

Climate Change and India's Nutritional Security

What is the issue?

- Climate change and global warming are increasingly posing risks to India's food and nutritional security.
- This requires urgent prioritisation, strong political will and dedicated resources for sustainable and public health friendly measures.

What is the looming threat?

- The Intergovernmental Panel on Climate Change shared that human activities have led to a 1°C (0.8°C to 1.2°C) rise in temperatures above pre-industrial levels.
- This will reach 1.5°C between 2030 and 2052, if it continues to increase at the current rate.
- The atmospheric concentrations of carbon dioxide (the primary greenhouse gas) have risen to 410 parts per million (ppm) from about 280 ppm in pre-industrial times.
- The World Health Organisation estimated that approximately 250,000 deaths annually between 2030 and 2050 could be due to climate change.
- Several reports confirm that the poorest people, already suffering from the highest rates of under-nutrition, will be the most vulnerable to climate change.

How vulnerable is India?

- **Agriculture** - Indian agriculture, and thereby India's food production, is highly vulnerable to climate change.
- This is largely because the sector continues to be highly sensitive to monsoon variability.
- About 65% of India's cropped area is rain-fed.
- **Nutrition** - India already is one of the top rankers in multiple forms of malnutrition globally.
- There are multiple reasons contributing to poor nutritional status of India's population.
- They range from food scarcity to food excess (unhealthy), increased consumption of refined cereals, simple sugars and salt, etc.
- However, adverse variables like climate change, pollution, etc, added to this

scenario can further worsen the public health nutrition (PHN) indices.

- With only about one in 10 children getting adequate nutrition, India at least ought to keep other potentially influential variables favourable.

How serious is nutrition and climate change link?

- India already depends a lot on imports for fulfilling nutritional needs of the population.
- With the ensuing climate change, the access to safe and nutritious food, and affordability, is bound to be impacted severely.
- Under-nutrition (increased nutrient demands and reduced nutrient absorption) can be exacerbated by the effects of climate change.
- Suboptimal diet (micronutrient deficiencies and overall poor nutritional status) during vulnerable stages (e.g. pregnancy lactation) may have adverse repercussions for several generations.
- The onset of risk factors for non-communicable diseases (hypertension, diabetes, cardiovascular problems, etc) is faster and earlier in people with nutrient deficiencies.
- The EAT-Lancet Commission's food advisory recommends consumption of fruits and vegetables rather than meat for preserving own health and nature.
- But evidently, environmental changes reduce yields of starchy staple crops and alter nutrient composition of fruits, vegetables and legumes.
- This is a serious issue in a country like India with micronutrient and protein deficiency in more than half of its population.
- Furthermore, various other factors negatively affect vegetable and legume yields, which are -
 - i. the absence of adaptation strategies.
 - ii. the increasing ambient temperature in (sub)tropical areas
 - iii. tropospheric ozone
 - iv. water salinity and decreasing water availability
- Also, the increasing level of carbon dioxide is implicated in "dilution effect" resulting in lesser vitamins and minerals per unit of yield.

What should be done?

- Funding needs to be earmarked for designing, rolling out modern climate change-resistant infrastructure and technology.
- Early warning systems are needed for farmers to produce sufficient food and traders to adequately store food in the face of extreme weather events.
- More sustainable, resilient and efficient ways of producing, trading, distributing and consuming diversified agricultural food products should be adopted.

- Involving food technologists to devise food storage and processing practices to reduce climate-related food safety concerns can help.
- These strategies can also support reducing food waste.
- Building and strengthening the capacity of public health professionals and allied forces, increasing the number of healthcare facilities/staff could help.
- Academic and research capacity needs to be augmented.
- drawing upon best practices from agriculture, public health, nutrition, transport and environment is essential to prepare Integrated curriculum qualified interdisciplinary workforce.
- Investment in social protection schemes and livelihood security mechanisms can significantly tackle malnutrition and build resilience.
- The cross-sectoral nature of nutrition, adverse impact of climate change, and the interaction between these two calls for increased policy coherence.
- India's recently launched National Nutrition Mission or the POSHAN Abhiyaan is an ideal way to start advocating for PHN in an environment-friendly manner.

Source: Financial Express