



# FOOD & NUTRITION SECURITY

## Protecting and Securing the Country's Future

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“ Policy initiatives such as distribution of subsidies to seeds which assimilate higher nutrients, higher Nutrient Use Efficiency fertilizers and bio-fertilizers can change agricultural productivity and health of the nation

India is a global agricultural powerhouse. We are the world's second largest producers of wheat and rice and the largest producers of fruits like mango, banana, papaya. The green revolution brought in practices to make the country food secure, but agriculture today faces challenges of degrading soil health, climate change, sustainability, food security and a declining quality of food.

Agricultural practices, particularly, the use of nitrogenous fertilizers, contribute to more than 65% of the nitrous oxide emissions, a major greenhouse gas which makes even a larger impact on temperature and climate change. We, as a country have the largest subsidy in the world for bulk fertilizers (22 billion US Dollars, or 180,000 crore Rupees), which incentivizes farmers to continue adopting an unbalanced nutrition practice.

These practices degrade soil health and contribute to climate change. On the other hand, the nation has budgeted around INR 20,000 crores under Poshan 2.0 to combat malnutrition, but last year, Poshan Abhiyaan, which focusses on nutritional security and outcomes, utilized around INR 3700 crores. And the budget needed to fight malnutrition is around 40,000 crores or even more.

### Micronutrient Deficiencies

More than 80% of the Indian population today faces at least one micronutrient deficiency (in terms of zinc, iron, folate, Vitamin B12, Vitamin A, Vitamin D). The country suffers from a GDP loss of 28,000 crores due to micronutrient deficiencies in the country in terms of poor health and loss of productivity. About 50% of the children below the age of five across 10 or more states of country suffer from stunting, wasting, poor cognitive development due to lack of vital nutrients in their diet. The Indian Dietetic Association claims that 84% of the diet across the Indian population, lacks adequate protein. More than half the women in the country and more than 3/4th of Indian children suffer from anaemia, which impacts daily functioning and productivity.

### Poor Soil, Poor Crop Quality

The above data in terms of poor nutrition and loss in the country should not come up as a surprise, when one looks at the state of soil health in the country. More than 33% of the country's cultivable soil (about 960 lakh hectares) is degraded, largely due to excessive cultivation and the excessive use of largely two bulk fertilizers. More than 50% of the soils in the country are saline, due to weathering, erosion, and the excessive use of water-soluble fertilizers. Not only is it a challenge to get good farm yield and productivity in saline soils, but these soils do not allow adequate uptake of all nutrients in the crop, leading to poor quality and non-nutritious crops and food. To bring serious

attention to the gravity of the problem, since 50% of the soils are saline, one could extrapolate and say at least half the food we consume today is nutritionally inadequate.

While the government is making serious efforts to popularize and advocating natural farming, one must also note that farmyard manure is the second largest contributor to greenhouse gases including methane. It is also pertinent to note that the animals have been raised and fed crops which have grown with the same agricultural practice of synthetic fertilizers over the last several decades, and thus the manure will not meet the soil health and crop requirements.

As per research publications from the Indian Institute of Soil Science and Indian Agricultural Research Institute, fodder grown in soils which carry all vital nutrients, including iron, copper, zinc, manganese, the final fodder had lower levels of micronutrients when grown with the recommended synthetic fertilizer practices prescribed today as against without these synthetic fertilizers.

### Balanced Nutrition Management Approach

Addressing and achieving food and nutritional security is an even greater challenge in the face of degrading soil health and climate change. There is a need to achieve both food and nutritional security together. Not only do we need to improve productivity and quality, but we need to do this with lesser land and lesser inputs, to tackle climate change. The green revolution only sought to address food security, and completely ignored the impact on the environment and the quality of the food produced.

To address the subject of food and nutritional security on a war footing, a closer look towards a balanced nutrition management approach must be considered. To enable this, government, academia, research institutes and private industries fostering innovation, must collaborate to drive forward these solutions.

Policy initiatives such as distribution of subsidies to seeds which assimilate higher nutrients, higher Nutrient Use Efficiency fertilizers and bio-fertilizers, which foster and allow for food and nutritional security outcomes in tandem, can change the agricultural productivity and health of the nation. The government can seriously promote balanced nutrition by deploying a lower GST to secondary and micronutrients (which today have a GST of 18% vs. urea which carries a GST of 5%).

For India to remain a global powerhouse in agriculture and feed its growing population and jump ahead in terms of losses due to malnutrition and healthcare, there is need to have a radical approach of looking at policy for fostering nutrition smart agriculture, which can spear head the country's trajectory in terms of productivity, quality, health and income for all.