

The agriculture sector is key for achieving targets set under Sustainable Development Goals.

Indian Agriculture with almost 50 percent of the population directly dependent on it for livelihoods, is bound to play important role in fulfilling the 2030 Sustainable Development Agenda (SDG) agenda. SDG agenda 2030 includes 17 SDG goals adopted by all members of the United Nations which requires urgent action to be taken individually as well as in global partnership to deal with major challenges of poverty, hunger, inequality, climate change, and others that are confronting the world today. Agriculture sector is a key for achieving targets set under SDG.

SDG 2 is directly related to the Agriculture sector and its targets include the elimination of hunger and all forms of malnutrition by 2030 and improving productivity and resiliency of the agricultural sector. Food and Nutrition security have a direct impact on other SDGs' such as SDG 1 (Elimination of all form of Poverty), SDG 3 (Good Health and Well Being), SDG 4 (Quality Education), and SDG 12 (Responsible Consumption and Production). Smart and climate-resilient agricultural practices (farming method, cropping pattern, quality of seeds) and optimal use of resources and inputs (water, electricity, fertilizers, pesticides) is paramount for achieving targets set under SDG 6 (Clean Water and Sanitation), SDG 7(Affordable and Clean Energy), SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15(Life on Land).



Image source: Financial Express

New Delhi is continuously implementing new reforms to boost Agriculture Sector, but Indian farm productivity remains to be low compare to developed countries. It is necessary to increase non-farm income along with the implementation of agricultural reforms to achieve the target of doubling farmer's income by 2022. Traditional challenges of reducing workforce dependent on agriculture, small farm holdings, low technological adoption, monsoon dependence, and decreased soil fertility are still there. Various subsidies (power, fertilizer, water) and Minimum Support Price intended to help farmers are causing irreversible damage to the ecosystem increasing dangers associated with climate change and sustainability. Various reports have claimed that balancing food and nutrition security for a rising population and decline in food production due to climate change is going to be a difficult task. Various experts and scientists have suggested several measures to solve farm distress realistically. India can achieve multiple SDG targets by the adoption of some of the right strategies and policies suggested by scientists and experts to boost Indian Agriculture.

The government must focus on improving the productivity of small scale farmers (average

landholding in India is 1.08 hectares). This can be done by creating an ecosystem for the formation of Farmer Producer Organization for collaborative farming, rental machinery and equipment, quality seeds, higher value addition, and better market access through technology. Diversification of crops and Integrated Farming System should be promoted and more credit should be earmarked for animal husbandry and fisheries (currently 10% of the credit produces 40% of the total farmer's output). Youth should be facilitated with scientific knowledge and entrepreneurship skills. Non-farm income should be raised through new ways such as land leasing options and distributing solar power pumps (farmers can sell excess power to the grid).

Centre and state in collaboration with NGOs and Research organizations work towards the adoption of innovative agriculture practices. Smart Agriculture involves the integration of advanced technologies such as ICT, AI, GIS, RS, and GPS to increase production efficiency and quality of agricultural products. Innovative practices such as Conservation Agriculture and Organic Farming along with rainwater harvesting and micro-water irrigation helps to restore the health of the soil, protect the environment, enhance biodiversity, sustain crop productivity and enhance farmers' income. Organic farming provides a great opportunity to boost India's exports. The integration of all existing subsidies such as power, fertilizer, etc. into a direct cash transfer scheme would lead to sustainable farming. It will ensure the judicious use of electricity and fertilizer, in turn, the farmer will shift to low water-intensive crops in distressed areas.

MSP procurement of rice and wheat in water-stressed states should be limited. Also, private players can be given procurement and distribution contracts through competitive bidding in areas where state infrastructure is unavailable. This will help to improve efficiency and reduce leakages in the system. Farmers are needed to encourage to grow pulses and millets (especially in areas facing water scarcity) as they help in soil rejuvenation and naturally fixing atmospheric oxygen, without consuming much water. There is a need to involve various local foods, pulses/millets apart from two major staple crops in the Public Distribution System to ensure food and nutrition security to the rural population.

As climate change is seriously going to hamper food production levels, various drought, heat, and pest-resistant varieties of seeds should be innovated and introduced incrementally. Agriculture along with fisheries, aquaculture, and horticulture provide unique opportunity to foster biodiversity. India hosts three unique Globally Important Agricultural Heritage Systems (GIAHS) including Kuttanad below sea level farming in Kerala. Recently, West Bengal farmers experimented with the Pokkali variety of rice to fight consistent seawater incursions. Indigenous knowledge obtained through heritage will play a significant role while tackling climate change.



Image source: Wikimedia Commons

On the agri-export front, India must incentivize high-value agri-products such as fruits and vegetables, spices, tea, coffee, and cotton rather than rice and sugar. Also, palm oil should be cultivated to reduce the import bill on edible oil. A well-balanced trade strategy would ensure sustainability for Indian farming. Income support schemes such as PM-Kisan should cover all the sharecroppers and complete digitization of land records should be done (BlockChain technology can be efficiently utilized). This will enable smooth leasing of land to private parties. Private participation through contract farming would help to build much-needed capital and infrastructure such as cold storage, food processing units, and value addition processes thus fostering the agro-processing industry in rural areas.

For protecting farmers from the shock of drought, calamity, and pest attacks, effective insurance coverage should be provided. The current [PMFBY](#) coverage rate is far below 30 percent. Effective implementation with help of new technology such as drones and GIS is necessary for speedy disbursement of the claimed amount. As many farmers are opting out for jobs in small industries, women are seen to be playing a dominant role in agriculture. This feminization of agriculture must be supported with the necessary knowledge and financial access to ensure gender equality ([SDG 5 - Empowering Women](#)).

Therefore focus on farmer's livelihoods and boosting the productivity of the agriculture sector has direct and indirect spill-over effects on various SDGs. Multi-pronged agricultural strategy and actions for rural development and empowering farmers would lay the foundation for sustainable and resilient societies.

Notes:

1. Reforming Indian Agriculture, Ashok Gulati, Devesh Kapur, Marshall M Bouton
2. OECD Report, AGRICULTURAL POLICIES IN INDIA, 2018

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