Vitamin and mineral deficiencies termed as silent epidemics affect people of all ages and gender but most specifically the vulnerable groups including children, women and elderly. In both developing and developed countries, micronutrient deficiencies affect an estimated 2 billion people leading to nutrition insecurity (Tulchinsky, 2015). India is home to 1/3rd of the estimated micronutrient deficient individuals globally. Around 330000 child deaths due to vitamin A are predicted each year in India and anaemia contributes to 22000 deaths with a high proportion being pregnant women. Two lakh infants are born with neural tube defects due to folic acid deficiency during pregnancy (Kotecha, 2008). The deficiency of vitamin A causes night blindness, wasting, anaemia, weakened immunity, reproductive morbidity and mortality. It estimated that 761 (000) individuals are vitamin A deficient (WHO, 2009). Vitamin D deficiency is estimated to be 70-100% among general population in epidemic proportions. Sub-clinical vitamin D deficiency is prevalent in both urban and rural population across socio-economic strata (Gupta and Ritu, 2014).

Food fortification- A complementary strategy to combat micronutrient deficiencies

Yach et al in the year 2010 laid emphasis on fortification as a channel to address undernutrition in developing countries and also indicated role of food industry in fortification of the staple foods. One of the complementary methods to alleviate micronutrient deficiency is fortification along with other interventions. Fortification is proven to have century long success, safety and is effective in prevention of few diseases. Fortification of a widely consumed processed food product can capitalize on the production as well as distribution system in the food market by delivering lower doses of vitamin A daily to large population. The advantages of food fortification include increased social acceptability; minimal changes on diets; decreased prices of foods (less than 2% of the cost of unfortified food); enhanced sustainability and established delivery system (Dary and Mora, 2002). The cost associated with fortifying one litre of oil is about 10 paise and milk is about 2 paise/litre involving very minimal additional processing at the processing facility (FSSAI, 2017).

Goal of the project

Improvement of nutrition for vulnerable populations through large scale fortification of oil and milk in the selected states
Objectives of the project

1. To create awareness, build the capacity and technical know-how of Government counterparts, oil industry and milk dairy on fortification
2. To ensure quality assurance and quality control of fortification in oil industry and milk dairy
3. To advocate for enabling policy guidelines on mandatory fortification of refined edible oils and milk with Vitamin A and D
4. To demonstrate the technical and operational feasibility of introducing fortified oil and milk through existing programs of the department like the Mid-Day Meal Scheme (MDMS), Public Distribution System (PDS) and Integrated Child Development Services (ICDS)

Guiding approach

The project uses a three pronged approach to achieve the program objectives and ultimately its goal.

Increasing capacity of the oil and milk industry for fortification

Improving policy environment that promote oil and milk fortification

Increasing consumer awareness and demand for fortified oil and milk

Program components

1. Government engagement:

The Food Safety and Standards Authority of India (FSSAI) has defined and notified the ‘Standards of fortification’ for staples foods: wheat, oil, milk, salt and rice. State food safety machinery is led by Commissioner of Food Safety (CFS). The unit is entrusted with the responsibility of regulatory monitoring to ensure the quality and safety of fortified food. The food safety and standards unit provides technical support to all departments, to ensure quality assurance of food distributed through various government programs. The project will work with food safety unit as well as concerned line departments and provide support in fortification initiative. Thus, government engagement strategy of the project is twofold:

- Working with food safety and standards commissionerate to support fortification of staples in the state
- Support departments which provide food through various safety net programs like ICDS, MDMS and PDS to include fortified staple food in the supplies

Set up TAUs to closely work with FSSAI through FFRC to support food industry in scaling up fortification of oil and milk

Improved nutritional outcomes for all especially the vulnerable groups
Process flow:

- A round table meeting or conference to discuss fortification strategy implementation in the state. Participants would include primarily all related government departments, industry leaders from state and development partners.
- Engagement with different departments of government for:
  - Promoting procurement, supply and/or utilisation of fortified oil and milk in all relevant government departments.
  - Facilitating the issuance of circulars from Principal Secretary, Food and Civil Supplies on the fortification policy.
  - Training of Food Safety Officers (FSO) on food fortification and quality evaluation of fortified food.
  - Planning state level launch event of fortification of food in partnership with government departments.

2. Industry engagement:

Project will actively engage with the Food Processing Industry (FPI) and the Food Business Operators (FBOs) to fortify oil and milk with Vitamin A and D so that the fortified staples are easily available to all people through the open market commercial channels and to the State Governments for distribution through the safety net programs like PDS, ICDS and MDMS.

Process flow:

- Evaluating the list of oil producing mills and milk dairies operating within the state as per landscaping report, which qualify to be engaged under the project.
- Key players and leaders from industry to participate in the round table meeting organised in partnership with state government.
- Regional level trainings to oil mills and milk dairies on fortification process.
- Periodic support visits to oil mills and milk dairies to provide hand holding support.
- Assist oil mills and milk dairies, which have adopted fortification process to register with FSSAI and to obtain permission to put +F logo on their product package.
- Refresher trainings to oil mills and milk dairies on latest developments in fortification.

3. Community engagement:

Increased awareness and knowledge among the population is essential to promote demand for fortified oil & milk and thus put pressure on manufacturers to quickly adopt and to meet the competition and demand. Project on one hand will work with manufacturers by training them on fortification techniques and on the other promote demand for these products by increasing awareness among the population. The focus will be to promote government of India approved fortification logo “+F” as the mark and symbol of fortification. Activities under this approach would broadly include social media-based outreach campaign to popularize fortified food products and promote +F logo as symbol of fortified products. Radio jingles, short videos will be produced to be used in different platforms.

4. Quality Assurance:

The aim of quality assurance of fortified foods is to ensure that the fortified oil and milk contains levels of vitamins and minerals in accordance with national standards. Having a robust quality assurance of the fortification process will help assure that fortification remains safe and effective. A qualitative or onsite analysis will be conducted at the production site using a kit method to
qualitatively analyze whether or not the micronutrients have been added into the food product during the production process. The project will assist in establishing a detailed protocol for factory-level quality assurance. Additionally, random samples from production plants as well as retail outlets will be sent for quantitative analysis at National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited laboratories. Results of the tests will be shared with all concerned stakeholders and efforts will be made to address the shortcomings if any.

5. Monitoring & evaluation:
Project will develop tools and indicators that will assist in monitoring the production and supply of fortified oil and milk, monitoring the availability, utilization and coverage of fortified oil and milk. The process indicators will help in giving feedback to help course-correct so that the project goals and objectives are achieved. System will also be developed to capture data on the production of fortified oil and milk relative to per-capita consumption to estimate coverage.

References: