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REGULATORY FRAMEWORK OF FOOD FORTIFICATION

ANITA MAKHIJANI, FSSAI

STRUCTURE OF PRESENTATION

1. Introduction and Brief on Food Safety and Standards Authority of India
2. Regulatory Framework
3. Regulations on Fortified Food Articles
4. Status Update on Large Scale Fortification of Foods
5. Way Forward

ABOUT FSSAI

- ❑ FSSAI has a mandate to lay down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.
- ❑ FSSAI already has 6 science based regulations effective since 2011. In addition, FSSAI has notified regulations namely Nutraceuticals, Food Recall Procedure, Import and Approval for Non specified Food and Food Ingredients Regulations which are effective from 2017.
- ❑ Further, FSSAI has draft notified regulations namely ‘Organic Foods’, ‘Alcoholic Beverages’ and ‘Fortification of Foods’ regulations in 2017. These are to be notified in the Gazette of India in due course of time.



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FSSAI CHRONOLOGY

Food Safety and Standards Act ,2006 - passed by Indian Parliament and notified on 24th August, 2006

Authority Established- in Sept, 2008

FSS Regulations Notified -1st August, 2011

New Act operationalised- 5th August,2011

All Food Business Operators in India to get Licensed/Registered with Food Safety Authority



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CRITICAL SHIFTS

Erstwhile Acts

Multiple Authorities

Poor Food testing Lab Network

Inspection/ Control

Insufficient Enforcement Personnel

Adulteration



FSSA

Single Authority

Upgrading the existing Food Labs & setting up new labs

Monitoring, Surveillance & self-compliance

Provision for Full time district Officer, Food Safety Officers under FSC

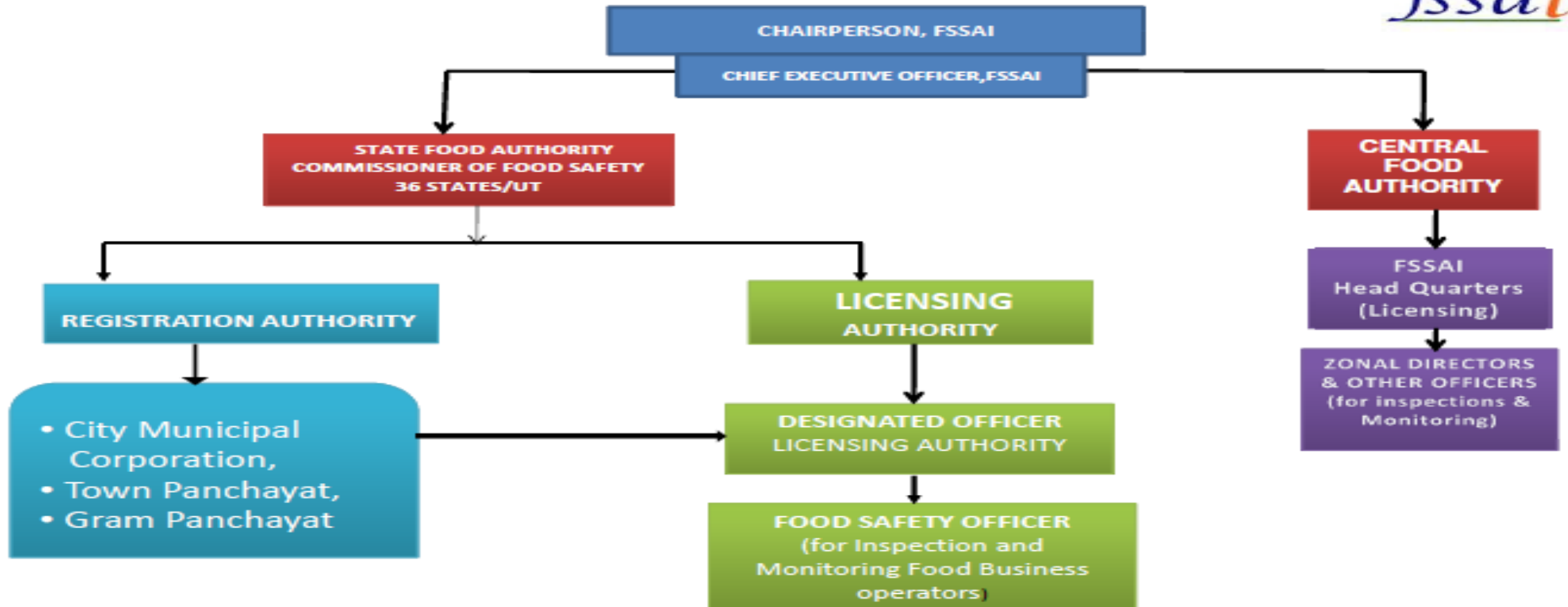
Food Safety



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REGULATORY FRAMEWORK

Framework for National Food Control System





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FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA



-
- Chairman + 22 members
 - Established vide notification S.O. 2165 (E) dated 5th September, 2008
 - Mandate of laying down science based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.



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SCIENTIFIC INPUTS AND ADVICE TO FSSAI



Central Advisory Committee

CAC is an interface between FSSAI, State enforcement authorities and other stakeholders. Its role is to advise authority on the work programme, prioritization



Scientific Panels

Total 17 Scientific Panels are there to provide science based advise on the issues and recommend science based standards



Scientific Committees

General co-ordination necessary to ensure consistency of the scientific opinion and harmonization of working methods of the Scientific panels...



Food Authority



FOOD SAFETY AND STANDARDS REGULATIONS UNDER FSS ACT

- Section 92 (1)- provides Food Authority to make regulations consistent with this Act and Rules made there under.
- FSSAI drafted Regulations through extensive consultation and deliberations/meetings with various stakeholders.
- Final Regulations have been notified in the gazette of India on 1st August, 2011 and came into force on 5th August, 2011



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SIX PRINCIPAL REGULATIONS



- 1) Food Safety and Standards (Licensing and registration) Regulations, 2011.
- 2) Food Safety and Standards (Packaging and Labeling) Regulations, 2011.
- 3) Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011.
- 4) Food Safety and Standards (Prohibition and Restriction for Sale) Regulations, 2011.
- 5) Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011.
- 6) Food Safety and Standards (Referral Laboratories and Sampling) Regulations, 2011.

SOME IMPORTANT ON-GOING PROJECTS

Organic Food – Developing procedures

Fortified Food

Alcoholic Beverages

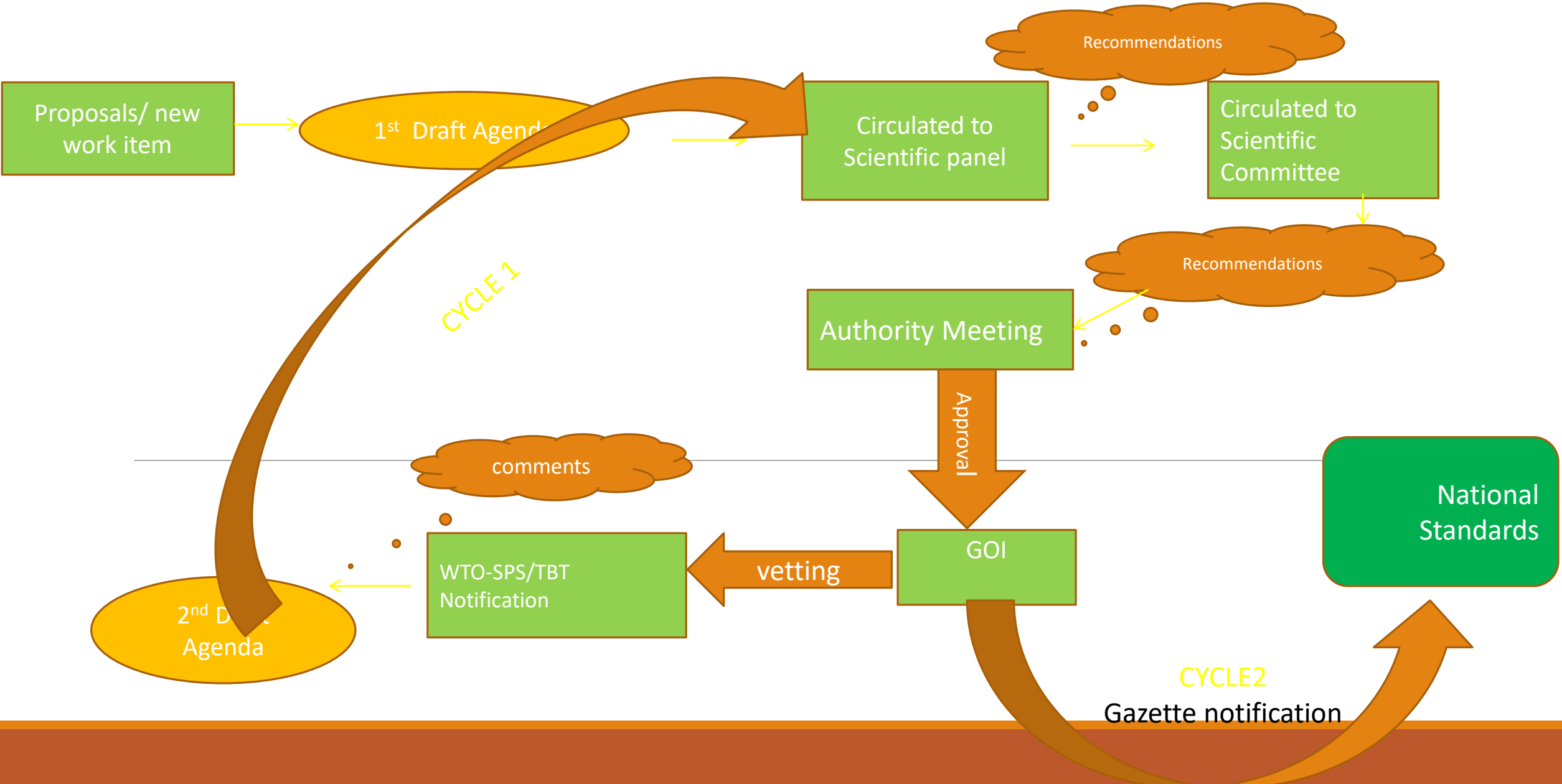
Infant Foods

Packaging; Labelling and Advertisement & Claims;

GM Food

IFS Quick Access Portal.

STANDARDS DEVELOPMENT PROCESS



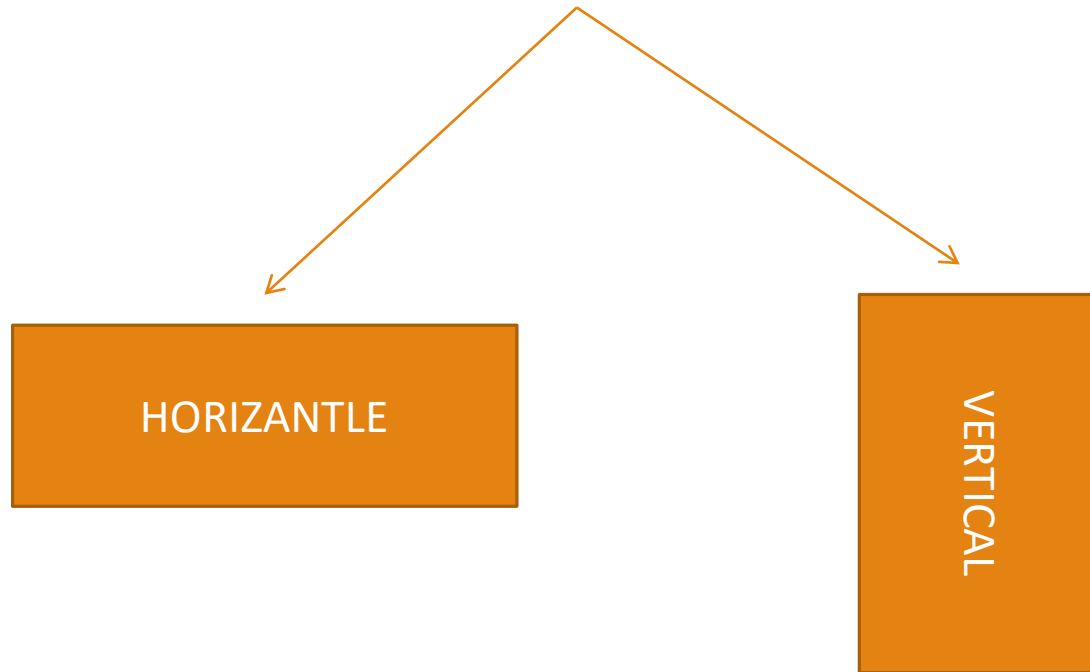


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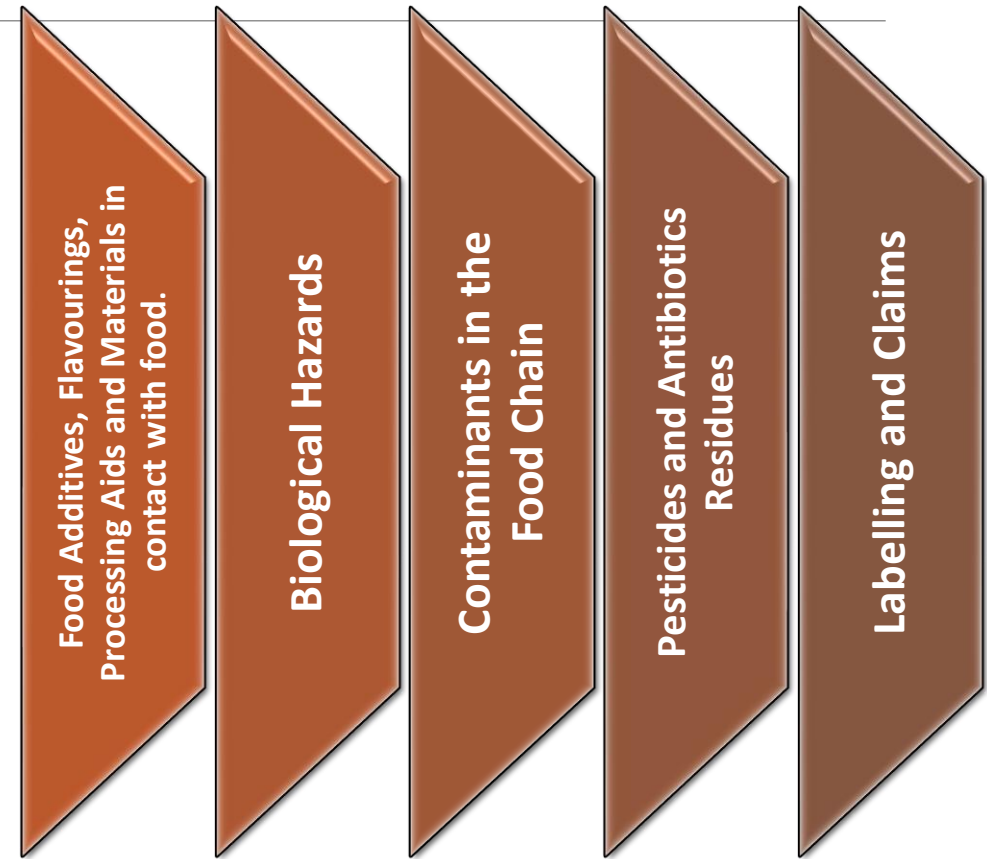
FOOD STANDARDS

FSSAI STANDARDS



HORIZONTAL STANDARDS ???

Horizontal Standards are those which are laid down for all food categories.

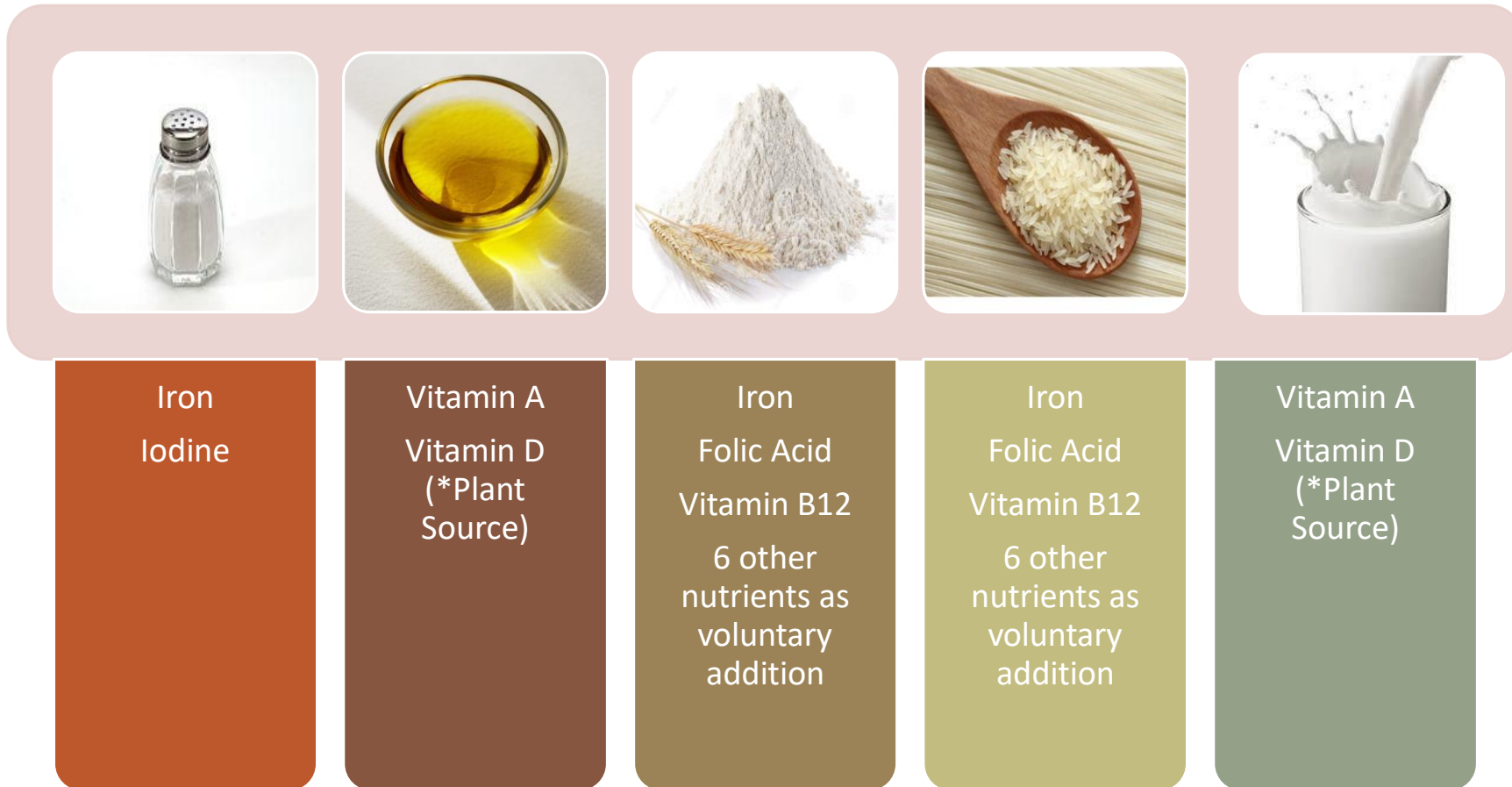


VERTICAL STANDARDS ???

Vertical Standards are those which are laid down specifically for a particular food category



Draft (Fortification of Foods) Regulations, 2016



FOOD FORTIFICATION

- Fortification has long been considered a medium-term approach in areas where micronutrients are not naturally available.
- Fortifying foods with more than one or two micronutrients.
- In populations where deficiencies are prevalent.
- "Essential package" of public health.

THE INDIAN EXPERIENCE

India has a high burden of micronutrient deficiencies, particularly Vitamin A, Iodine, Iron & Folic Acid

Effects: Night blindness, Goitre, Anaemia and various birth defects

1953 - Mandatory fortification of Vanaspati with Vitamin A

1962 - Salt Iodisation began as a National Program

The GOI's public health interventions have been on:

Iodine Deficiency Disorders (IDD) - National Goitre control programme to improve access to iodised salt (1962)

Vitamin A Deficiency (VAD) - National Prophylaxis Programme Against Nutritional Blindness (massive dose vitamin A programme) (1970)

Iron Deficiency Anaemia (IDA) - National Anemia Prophylaxis Programme (1970)

SALIENT FEATURES OF THE DRAFT (FORTIFICATION OF FOODS) REGULATIONS :

1. **Chapter 1:** Title and Definition

2. **Chapter 2:** Standards on fortification

- General Principles
- Compliance with Standards on Micronutrient Content in Fortified Food

3. **Chapter 3:** General Obligations

- Quality Assurance
- Compliance with the generally applicable provisions of the Act, Regulations and Standards
- Packaging and Labeling Requirements
- Promotion of Fortified Food. Consolidation of regulations and standards on fortified food

INITIATIVES BY FSSAI IN FORTIFICATION OF FOODS

1. Draft (Fortification of Foods) Regulations, 2016 was operationalized on 16.10.2016 and further uploaded in website for receiving comments from the stakeholders on 03.01.2017.
2. Constituted Scientific Panel on Nutrition and Fortification vide O.M dated 09.02.2017 to review the standards and other related issues time to time.
3. To promote the 'Fortified Food Articles' FSSAI has Unveiled the '+F' logo.
4. FSSAI also established Food Fortification Research Centre (FFRC) to promote large-scale fortification of food across India.
5. Prepared a draft laboratory manual for analysis of fortificants in foods.
6. Formulated a draft standards for 'Fortified Processed Foods' that are to be uploaded in website for receiving public comments.



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UPCOMING REVISIONS

**FSS (Fortification of
Foods) Regulation,
2017**

**Draft Standards on
Fortified Processed
Foods under FSS
(Fortification of
Foods) Regulations**



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GENERAL PRINCIPLES OF FOOD FORTIFICATION REGULATIONS

1) Micronutrients may be appropriately added to foods for the purpose :

- **Preventing or reducing the risk** of, or correcting, a demonstrated deficiency of one or more micronutrients in the population or specific population group;
- **reducing the risk** of, or correcting, inadequate nutritional status of one or more micronutrients in the population or specific population group;
- **meeting requirements** or recommended intake of one or more micronutrients;
- maintaining or **improving health**;
- maintaining or improving the **nutritional quality of foods**.
- (2) **When fortification of a food is made mandatory**, it shall be based on severity and extent of public health need as demonstrated by generally accepted scientific evidence.
- The Food Authority may from time to time, specify mandatory fortification of any food article specified under these regulations on its own in consultation with the stakeholders or on the directions of the Government of India.
- 3) The micronutrient
- Wherever “Iron (As Fe)” is like Vitamin D and Iron used as a source of nutrient :

Vitamin D: Only Plant Source; Iron : heme iron shall not be used in any form in any article of food.

FSS (FORTIFICATION OF FOODS) REGULATION, 2017

- Standards on **DFS** (with Iron & Folic Acid),
- **Edible oil** (with Vitamin A & D),
- **Vanaspati**(with Vitamin A & D),
- **Milk** (with Vitamin A & D),
- **Wheat flour and Rice** (with Iron, Folic acid, Vitamin B12 as mandatory and 6 others as voluntary addition);

As multiple foods are being fortified, the level of use of nutrients for staple foods fortification are in range of **30-50% of RDA for adults** as prescribed by ICMR;

IRON FORTIFIED IODIZED SALT (DOUBLE FORTIFIED SALT) WHEN FORTIFIED WITH IRON AND IODINE

S.No.	Component	Level of nutrients	Source of Nutrients
1.	Iodine content		
	(a) Manufacture level (b) Distribution channel including retail level	Not less than 30 parts per million on dry weight basis Not less than 15 part per million on dry weight basis.	Potassium Iodate
1.	Iron content (as Fe)	850-1100 parts per million	Ferrous sulphate or Ferrous Fumarate



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FORTIFIED OIL

S. No.	Nutrient	Level of nutrient	Source of nutrient
1.	Vitamin A	6 µg RE - 9.9 µg RE per gm of oil	Retinyl acetate or Retinyl palmitate
2.	Vitamin D	0.11 µg– 0.16 µg per gm of oil.	*Cholecalciferol or *Ergocalciferol (*Only from Plant Source)

Note: Vitamin A (retinol): 1 IU= 0.3 µg RE (Retinol Equivalent); Vitamin D (Cholecalciferol or Ergocalciferol): 1 IU= 0.025 µg



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FORTIFIED MILK

S. No.	Nutrients	Level of nutrient per litre of toned/double toned/skimmed milk/ Standardized Milk	Source of nutrient
1.	Vitamin A	270 µg RE - 450 µg RE	Retinyl acetate or Retinyl palmitate
2.	Vitamin D	5 µg -7.5 µg	*Cholecalciferol or *Ergocalciferol (*Only from Plant source)

Note: Vitamin A (retinol): 1 IU= 0.3 µg RE (Retinol Equivalent); Vitamin D (Cholecalciferol or Ergocalciferol): 1 IU= 0.025 µg



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FORTIFIED VANASPATI

S.No.	Nutrient	Level of nutrient
1.	Vitamin A (Source: Retinyl acetate or RetinylPalmitate)	Not less than 7.5 µg RE per gram at the time of packing. Should test positive when tested with Antimony Trichloride (Carr-Price Reagent) as per IS:5886-1970
2	Vitamin D *Cholecalciferol or*Ergocalciferol (*Only from Plant source)	0.11 µg -0.16 µg per gm of vanaspati

FORTIFIED ATTA

S.No.	Nutrient	Level of Fortification per Kg
1.	Iron- Ferrous citrate or Ferrous lactate or Ferrous sulphate or Ferric pyrophosphate or electrolytic iron or Ferrous fumarate or Ferrous BisGlycinate; Sodium Iron (III) Ethylene diamine tetra Acetate Trihydrate (Sodium feredetate- Na Fe EDTA);	28 mg- 42.5 mg * 14 mg- 21.25 mg
1.	Folic acid	75 µg- 125 µg
1.	Vitamin B12-cyanocobalamine or hydroxycobalamine;	0.75 µg- 1.25 µg

Note: * added at a higher level to account for less bioavailability

FORTIFIED ATTA CNTD

In addition, atta may also be fortified with following micronutrients, singly or in combination, at the level in the table below:

S.No.	Nutrient	Level of Fortification per Kg
1.	Zinc-Zinc Sulphate	10 mg- 15 mg
1.	Vitamin A-RetinyI acetate or RetinyIPalmitate,;	500 µg RE- 750 µg RE
1.	Thiamine (Vitamin B1)- Thiamine hydrochloride or Thiamine mononitrate;	1 mg- 1.5 mg
1.	Riboflavin (Vitamin B2)- Riboflavin or Riboflavin 5'-phosphate sodium ;	1.25 mg- 1.75 mg
1.	Niacin(Vitamin B3) -Nicotinamide or Nicotinic acid;	12.5 mg- 20 mg
1.	Pyridoxine(Vitamin B6)-Pyridoxine hydrochloride;	1.5 mg- 2.5 mg

FORTIFIED MAIDA

S.No.	Nutrient	Level of Fortification per Kg
1.	Iron- (a) Ferrous citrate or Ferrous lactate or Ferrous sulphate or Ferric pyrophosphate or electrolytic iron or Ferrous fumarate or Ferrous BisGlycinate; (b) Sodium Iron (III) Ethylene diamine tetra Acetate Trihydrate (Sodium feredetate -Na Fe EDTA);	28 mg- 42.5 mg * 14 mg- 21.25 mg
1.	Folic acid	75 µg- 125 µg
1.	Vitamin B12-cyanocobalamine or hydroxycobalamine;	0.75 µg- 1.25 µg

FORTIFIED MAIDA CNTD

In addition, maida may also be fortified with following micronutrients, singly or in combination, at the level given in the table below:

S.No.	Nutrient	Level of Fortification per Kg
1.	Zinc-Zinc Sulphate	10 mg- 15 mg
1.	Vitamin A-RetinyI acetate or RetinyIPalmitate,;	500 µg RE- 750 µg RE
1.	Thiamine (Vitamin B1)- Thiamine hydrochloride or Thiamine mononitrate;	1 mg- 1.5 mg
1.	Riboflavin (Vitamin B2)- Riboflavin or Riboflavin 5'-phosphate sodium ;	1.25 mg- 1.75 mg
1.	Niacin(Vitamin B3) -Nicotinamide or Nicotinic acid;	12.5 mg- 20 mg
1.	Pyridoxine(Vitamin B6)-Pyridoxine hydrochloride;	1.5 mg- 2.5 mg

FORTIFIED RAW RICE

S.No.	Nutrient	Level of Fortification per Kg
1.	Iron- (a) Ferric pyrophosphate (b) Sodium Iron (III) Ethylene diamine tetra Acetate Trihydrate (Sodium ferredetate - Na Fe EDTA);	28 mg- 42.5 mg * 14 mg- 21.25 mg
1.	Folic acid-Folic acid;	75 µg- 125 µg
1.	Vitamin B12- cyanocobalamine or hydroxycobalamine;	0.75 µg- 1.25 µg

Note: *added at a higher level to account for less bioavailability

FORTIFIED RAW RICE CNTD

In addition, rice may also be fortified with following micronutrients, singly or in combination, at the level given in the table below:

S.No.	Nutrient	Level of Fortification per Kg
1.	Zinc-Zinc Oxide	10 mg- 15 mg
2.	Vitamin A- RetinylPalmitate;	500 µg RE- 750 µg RE
3.	Thiamine (Vitamin B1)- Thiamine hydrochloride or Thiamine mononitrate;	1 mg- 1.5 mg
4.	Riboflavin (Vitamin B2)- Riboflavin or Riboflavin 5'-phosphate sodium ;	1.25 mg- 1.75 mg
5.	Niacin(Vitamin B3)-Nicotinamide or Nicotinic acid;	12.5 mg- 20 mg
6.	Pyridoxine(Vitamin B6)-Pyridoxine hydrochloride;	1.5 mg- 2.5 mg

FORTIFICATION STANDARDS FOR PROCESSED FOODS

1. **Fortified Processed Foods**” means foods that have been altered from its natural state by industrial processing methods. The same may have fortified staples as raw materials and/or fortified with permitted micronutrients and additives as specified under the Food Safety and Standards (Food Product Standards and Food Additives) Regulation, 2011
2. Fortified processed Foods may be prepared from fortified food articles that may be cereals and/or milk;
3. The Fortified Processed Food shall provide 15-30% of the Indian adult RDA of micronutrient based on an average calorie intake of 600 kcal from processed foods (~1/3of energy of 2000 kcal);
4. The range for addition of nutrient : minimum level is set to ensure that reasonable amounts of micronutrients are added to food products and maximum levels is to reduce the risk of an excessive intake
5. High Fat Sugar Salt (HFSS) product shall be excluded from Fortified Processed Foods category.”

DRAFT STANDARDS ON FORTIFIED PROCESSED FOODS UNDER FSS (FORTIFICATION OF FOODS) REGULATIONS

Covers the standards on

Fortified Cereal and Cereal products includes Breakfast cereals, Pasta and Noodles,

Fortified Bakery wares (with Iron, Folic acid and Vitamin B-12 as mandatory and 6 others as voluntary addition); and

Fortified Fruit Juices with Vitamin C;

FORTIFIED CEREAL AND CEREAL PRODUCTS

S.No	Nutrients/Source	Level of Fortification per 100 kcal
1	Iron Ferrous citrate or Ferrous lactate or Ferrous sulphate or Ferric pyrophosphate or electrolytic iron or Ferrous fumarate or Ferrous Bis Glycinate; Sodium Iron (III) Ethylene diamine tetra Acetate Trihydrate (Sodium federate-Na Fe EDTA);	0.5-1.0 mg
2	Folic acid	2.5 µg -5µg
3	Vitamin B12 cyanocobalamine, or hydroxycobalamine;	0.025 µg -0.05 µg

FORTIFIED CEREAL AND CEREAL PRODUCTS CNTD

In addition, Fortified Cereals and Cereal products may also be fortified with following micronutrients, singly or in combination

S.No.	Nutrient/Source	Level of Fortification per 100 kcal
1.	Zinc: Zinc Sulphate	0.3mg -0.6 mg
1.	Vitamin A (µg RE): Retinyl acetate or Retinyl Palmitate,	15 µg RE -30 µg RE
1.	Thiamine (Vitamin B1): Thiamine hydrochloride or Thiamine mononitrate;	0.04mg-0.08mg
1.	Riboflavin (Vitamin B2): Riboflavin or Riboflavin 5'-phosphate sodium ;	0.04mg-0.08mg
1.	Niacin: Nicotinamide or Nicotinic acid;	0.05mg-1.0mg
1.	Pyridoxine(Vitamin B6): Pyridoxine hydrochloride;	0.05-0.1mg

FORTIFIED BAKERY WARES

S.No	Nutrients/Source	Level of Fortification per 100 kcal
1	Iron Ferrous citrate or Ferrous lactate or Ferrous sulphate or Ferric pyrophosphate or electrolytic iron or Ferrous fumarate or Ferrous Bis Glycinate; Sodium Iron (III) Ethylene diamine tetra Acetate Trihydrate (Sodium federate-Na Fe EDTA);	0.5-1.0 mg
2	Folic acid	2.5 µg -5µg
3	Vitamin B12 cyanocobalamine, or hydroxycobalamine;	0.025 µg -0.05 µg

FORTIFIED BAKERY WARES CNTD

In addition, Fortified Bakery wares may also be fortified with following micronutrients, singly or in combination,

S.No.	Nutrient/Source	Level of Fortification per 100 kcal
1.	Zinc: Zinc Sulphate	0.3mg -0.6 mg
1.	Vitamin A (µg RE): Retinyl acetate or Retinyl Palmitate,	15 µg RE -30 µg RE
1.	Thiamine (Vitamin B1): Thiamine hydrochloride or Thiamine mononitrate;	0.04mg-0.08mg
1.	Riboflavin (Vitamin B2): Riboflavin or Riboflavin 5'-phosphate sodium ;	0.04mg-0.08mg
1.	Niacin: Nicotinamide or Nicotinic acid;	0.05mg-1.0mg
1.	Pyridoxine(Vitamin B6): Pyridoxine hydrochloride;	0.05-0.1mg

FRUIT JUICES

S. No.	Nutrient/Source	Level of Fortification per 250 mL
1.	Vitamin C Ascorbic acid	36 mg- 41 mg



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COMPLIANCE WITH STANDARDS ON MICRONUTRIENT CONTENT IN FORTIFIED FOOD

(1) Any manufacturer who fortifies any food shall ensure that the level of micronutrient in such fortified food does not fall below the minimum level specified in the schedule-I.

Categories of License

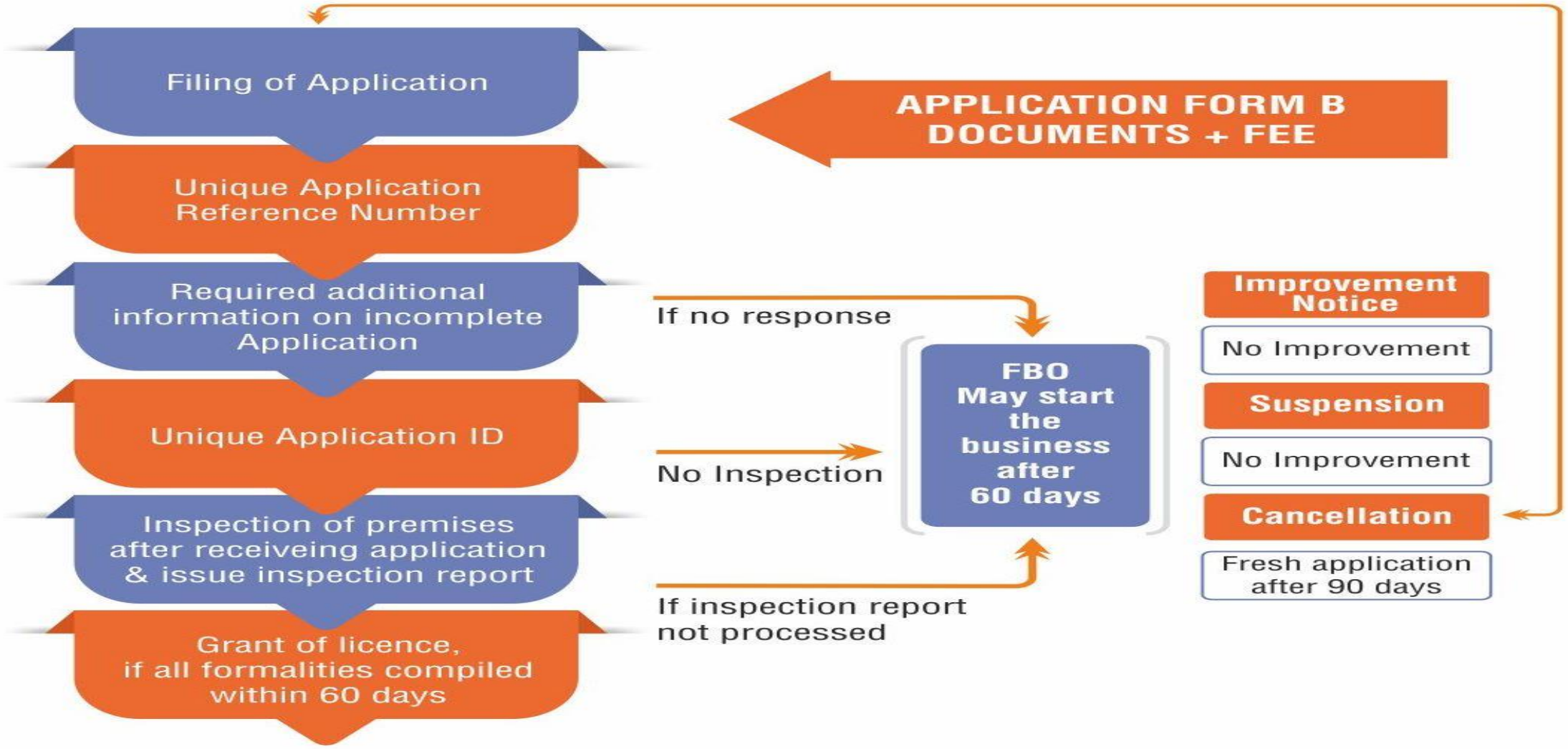
Depending on the installed capacity in case of manufacturers and/or turnover for business and/or location, the premise may be eligible for any of the following categories

State Registration

State License

Central License

Licensing Procedure





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Submission of Application



- ❖ Log on to “foodlicensing.fssai.gov.in” website.
- ❖ Create User id and Password by clicking on “Sign-up (for self-care portal).
- ❖ Login using the User Id and Password.
- ❖ Apply for State License OR Central License OR Registration as per eligibility criteria.

 **fssai** Food Safety and Standards Authority of India
सत्यमेव जयते 'सुरक्षित आहार, स्वास्थ्य का आधार' Licensing and Registration System V3.0

Home | About FLRS | FSSAI

How to Apply ?

Apply Now →

Existing Users Login

Username

Password

Sign In

[Forgot User ID/Password](#) | [Sign Up](#)

Welcome to FLRS
Food Licensing & Registration System

New Food Business Operator [Check Eligibility](#) »

Track Application Status

QUALITY ASSURANCE

Quality Assurance.- (1) Every manufacturer and packer of fortified food shall make an undertaking ; and submit evidence of steps taken

(2) The undertaking shall be done twice a year on **quality assurance** that shall include, the following, namely:-

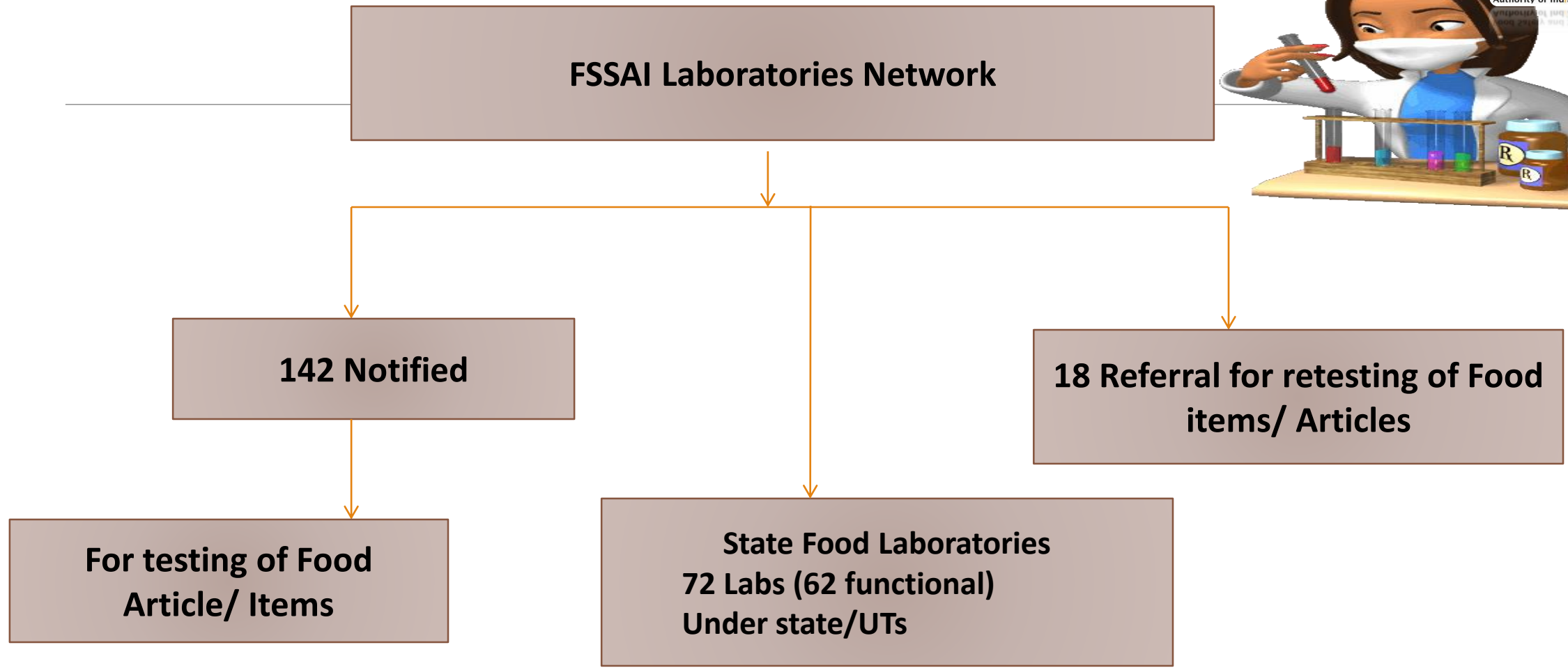
(a) certification by a food laboratory

(b) up-to-date record keeping and continuous inventory of fortificants used in the manufacturing or packing process, including the source from where the fortificant was procured;

(e) regular audit of technical equipment and processes; and

(g) **Purity criteria of Micronutrients**, generally accepted by pharmacopoeias, namely, Indian Pharmacopoeia, British Pharmacopoeia, Food Chemical Codex, Joint Food and Agriculture Organization or World Health Organization Expert Committee on Food Additives or CODEX Alimentarius may be adopted by food Business operators.

LAB INFRASTRUCTURE



PACKAGING AND LABELING REQUIREMENTS

7.– (1) All fortified food must ensure that the fortificant added and its effect on the shelf life

(2) Every package of fortified food



“fortified with (name of the fortificant)” and the logo, as specified in Schedule-II of these Regulation, on the label. It may also carry a tag line “Sampoorna Poshan Swasth Jeevan” under the logo.

(3) All other provisions under **the Food Safety and Standards (Packaging and Labeling) Regulations, 2011, shall also apply to the fortified foods.**

(4) Every package of food, fortified with Iron shall carry a statement. *“People with Thalassemia may take under medical supervision”.*



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3. MANNER OF DECLARATION



Food Safety and Standards
Authority of India

General Conditions:

- ✓ Any pictorial device/graphic matter on label shall not be in conflict with the regulations
- ✓ Declarations shall **be legible, conspicuous, plain, bold and in contrast** of the background color

Fortified Wheat Flour





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NUTRITIONAL INFORMATION



Nutrition Facts	
Serving Size 1 cup (239g)	
Servings Per Container 2	
Amount Per Serving	
Calories 100	Calories from Fat 15
	% Daily Value*
Total Fat 1.5g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 15mg	5%
Sodium 870mg	36%
Total Carbohydrate 15g	5%
Dietary Fiber 1g	4%
Sugars 1g	
Protein 6g	

- ✓ Nutritional information is the declaration of the nutritional composition of the food. It provides an idea of the nutrition that can be derived from that particular article of food
- ✓ Nutritional information should always be stated in numerical terms. The nutrition information for a particular food article is declared per 100g or 100ml or per serving of the food on the label

Nutrition labelling (back of panel)

A. Existing

Nutrients information per 100 g or 100 ml or per serving of the product to be given on the label containing the following:

- (i) Energy (kcal)
- (ii) amount of Protein (g), Carbohydrate (specify quantity of sugar) (g); and Fat
- (iii) Amount of any other nutrient for which a nutrition or health claim is made

Proposed

Nutrients information per 100 g or 100 ml and per serve per cent contribution to RDA to be given on the label containing the following:

- (i) Energy (kcal)
- (ii) Protein (g)
- (iii) Carbohydrate and Sugars (g);
- (iv) Total fat (g), **saturated fat (g), trans fat (g) and cholesterol (mg);**
- (v) **Sodium (mg);**

(Number of servings and serve size shall also be provided)

Issues on claims are covered under proposed claim regulations.

SCOPE OF FORTIFICATION

The total domestic consumption of edible **oil** in India is 21.7 MMT, of which 60 percent is used as an ingredient in the food processing industry. The fortifiable quantity of edible oil in the country is **8.64 MMT annually**.

Of the total annual **milk** production of 155 MMT (4100 lakh /litres/day) of milk, only 25 percent is in the organized sector (800 LLPD), of which 9.25 percent (380 LLPD) is fortifiable (across both private and cooperative dairies. This includes toned, double toned, standardized, and skim milk.

Total availability of **wheat** for domestic consumption is approximately 102 MMT of which 30 percent of the market is organized. Branded packaged wheat flour is 5 percent of the total market, accounted for by 5 leading national players.

Nearly, 33.7 MMT of **rice** is distributed annually through public funded programmes nationwide, which is recommended for fortification.

Annual **salt** production in India is 264 lakh tons of which 23.5 percent (62 lakh tons) is used for edible purpose.



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ENABLING ENVIRONMENT

FSSAI has created an enabling environment for the food industry to adopt food fortification as an **“Industry norm”**

Development of Food Fortification Toolkit comprising:: Technical Handbook, FAQs, GMP & GHP Guidelines, QA QC Manual.

Nudging and facilitating industry partners

Letters to State Chief Secretaries to appoint nodal officer and thus support and promote food fortification

Support to line Ministries (WCD, HRD, F&CS) to issue guidelines on mainstreaming fortified foods into ICDS, MDM and PDS



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Fortification Implementation Rollout – FSSAI & FFRC



A Dedicated **Food Fortification Resource Centre** (FFRC) setup by FSSAI in collaboration with stakeholders along with an online **Portal** for knowledge dissemination, coordination and collaboration (<http://ffrc.fssai.gov.in/>)

FSSAI Role	Alignment	Ensuring Supply	Creating Demand	Training	Enforcement
<ul style="list-style-type: none">• Set Standards, Create Logo• Setup a dedicated Hub: Food Fortification Resource Centre	<ul style="list-style-type: none">• Alignment & Advocacy – Industry & Zonal Consultations• Nudge & Facilitate - Both Open Market and State Governments	<ul style="list-style-type: none">• Ensuring open market availability• Linking Govt Safety Net Programs to Fortified Supplies	<ul style="list-style-type: none">• Building Consumer Awareness• Joint Marketing Campaigns	<ul style="list-style-type: none">• For Food Safety Officers• For Labs	<ul style="list-style-type: none">• Compliance with Standards• Monitoring & Evaluation



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Government Nutrition Programs: Food Based Safety Net Schemes



Targeted public distribution system

Circular issued by Ministry of Consumer Affairs, Food & Public Distribution directing States to only use **Fortified Atta** for distribution under PDS, dated December 22nd, 2016.

Mid day meal scheme

Order issued by Ministry of Human Resource Development directing States for **mandatory use of Fortified Wheat Flour, Fortified Edible Oil and Double Fortified Salt** under MDM, dated August 2nd, 2017.

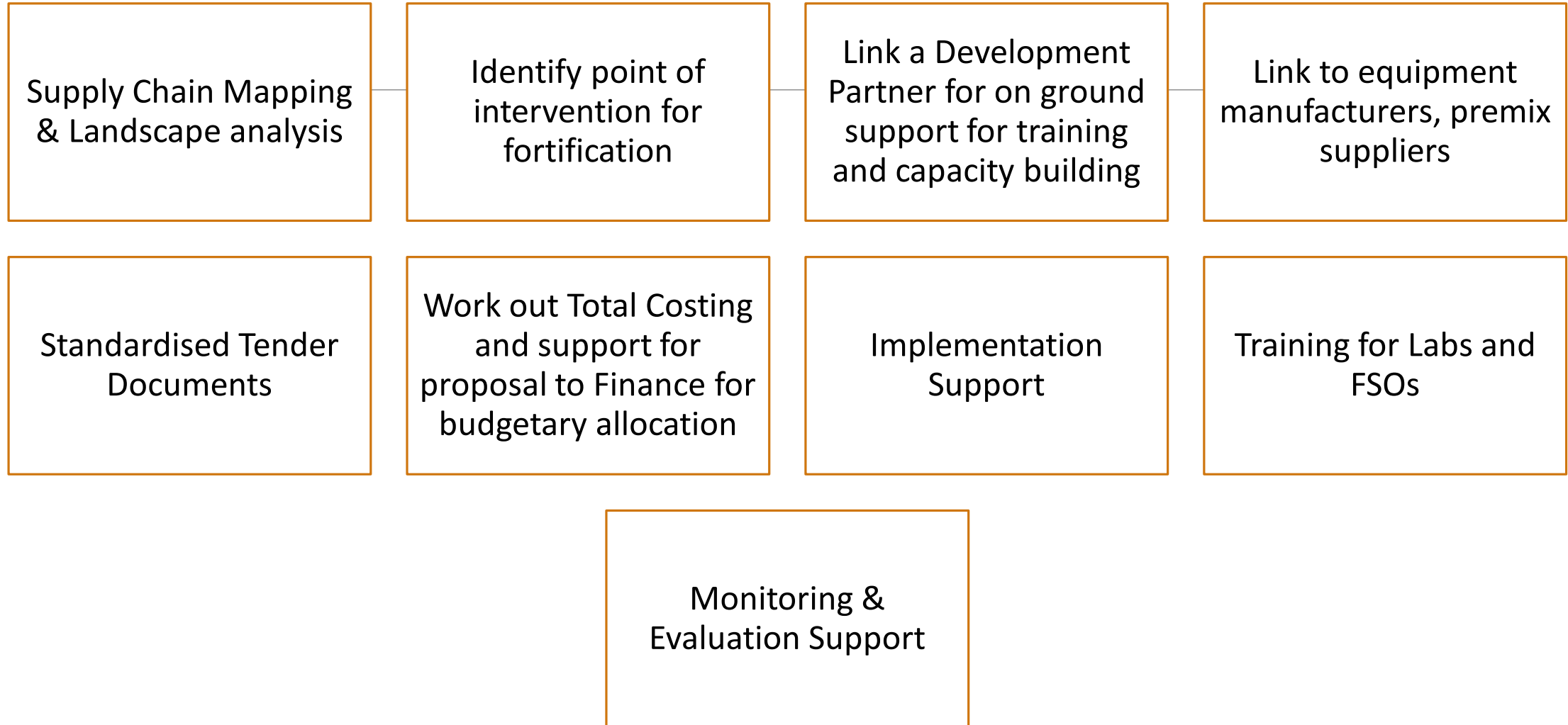
Order issued by Ministry of Human Resource Development directing States to only use **Double Fortified Salt** in the preparation of Mid Day Meals, dated July 1st, 2011.

Integrated Child Development Services

Order issued by Ministry of Women & Child Development directing States for mandatory **Fortified Wheat Flour, Fortified Edible Oil and Double Fortified Salt** under ICDS, dated July 10th, 2017.

Order issued by Ministry of Women and Child Development directing States for **mandatory use of Double Fortified Salt** in ICDS , dated June 21st, 2011.

FFRC SUPPORT @ STATE LEVEL





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CURRENT STATUS OF FORTIFICATION – STATES/UT



Food Safety and Standards
Authority of India

Fortified Staples	MDM		ICDS		PDS	
	States & No of District(s)	Progress	States & No of District(s)	Progress	States & No of District(s)	Progress
Edible Oil	Haryana (1)	Pipeline	Haryana (1)	Pipeline	Gujarat (All)	✓
	Rajasthan (All)	✓	Rajasthan (All)	✓	Himachal Pradesh (All)	✓
					Rajasthan (All)	✓
					Haryana (1)	Pipeline
Double Fortified Salt (DFS)	Tamil Nadu (All)	✓	Haryana (All)	✓	Madhya Pradesh (89 Blocks)	Pipeline
	Tripura (All)	✓	Tripura (All)	✓	Tami Nadu (All)	✓
Wheat Flour	Haryana (1)	Pipeline	Haryana (1)	Pipeline	Uttar Pradesh (10)	Pipeline
	Maharashtra (3)	Pipeline			Andaman & Nicobar Islands (All)	✓
					Haryana (1)	Pipeline
					Kerala (All)	Pipeline
					Maharashtra (1)	✓
					West Bengal (All except 1)	✓
Rice	Haryana (1)	Pipeline	Tamil Nadu (10)	Pipeline	Haryana (1)	Pipeline
	Chandigarh	Pipeline	Chandigarh	Pipeline	Odisha (1)	Pipeline
	Karnataka (3) + (4)	✓ + Pipeline	Dadra Nagar Haveli	Pipeline	Dadra Nagar Haveli	Pipeline
	Odisha (2) + (14)	✓ + Pipeline				
	Tamil Nadu (10)	Pipeline				
	Dadra Nagar Haveli	Pipeline				
	Uttar Pradesh (1)	Pipeline				



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Current Status of Fortification – OPEN MARKET



Food Safety and Standards
Authority of India

Fortified Wheat Flour



Fortified Edible Oil



Fortified Rice



Double Fortified Salt



Fortified Milk



THANK YOU!

