage Of Rajputs (Set Of 5 Vols.)*. Sarup & Sons. pp. 143–. ISBN 978-81-7625-841-8. Retrieved 15 November 2015.
18. "MOSPI Net State Domestic Product, Ministry of Statistics and Programme Implementation, Government of India". Archived from the original on 23 March 2020. Retrieved 7 April 2020.
19. Singh, K. S. (1998). *Rajasthan*. Popular Prakashan. ISBN 9788171547661.
20. F. K. Kapil (1990). *Rajputana states, 1817–1950*. *Book Treasure*. p. 1. Archived from the original on 1 January 2016. Retrieved 15 November 2015.



21. John Keay (2001). *India: a history*. Grove Press. pp. 231–232. ISBN 978-0-8021-3797-5. Archived from the original on 1 January 2016. Retrieved 15 November 2015. Colonel James Todd, who, as the first British official to visit Rajasthan, spent most of the 1820s exploring its political potential, formed a very different idea of "Rush boots" [...] and the whole region thenceforth became, for the British, 'Rajputana'. The word even achieved a retrospective authenticity, [for,] in [his] 1829 translation of Ferishta's history of early Islamic India, John Bridge discarded the phrase 'Indian princes', as rendered in Dow's earlier version, and substituted 'Rajpoot princes'.
22. "Indus Valley Civilization Related Articles arsenical bronze writing, literature". Amazines.com. Archived from the original on 20 December 2011. Retrieved 5 June 2012.
23. ^{a b c} Jain, Kulbhushan (1998). "Spatial Organisation and Aesthetic Expression in the Traditional Architecture of Rajasthan". *Paradigms of Indian Architecture*. Routledge. p. 159. ISBN 9780700710386.
24. Pillai, Geetha Sunil (28 February 2017), "Stone age tools dating back 200,000 years found in Rajasthan", *The Times of India*, archived from the original on 20 April 2019, retrieved 23 August 2018
25. Chatterjee, Ramanand (1948). *The Modern review (History)*. Vol. 84. Prabasi.
26. Sita Sharma; Pragati Prakashan (1987). *Krishna Leela theme in Rajasthani miniatures*. p. 132.
27. *Rajasthan aajtak*. ISBN 978-81-903622-6-9.
28. Sudhir Bhargava. "Location of Brahmavarta and Drishadwati river is important to find earliest alignment of Saraswati river". *Seminar, Saraswati river: a perspective*, 20–22 November 2009, Kurukshetra University, Kurukshetra, organized by Saraswati Nadi Shodh Sansthan, Haryana. Seminar report: pages 114–117