



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.

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