National Symposium on Food, Nutrition, and Environmental Security: Towards Achieving SDGs

(29-30 August 2022)

Concept Note

Preamble

As the world population continues to grow, much more efforts for research and innovation will be needed to sustainably increase agricultural production, improve the supply-chain, decrease food losses and waste, and ensure that all who are suffering from hunger and malnutrition have access to required nutritious food. Experiences since Green Revolution have given confidence to eradicate hunger with commitment of working together to achieve this goal. The world population is expected to reach 9.8 billion by 2050, which will be about 34 per cent higher than at present. It is estimated that globally we will require 70 per cent more food (FAO 2009) considering the present dietary pattern, income and consumption scenario. India's current population of 1.40 billion (around 17.7% of world population) is likely to reach 1.51 billion by 2030 thus making it most populous country in the world.

A fundamental question arises as to whether India will continue remaining self-sufficient in food production and achieve sustainable development goals (SDGs) by 2030. The challenge to produce more from decreasing per capita arable land and irrigation water, besides increasing abiotic and biotic stresses, is quite alarming. The impact of climate change on agriculture is expected to reduce production of crops like rice, wheat and maize by almost 10-20 per cent. Despite having achieved household food security due to Green, White and Blue revolutions, the problem of poverty, hunger and malnutrition still persists and the real income of the farmer has not increased. Malnutrition is taking a toll across the nations. In India, currently 189.2 million people are undernourished and 34.7 per cent of the children aged under five are stunted. By this measure, around 14 per cent of the population is undernourished. Also, 51.4 per cent of women in reproductive age between 15 to 49 years are anaemic and need proper care and nutritious food. In fact, the challenge is not the lack of food; it is rather the poverty which hinders making available food consistently to everyone who needs it.

Achieving the targets of no poverty and zero hunger is not just about calorie adequacy but alleviating micronutrient deficiency and availability of food for all. The explicit focus of SDG 2 on the importance of ending all forms of malnutrition and the recognition of agriculture as a key player in achieving this goal are specifically relevant for us in India,

The crisis triggered by the COVID-19 pandemic has also cautioned nations to ensure availability of enough nutritious and diversified food that is produced locally. Also, the number of people who are food and nutrition insecure is expected to further rise in the coming years. Despite global efforts, the number of hungry and malnourished people has reached to about 900 million (additional 100 million) since COVID-19 pandemic.

Towards Achieving SDGs

The commitment of Government of India to meet SDGs and the Paris Agreement for climate change do present unique opportunity for the entire agricultural sector to get aligned for a better tomorrow. Thus, there is urgency that policy makers accord high priority to agriculture, which still sustains almost half of the Indian population, to ensure faster agricultural growth to achieve food, nutritional and environmental security for all. This obviously would demand doubling of funds for agricultural research and innovation for development (ARI4D), which still gives the highest returns (more than 10-15 times) compared to other growth related sectors. Also, the enhanced capital investment in non-Green Revolution areas such as eastern and north-eastern regions, especially to improve social development index (SDI), becomes highly justified to ensure an Evergreen Revolution which is sustainable. Besides SDGs, India's commitment for doubling farmers' income is a major policy initiative, which demands specific focus on increased production with low input cost, sustainable agricultural diversification and efficient post-production management, including value addition, and new options for linking farmers to market. Obviously, these would demand a paradigm shift in current national agricultural policies to become pro-farmer and to ensure higher agricultural growth for an overall prosperity. In addition, increased capital investment in agriculture jointly by the Government and Private Sector is warranted, which seemed to have declined since Green Revolution period.

At this juncture, there is urgency for introspection of existing technology, development and policy related initiatives and to evolve a new strategy with defined Road Map, to accelerate agricultural growth rate which seemed to have stuck around 3 per cent. Also, accelerating agricultural growth is warranted for achieving SDG2 by 2030. This obviously calls for some bold policy decisions, and to scale out new technologies and innovations to ensure increased production linked to input use efficiency, post-production, value-chain, effective partnership with stakeholders, especially the private sector, and the linkages with both national and global institutions and markets, and finally the effective implementation of new strategy.

Also, concerted efforts are needed for scaling disruptive innovations such as: hybrid technology (maize, pearl millet, sorghum, rice); adoption of GM crops (soybean, mustard, maize, brinjal), promoting conservation agriculture - from current 3,0 to >20 mha; expanding area under protected cultivation from current 0.5 to 2.0 mha; micro-irrigation area from current 10 mha to almost double; bioenergy/biofuel (use of ethanol permitted already up to 20%) from potential crops such as: sugarcane and maize; population of biofortified crops (quality protein maize, iron and zinc rich rice, iron rich pearl millet, zinc rich wheat) including policy on their pricing; and greater use of information and communication technology (ICT) for knowledge empowerment, including private advisory services, etc.

In view of Paris Agreement and the commitments made by the Hon'ble Prime Minister in COP 26 held at Glasgow, concerted efforts need to be made to enhance the use of renewable energy, and to reduce one billion tons of projected carbon emission by 2030, In fact, it will be desirable to rely now on agriculture to reduce greenhouse gas (GHG) emission by scaling conservation agriculture (CA) or no-till agriculture, especially in the rainfed areas and by laying greater thrust on agroforestry for enhanced carbon sequestration. Currently, both at the national and international level, several policy and action platforms are striving to achieve the targets of Paris Agreement but these are either not well aligned or lack much required innovative approach to enhance carbon sequestration capacity. Therefore, urgency to accelerate both conservation agriculture (CA) and agroforestry in a Mission Mode at the national level would possibly be the best option.

The Way Forward

India is committed to bring a demand-driven and technology-led revolution to meet the challenges of rising demand for food, improved livelihood opportunities for farmers, and to attain sustainable farming for wider agricultural growth. We envision scaling of those innovations in agriculture that would transform existing slowdown into a vibrant and globally competitive enterprise. In doing so, both public and private sector institutions shall have to play their important role. Also, there would be need to

develop mechanisms to monitor effectively the changes occurring towards SDI as well as SDGs. The changes so anticipated shall have to be in a participatory mode. Accelerated growth in crops, horticulture, livestock, dairy, poultry and fishery sectors collectively will enhance nutri-rich crop/ animal/fish production leading to better food, nutrition, health, and environmental security for all by 2030.

The National Symposium

In view of above, the Trust for Advancement in Agricultural Sciences (TAAS), New Delhi, a neutral 'Think Tank', the Indian Council of Agricultural Research (ICAR), the National Academy of Agricultural Sciences (NAAS) and the Indian Society of Plant Genetic Resources (ISPGR) in collaboration with Alliance of the Bioversity International& CIAT, International Research Institute for Semi-Arid Tropics (ICRISAT), ,International Maize and Wheat Improvement Center (CIMMYT)and International Rice Research Institute (IRRI) will be organizing a 'National Symposium on Food, Nutrition, and Environmental Security: Towards Achieving SDGs' on 29-30 August 2022. The National Symposium will bring together diverse stakeholders from the Central and State Governments, CG Centers, scientific institutions, private sector and the farmers on a neutral platform to discuss the current constraints and options for ensuring sufficient food, nutrition and environmental security for all by 2030.

Objectives

- To discuss and prioritize innovations that would transform existing slowdown in agricultural production
- To develop strategies for regenerative agriculture for long-term sustainability
- To harness untapped opportunities by strengthening partnerships
- To diversify sustainable production systems on eco-regional basis

Expected Outputs

- Innovations for transforming the existing slowdown in agriculture discussed and identified
- Mechanism developed for scaling innovations to achieve SDGs by 2030
- Strategies for enhancing nutri-rich crop/ animal/fish production and productivity identified

Organizers

- Trust for Advancement of Agricultural Sciences (TAAS)
- Indian Council of Agricultural Research (ICAR)
- National Academy of Agricultural Sciences (NAAS)
- Indian Society of Plant Genetic Resources (ISPGR)

Co-Organizers

- Alliance of the Bioversity International and CIAT
- International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
- International Maize and Wheat Improvement Center (CIMMYT)
- International Rice Research Institute (IRRI)

Sponsors

- Federation of Seed Industry of India (FSII)
- Maharashtra Hybrid Seeds Co. (Mahyco)
- Bayer CropScience Ltd (India)
- Rasi Seeds (P) Ltd.