



## Tea Fortification

**For Prelims:** [Fortification](#), Folate & Vitamin B12, [Anemia](#), [Fortification Programs in India](#)

**For Mains:** Issues with Fortification of Food and way ahead

### Why in News?

A recent study conducted in Maharashtra on 43 women to assess the impact of fortifying tea with folate and vitamin B12 has found a significant increase in Folate and Vitamin B12 levels. It also highlighted a significant increase in hemoglobin levels.

- However, the study has been found erroneous primarily because of its sample size.

### How Tea Fortification could be a Game-Changer?

- **Countering Anaemia and NTDs:** According to the new study, **Fortifying tea with folate and vitamin B12 may help counter [anaemia](#) and NTDs** in Indian women as tea is the most common beverage drunk in India.
  - **The majority of Indian women have a poor dietary folate and vitamin B12** intake resulting in their chronically low vitamin status, contributing to [anaemia](#) and the high incidence of folate-responsive neural-tube defects (NTDs) in India.
    - Vitamin B12 and folate are both important for the production of red blood cells in the body.
    - Vitamin B12 is necessary for the proper absorption and utilization of folate in the body; folate deficiency can cause severe birth defects (NTDs).

**Note:** Neural tube defects happen when the neural tube, which eventually forms the brain, spinal cord, and surrounding tissues, doesn't close properly during fetal development.

- **Issues with Tea Fortification:**
  - **Limited Cultivation:** Tea is largely grown and processed in the highlands of only 4 states: Assam, West Bengal, Tamil Nadu and Kerala.
  - **Lack of Infrastructure:** Many tea-growing areas lack adequate infrastructure for processing and packaging fortified tea.
    - This includes facilities for blending and packaging tea, as well as transportation and storage infrastructure.
  - **Dietary Constraints:** Around 70% of the population lives in rural villages, where cereal grain is more often grown, milled, and purchased locally. And diets vary considerably according to cultural, religious, and ethnic differences and beliefs.

### What is Food Fortification?

- **About:**

- **Fortification** is the addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content. These nutrients may or may not have been originally present in the food before processing.
- **Status of Food Fortification in India:**
  - **Rice:** Department of Food and Public Distribution (DFPD) has been running a “**Centrally Sponsored Pilot Scheme on Fortification of Rice & its distribution through Public Distribution System**”.
  - The scheme was initiated in 2019-20 for a three-year pilot run.
  - This scheme will run till 2023 and rice will be supplied to the **beneficiaries at the rate of Rs 1/kg.**
  - **Wheat:** The decision on fortification of wheat was announced in 2018 and is being implemented in 12 states under India’s flagship **Poshan Abhiyaan** to improve nutrition among children, adolescents, pregnant mothers and lactating mothers.
  - **Edible Oil:** Fortification of edible oil, too, was made compulsory across the country by FSSAI in 2018.
  - **Milk:** In 2017, the **National Dairy Development Board of India (NDDB)** initiated the fortification of milk by encouraging companies to add vitamin D.
- **Significance:**
  - **Population-Wide Health Improvement:** Since the nutrients are added to staple foods that are widely consumed, this is an **excellent method to improve the health** of a large section of the population, all at once.
  - **Safe Method:** Fortification is a **safe method of improving nutrition among people.**
    - **If the quantity added is well regulated** as per prescribed standards that likelihood of an overdose of nutrients is unlikely.
  - **No Impact on Food Habits:** It **does not require any changes in food habits** and patterns of people and is a socio-culturally acceptable way to deliver nutrients to people.
    - It also does not alter the characteristics of the food—the taste, the feel, the look.
  - **Cost-Effective:** This method is cost-effective especially if advantage is taken of the existing technology and delivery platforms.
    - The Copenhagen Consensus estimates that every **1 Rupee spent on fortification results in 9 Rupees in benefits to the economy.**
- **Challenges:**
  - In India, food fortification is done for only a few food items (wheat, rice, salt); many other food items are not fortified, **leading to inadequate nutrient intake.**
  - The process of **blending micronutrients** can have a **negative impact on natural foods' protective substances**, such as phytochemicals and polyunsaturated fat.
  - Consumption of **excess iron by pregnant women can adversely affect foetal development** and birth outcomes; children may have increased risk of contracting chronic diseases.
  - Fortification may provide a **guaranteed market for MNCs**, which could potentially **harm the livelihoods of small businesses** across India.
  - Fortification of certain food items, such as milk and oil, poses **technical challenges due to the instability of the added vitamins and minerals.**

## What Should be Done to Address Challenges Related to Tea Fortification?

- **Government Intervention:** The government can play a crucial role in promoting tea fortification by introducing policies and regulations that mandate the addition of certain nutrients to tea.
  - e.g. - the government can make it **mandatory for tea manufacturers to fortify their products with essential micronutrients** like iron, folic acid, and Vit. B.
- **Promote Industry Involvement:** Tea manufacturers can take the lead in promoting tea fortification by investing in R&D and introducing fortified tea products to the market.
  - They can also collaborate with the government and non-profit organizations to promote the benefits of fortified tea.
- **Increase Consumer Awareness:** Educating consumers about the benefits of fortified tea can go a long way in promoting its consumption.
  - This can be achieved through various means such as advertising campaigns, social media, and awareness programs in schools and colleges.

- **Improve Logistics:** To implement tea fortification on a large scale, it is essential to have a robust logistics system in place.
  - This includes ensuring that the fortified tea reaches the target population in a timely and efficient manner, without any loss of nutritional value.

**Source: TH**

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