Some policy options to revive agriculture

Improving rural infra, and providing quality inputs and institutional credit to small farmers will help

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The agriculture sector is considered the backbone of the Indian economy as it provides livelihood for nearly half the country's population. Though agriculture's contribution to gross domestic product (GDP) has been declining since 1947, it still remains a key sector, especially evident during the Covid-19 pandemic when its resilience crucially helped people and te economy. The sector's gross value added grew at 3.6 per cent in 2020-21 and further improved to 3.9 per cent in 2021- 22 (*Economic Survey*, 2021-22).

That said, the agriculture sector has been going through a crisis mainly due to fragmented landholdings, higher cost of cultivation, low institutional credit, increasing indebtedness of farmers, lack of adequate market linkages, climate change, exploitation of farmers by various agents, etc. These and other causes have led to over three lakh suicides in the farming community during the last two decades.

With a view to addressing these issues, the following policy options may be explored:

Rural infrastructure: Around 10 per cent of cereals, pulses, and oilseeds and 16 per cent of fruits and vegetables grown in India do not reach the ultimate consumer due to inadequate cold chain infrastructure. As a result, post-harvest losses are estimated at around ₹2-lakh crore per annum.

China promoted rural township and village enterprises by creating massive infrastructure, which play a significant role in rural income growth. Therefore, India can adopt this model by focussing on non-farm employment and rural infrastructure, including management of natural resources like land and water, apart from development of post-harvest architecture.

Institutional credit: Agriculture credit flow target was fixed at ₹16.50-lakh crore for FY 2021-22 against actual level of ₹15.75- lakh crore during 2020-21. However, medium/large farmers, corporates, traders and input dealers received a lion's share of this amount. Though the government introduced Kisan Credit Cards in 1998 for small and marginal farmers to meet their working capital needs, their usage has not risen due to low awareness and literacy among farmers.

Farmers must be encouraged to diversify their cropping pattern SRINIVAS KOMMURI

As a result, moneylenders thrive in the rural credit market even today. As tenant farmers form a major chunk of the farming community and don't have access to formal credit, they may be issued loan eligibility cards.

Quality inputs: Indian farmers require quality inputs — seeds, plant protection chemicals, fertilisers, etc. — to achieve 4 per cent growth per annum. However, most of the farmers cannot access such inputs as over 86 per cent of them are small or marginal. Agri-startups such as Agrostar, Gramophone and Bharat Agri supply quality inputs to farmers/farmer producer organizations (FPOs) based on crop diagnostics, at affordable cost.

Research and extension: These are the two arms of agriculture. Gulati *et al* (2018) showed that every rupee spent on agricultural research and development yields higher returns (11.2), compared to returns on every rupee spent on fertiliser subsidy (0.88), power subsidy (0.79), education (0.97), and roads (1.10).

As there is a large knowledge gap between yields in research stations and that in farmers' fields, extension services should be promoted in a big way to educate the farmers in respect of integrated/precision farming, new technologies including drones, Artificial Intelligence (AI) based decision support systems, reduction in use of chemical fertilisers, and use of low-cost organic inputs.

Diversification of agriculture: Since the mid-1960s, focus has been on food security through Green Revolution. Though the production in agriculture has increased manifold, this resulted in excessive concentration of few crops, namely, rice, wheat and sugarcane, leading to deterioration of soil health and overexploitation of groundwater.

Therefore, farmers need to diversify their cropping pattern to crops such as millets, oilseeds, fruits and vegetables and adopt integrated farming along with dairy, poultry, and fisheries. However, diversification should not happen at the cost of food security of the nation.

According to the Situation Assessment Survey 2021, net income from farming of livestock increased from 12 per cent to 16 per cent of average monthly income of agricultural households in India between 2014 and 2021. The Indian Council of Agricultural Research promoted integrated farming by encouraging 75,000 farmers in 1,400 villages across India, thereby enhancing the farmers' income by 125-272 per cent during the last four years.

Collectives: 'Collective Action Theory' propounds how and why individuals decide to collaborate as a group to enhance their negotiating power. Collectives like FPOs have the potential to take off in a big way through 'farm-to-fork' business model by operating in the entire agricultural value chain. Sahyadri Farms, based in Nashik, is a case in point. Nearly 10,000 small and marginal farmers are members of this collective and produce organic fruits and vegetables with a total annual turnover of ₹300 crore, including exports.

Market linkages: The government launched the e-NAM scheme in 2016, with the aim of creating online, a transparent and competitive bidding system to facilitate farmers for better price discovery and smooth marketing of agricultural produce. However, the scheme is suffering from certain infrastructural bottlenecks in the *mandis*.

Besides, the governmentof provides web-based market intelligence to farmers through AGRISNET, e-Krishi and AGMARKNET, Digital Mandi, e-agri kiosk, etc. GUJPRO, a state-level FPO in Gujarat, has carved a niche for itself by working with exporters in a commodity-specific value chain in peanuts.

Also, a few FPOs supply produce to modern e-commerce retails such as JioMart, Grofers, Big Basket, etc., either directly or through new-age agri-startups.

In sum, agriculture is the key to fulfil half of the 17 Sustainable Development Goals which, among other things, include the targets of eliminating poverty and hunger and reducing inequalities. Green Revolution 1.0 transformed India from a food-deficit to a food-surplus country; subsistence farming to sustainable agriculture; and a consumption-based economy to an export-oriented one.

Green Revolution 2.0 may be achieved through policy focus on collectives, conservation of water, disaster management through insurance and climate resilient technologies, formal credit, and (export) markets through value addition.

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