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## Importance of Regulatory Act in Food Service and Future Scope of Nutraceuticals in Food Sector



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### ABSTRACT

Food safety and hygiene are of utmost importance for businesses, as it helps to protect the health of consumers from foodborne illnesses and food poisoning. Food poisoning occurs when food becomes contaminated by bacteria, viruses and other germs, making those who consume the contaminated food and became unwell. Naturally, food poisoning can be treated at home within a week, but sometimes food poisoning can be serious and require urgent medical attention and that why role of the Regulatory act will be important part while dealing/serving food products. National legal frameworks are a key support in an effective food control system. In all the countries, food is governed by a complexity of laws and regulations which set out the government's requirements to be met by food chain operators to ensure the food is safe and of adequate quality under the norms decided by Regulatory acts by government of India. Usually- food laws, are used to apply to legislation that regulates the production, trade and handling of food and hence covers the regulation of food control, food safety and relevant aspects of food trade& Food supply chain. Minimum quality requirements are included in the food law to ensure the foods produced are unadulterated and are not subjected to any dishonest practices intended to cheat the consumer. Besides, food law should cover the total chain beginning with provisions for animal feed, on-farm controls and early processing through to final distribution and use by the customers. While food law is used in a extraordinary term, it is recognized that in many countries more than one law may exist which contains provisions for ensuring safe and quality food production. The situation can be further complicated where laws and regulations may not have been updated or may have constantly been amended, creating a network of rules which regulators, industry and consumers find it difficult to understand. Countries often face the additional challenge of updating their food laws in line with international agreements such as WTO and Codex standards. Finally, the implementation of food laws and regulations is essential. We provide support to governments in developing modern, effective national food laws and regulations. This technical support is provided through teams of legal advisors working closely with food safety experts. Allocated consideration is given to harmonizing legal frameworks with WTO requirements and where relevant, basing them on Codex standards, guidelines and related texts which constitutes the benchmark for food safety at the international level. FSSAI is an Act enacted to keep with changing needs/requirements of time and to consolidate the laws relating to food and to establish the Food Safety and Standards Authority of India. The Act was needed to bring out a single statutory body for food laws, standards setting and enforcement so that there is one agency to deal and no confusion in the minds of consumers, traders, manufacturers and investors which was due to multiplicity of food laws.

## INTRODUCTION:



Food Standards and trade are running together -ensuring Safe, Nutrition's and adequate food for the growing population of the world, In this area the Sustainable Development Goals(SDGs), acknowledge the role that trade can play in promoting sustainable development. Together, FAO and the WTO and the international system of food standards and trade contribute to achieving SDG 2 on hunger, food security, nutrition, and sustainable agriculture, SDG 3 on healthy lives and wellbeing, SDG8 on economic growth, employment and work; and SDG 17 on strengthening global partnerships for sustainable development, the means to establish a framework to facilitate trade based on internationally agreed food standards. Through the joint FAO/WHO Codex Alimentarius Commission governments establish science-based food standards.



The annual value of trade in agricultural products has grown almost three-fold over the past decade, largely in emerging economies and developing countries, reaching USD 1.7 trillion. Over the past two decades, the reduction in tariffs through global and regional trade agreements has provided greater opportunities for the expansion of global food trade. However, in order to trade internationally and access markets for high-value products, producers must be able to meet food standards. Governments apply food standards to ensure

that food is safe, and meets quality and labeling requirements. The use of international food standards worldwide helps reduce trade costs by making trade more transparent and efficient, allowing food to move more smoothly between markets.

The institutional framework, the system that governs the development and application of international food safety standards is based on the Joint FAO/WHO Food Standards Programme the Codex Alimentarius Commission and the WTO. Agricultural development, trade and food security are at the heart of the FAO mandate and the reason for FAO's investment in Codex. The WTO deals with the rules for international trade, its SPS and TBT Agreements set out the framework in which international standards are applied by governments to ensure the safety and quality of internationally traded food products.

### **Key Highlights of WTO/CODEX- <sup>1</sup>**

1- Report-Trade and Food Standards by Food and Agriculture Organization of United Nations (FAO) and World Trade Organization (WTO)-2017

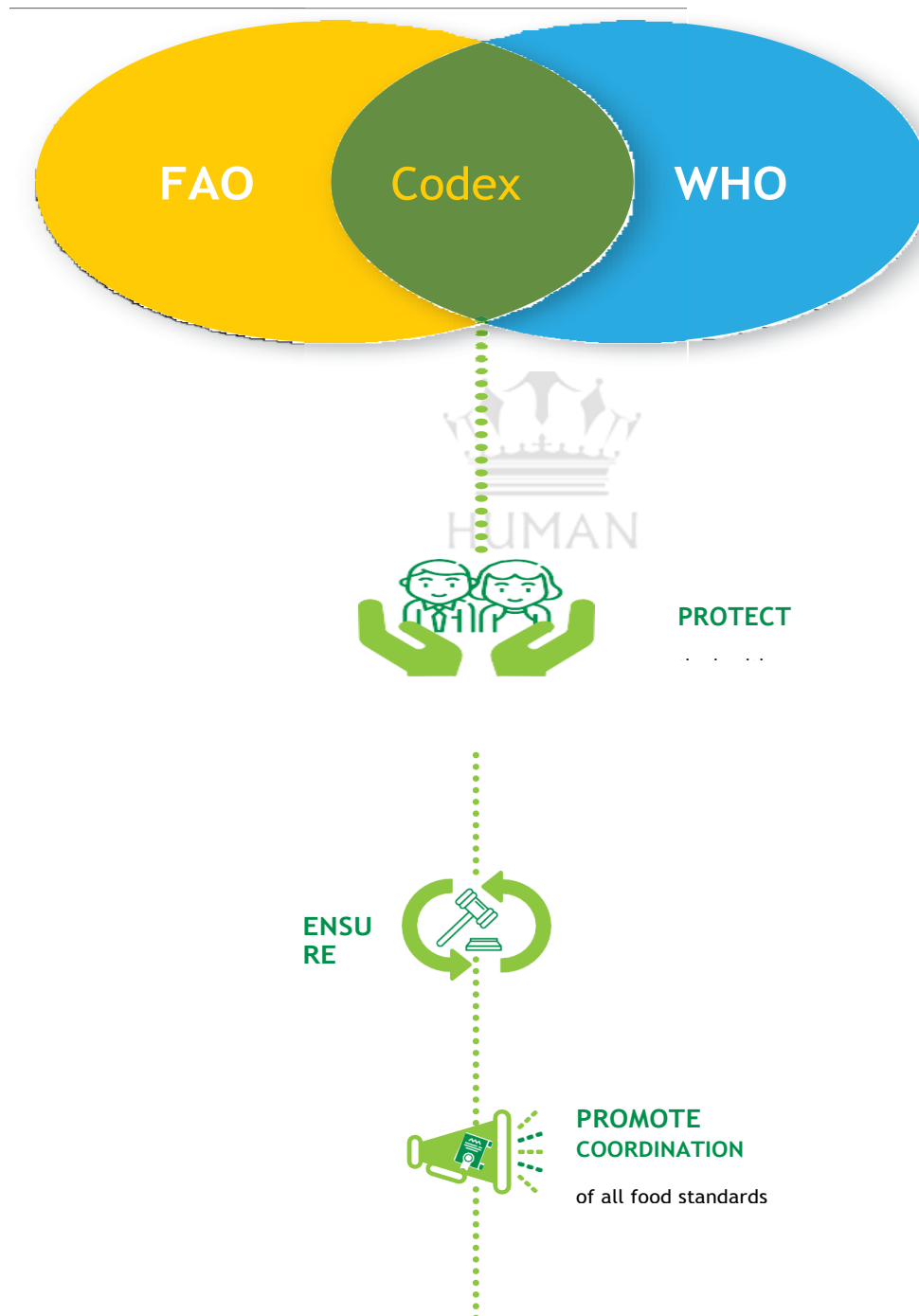
- Through the work of its members, Codex is the world's pre-eminent international food-standard-setting body, working with the principles enshrined in the standardization process work to ensure that Codex standards contribute to facilitating trade in food and protecting public health.
- The principles enshrined in the standardization process work to ensure that Codex standards contribute to facilitating trade in food and protecting public health.
- The WTO SPS and TBT Agreements work in tandem with international standard-setting bodies to encourage the harmonization of measures and ensure that they do not create unnecessary trade barriers or arbitrarily or unjustifiably discriminate between members.
- Together the Codex Alimentarius and the WTO form a system of rules to ensure that food is safe, of expected quality, and that it can be traded fairly.

“The Codex Alimentarius Joint FAO/WHO International Food Standards Programme, established by FAO and the World Health Organization (WHO) in 1963, is the single most important international reference point for food standards”.

The Codex Alimentarius Commission was established by FAO and the WHO in 1963 as part of the Joint FAO/WHO International Food Standards program. It is the single most important

international reference point for food standards. The joint nature of Codex is the key to its success. All actions along the food chain need to work together to ensure safe food in every outlet and home.

Codex Alimentarius is a compilation of harmonized international food standards, guidelines, and codes of practice. Collectively, these Codex texts protect consumer health and promote fair practices in the food trade, and are developed with the joint input of independent experts and the participation of 188 members representing over 99% of the world's population.

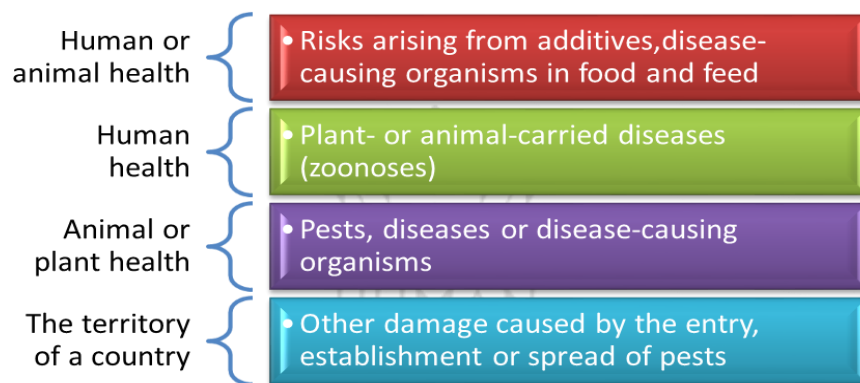




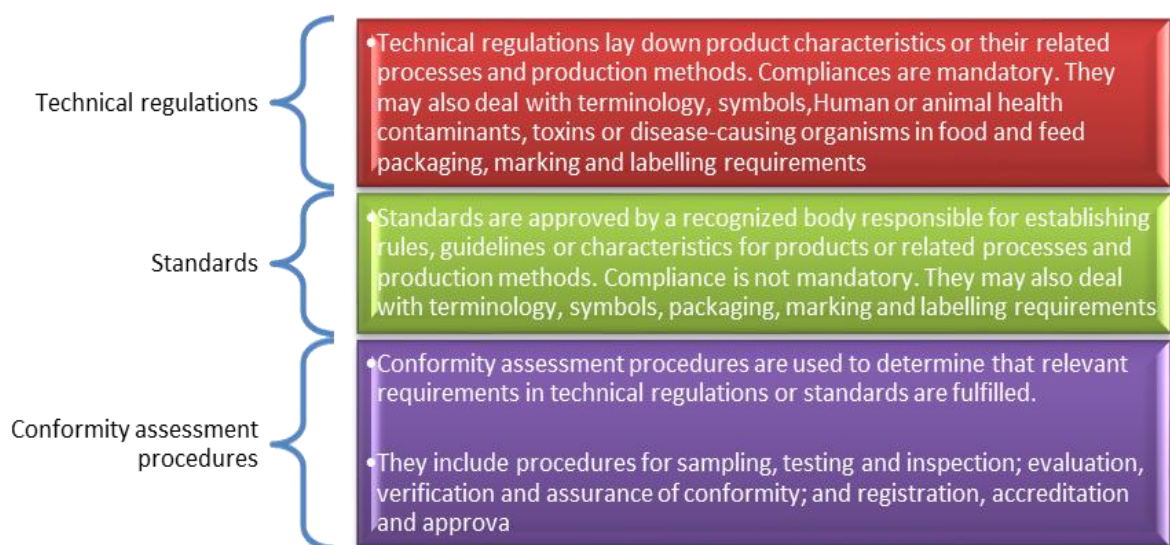
#### The CODEX scored Card-

- 191 Commodity Standard
- 76 Guidelines
- 17 Maximum Level for Contaminants of Foods
- 4037 Over MLs.
- 303 Food Additives
- 4846 Maximum Residue Limited (MRLs) for pesticides residues
- 610 MRLs for Residues of Veterinary Drugs in Foods.
- 50 Codes of Practice.

#### Scope of SPS Agreements



#### Scope of the TBT Agreement-



## **Food Safety and Standards Authority of India (FSSAI)<sup>2</sup>**

The Food Safety and Standards Authority of India (FSSAI) was established in 2008 under the aegis of the Ministry of Health and Family Welfare with the mandate for 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 and for matters connected therewith or incidental thereto to enforce the provisions of the FSS Act.

At the Apex level, there is the Food Authority which is a single reference point for all matters related to food safety and standards in the country. The Food Authority is assisted by Scientific Committees and Panels in setting standards and the Central Advisory Committee in coordinating with enforcement agencies. The Food Authority guides and regulates all persons engaged in manufacturing, processing, import transportation, storage, distribution, and retail of food, on issues of food safety and nutrition with primary responsibility for enforcement largely with the State Food Safety Commissioners. The Chairperson and Chief Executive Officer of FSSAI are appointed by the Central Government. The Head office of the Authority is located at FDA Bhawan, Kotla Road, New Delhi-110002.

### **Role of FSSAI**

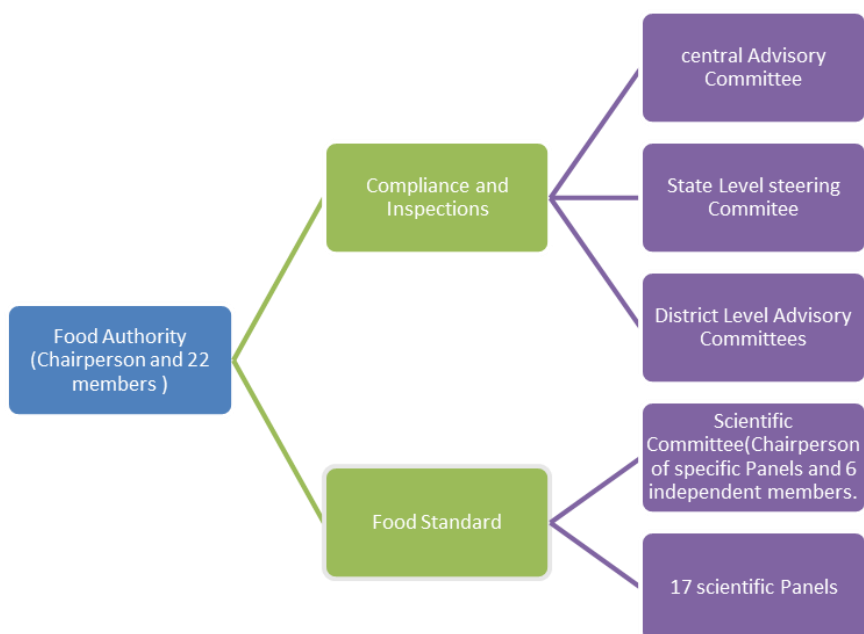
The main role of the Authority is to regulate and monitor, manufacture, processing, distribution, sale, and import food while ensuring safe and wholesome food to the consumers. The Act lays down the following main function for discharge by the Authority.

- Prescribing the Standards & Guidelines in relation to food and specified appropriate system for enforcement.
- Specifying limits for Additives, Contaminants, Pesticides & Veterinary Drug Residues, Heavy Metals, Processing Aids, Mycotoxins, Antibiotics and Pharmacological active substances and Irradiated Foods.
- Lay down food labeling standards including claims on health, nutrition, special dietary uses and food category system for foods.
- Lay down methods of sampling, analysis and exchange of information among enforcement agencies prescribing procedures and guidelines for accreditation of certification bodies and laboratories.

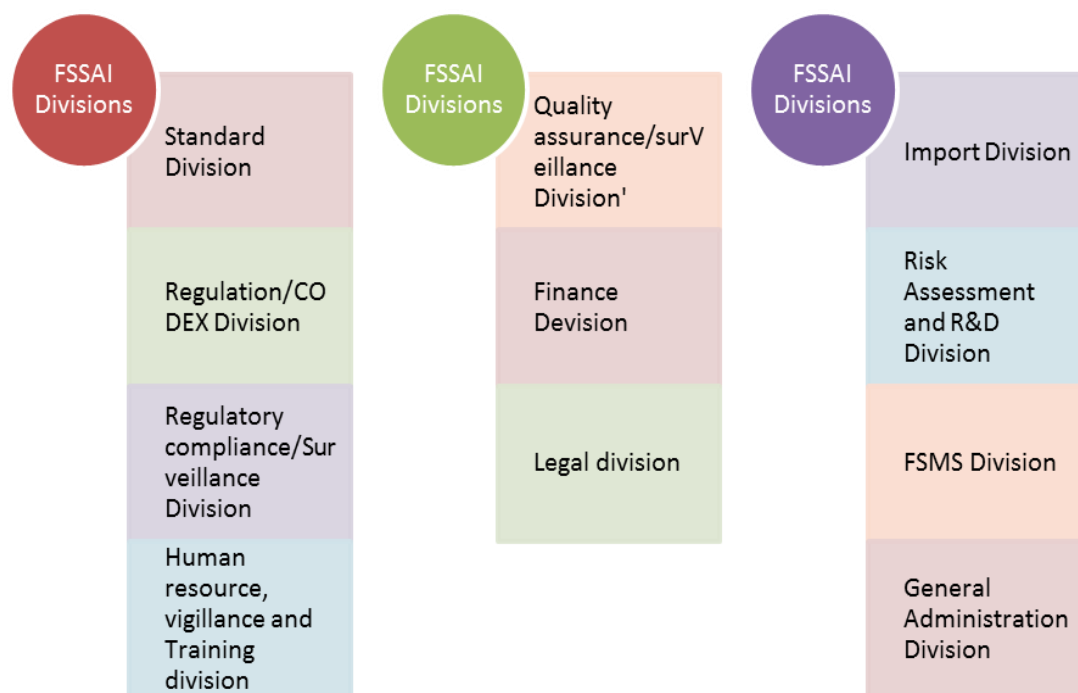
- Taking up, summarizing and analyzing relevant scientific and technical data on incidence and prevalence of biological or emerging risk, residues of various contaminants, the introduction of rapid alert system among others.
- Prescribing the procedure, and the enforcement of quality control in relation to any imported article of food in to India.
- Creating an information network across the country to disseminate rapid reliable and objective information about food safety and issues of concern.
- Providing Training Programs for persons who are involved or intent to get involved in food businesses.
- Promoting general awareness about food safety and food standards and promoting coordination of work on food standards undertaken by the International Governmental and Non-Governmental Organization.

## MANUAL FOR FOOD SAFETY OFFICERS-

Governing structure of FSSAI as Under-



## FSSSI Works through 11 Division-



- Food Authority
- Central Advisory Committee
- Scientific Committee
- Scientific Panels
- Chief Executive Officer:
- Food Safety Enforcement and State Food Authorities

India is a vast country with over 1.25 billion population and the sheer magnitude of food safety enforcement is a challenging task Food Authority and the State Food Safety Authorities jointly share this responsibility. While food authority provides policy intervention, direction and coordination at the national level, States/UTs conduct food safety enforcement at the field level. The responsibility of compliance of food standards as per Food Safety and Standards Act, 2006 and Rules and Regulations framed thereunder rests primarily with the States and UT Governments. The States/ UTs are responsible for the creation and filling up of necessary posts required for the purpose. The Food Safety and Standards Authority of India provide support in the form of imparting necessary training and capacity building of enforcement staff of States/ UTs. The huge differentiation among States/ UTs in



terms of size, population, food culture, languages, industry penetration, manufacturing capability and location has its own level of maturity in terms of enforcement capability which is consistently growing and improving.

Food Safety Authorities in States/UTs- the framework for food safety enforcement machinery provides under Food Safety and Standard Act, 2006 and Rules and regulations have the following officers–



### Key Support by Government -

Food processing sector is estimated to generate employment for 48 million (13 million directly and 35 million indirectly). Also, food processing industry is seen as having the potential to provide alternate employment opportunities to rural youth, who are currently dependent on agriculture or moving to urban areas for employment. Since a large section of the population is dependent on agriculture and allied sectors, the income enhancement of such a large section of population is possible only through adding value in the food chain.

Government of India has accorded high priority status to food industry intending to reduce inefficiencies resulting in wastages/ losses by setting up infrastructure (except cold storage facilities) and generate huge employment in this sector.

### Government initiatives for food industry <sup>3</sup>

- Entities in infrastructure development are given a deduction of 100% for the first 5 years & 30% for the next 5 years for the calculation of taxable income.

- Customs duty on all imported capital goods and raw materials & other inputs is exempted, in addition to excise duty & sales tax on domestic inputs, for all export oriented units.
- There is a provision for duty-free import replenishment of inputs, subject to basic input-output norms for approximately 600 export categories.
- Encouragement to private sector – 100% export-oriented units are allowed to sell up to 50% of their produce in the domestic market. Export earnings are exempted from corporate taxes.
- Tax incentives and Sops - Import duty scrapped on capital goods and raw materials for 100% export-oriented units. 100% tax exemption for 5 years followed by 25% in subsequent years.
- Tax exemption for the next 5 years for new agro-processing industries. Full excise duty exemption for goods that are used in the installation of cold storage facilities.
- Relaxed FDI norms – 100% FDI under automatic route (except for alcohol, beer, and sectors reserved for small scale industries). Repatriation of capital and profits permitted.
- Focus on infrastructure - Assigned priority sector for bank credit. 60 Agri Export Zones (AEZ) have been set up across the country. According to Vision 2015, formulated by MoFPI, the government plans to establish 30 mega food parks in public-private partnership mode across the country; out of these 10 have already been approved in the first phase. The government has also announced setting up of 15 Mega Food Parks in its FY12 Budget, as part of the third phase of Mega Food Park Scheme.
- Incentives for development of storage facilities - Investment-linked tax incentive of 100% deduction of capital expenditure for setting up and operating cold chain facilities (for specified products), and for setting up and operating warehousing facilities (for storage of agricultural produce).
- Focus on R&D and modernization - The government launched initiatives such as the Setting Up/Up gradation of Quality Control/Food Testing Laboratory, R&D and Promotional Activity scheme and the Technology Up gradation/Setting Up/Modernization/Expansion of Food Processing Industries Scheme.

### Schemes for Food industries by Government of India-<sup>3</sup>

**Table No. 1: Schemes for Food industries by Government of India**

Schemes	Details	Financial Assistance
<b>Ministry of Food Processing Industries (12th Plan: 2012-13: under NMFP)</b>		
<b>Technology</b>	Entrepreneurs for modernization and setting up of processing units for fruits & vegetables, meat, milk, fish, grain (oil mill; Rice, pulse & flour milling) alcoholic beverages, consumer products (including bakery units) etc.	25% of the cost of plant and machinery and technical civil works subject to a maximum of Rs.50.00 lakhs in general areas and @ 33.33% subject to maximum of 75.00 lakhs in difficult areas
<b>Up-gradation, Establishment, Modernization of Industries</b>		
<b>Cold Chain, Value Addition and Preservation Infrastructure (for horticulture produce)</b>	<ul style="list-style-type: none"> <li>•The scheme seeks to provide integrated and complete cold chain facilities without any break from the farm gate to the consumer.</li> </ul>	50% of the total cost of plant and machinery and technical civil works limited to INR 10 CR in General Areas; 75% of project cost limited to INR 10 CR for NE region and difficult areas (North East including Sikkim and J&K, Himachal Pradesh and Uttarakhand)
	<ul style="list-style-type: none"> <li>•Pre-cooling facilities at production sites, reefer vans, and mobile cooling units can be covered.</li> </ul>	
	<ul style="list-style-type: none"> <li>•Components of scheme</li> </ul>	
	–Minimal Processing Centre at the farm level with facility for weighing, sorting, grading waxing, packing, pre-cooling, CA / MA cold storage, normal storage and IQF;	
	–Mobile pre-cooling vans and reefer trucks	
	–Distribution hubs with CA/ MA chambers/ cold storage/ Variable Humidity Chambers, Packing facility, CIP Fog treatment, IQF and blast freezing	
	–Irradiation facility	
<b>Cold Chain, Value</b>	<ul style="list-style-type: none"> <li>•The scheme seeks to provide integrated and complete cold chain facilities without</li> </ul>	50% of the total cost of plant and machinery and technical civil works

<b>Addition and Preservation Infrastructure (for non-horticultural products such as meat, dairy, aquaculture and marine products)</b>	any break from the farm gate to the consumer.	limited to INR 10 CR in General Areas; 75% of project cost limited to INR 10 CR for NE region and difficult areas (North East including Sikkim and J&K, Himachal Pradesh and Uttarakhand)
	•Pre-cooling facilities at production sites, reefer vans, and mobile cooling units can be covered.	
	•Components of scheme	
	–Minimal Processing Centre at the farm level with facility for weighing, sorting, grading waxing, packing, pre-cooling, CA / MA cold storage, normal storage and IQF;	
	–Mobile pre-cooling vans and reefer trucks	
	–Distribution hubs with CA/ MA chambers/ cold storage/ Variable Humidity Chambers, Packing facility, CIP Fog treatment, IQF and blast freezing	
<b>Modernization of Abattoirs (as per XI plan scheme)</b>	–Irradiation facility	50% of the total cost of plant and machinery and technical civil works limited to INR 10 CR in General Areas; 75% of project cost limited to INR 10 CR for NE region and difficult areas (North East including Sikkim and J& K, Himachal Pradesh and Uttarakhand)
	Establishing new abattoirs & modernization of old abattoirs	
		75% of project cost limited to INR 10 CR for NE region and difficult areas (North East including Sikkim and J&K, Himachal Pradesh and Uttarakhand)

Schemes	Details	Financial Assistance
Ministry of Food Processing Industries (11th Plan)		
Implementation of HACCP/ ISO 22000, ISO 14000/ GHP/ GMP Etc.	Adoption of food safety and quality assurance mechanisms such as TQM including ISO 14000, ISO 22000, HACCP, GMP, GHP	Reimbursement of expenditure is provided to the extent of 50% of the cost of consultant fee, fee charged by Certification Agency, plant and machinery, technical civil works and other expenditure towards the implementation of Total Quality Management System including ISO 14000, ISO 22000, HACCP, GMP & GHP in general areas subject to maximum limit of INR. 15 lakh and 75% in difficult areas subject to a maximum of INR. 20 lakh.
APEDA (Agriculture Produce Export Development Authority )(www.apeda.gov.in)		
Establishment of common infrastructure facilities	•Establishment of common infrastructure facilities by APEDA or any other Government or Public Sector agency like Airport Authority of India or Port Trust etc.	100% grant-in-aid
	•Assistance to exporters /producers/growers/ cooperative organization and federations for horticulture and floriculture sector for	25% of the cost of equipment subject to a ceiling of Rs.10.00 lakh per beneficiary
	–Setting up of mechanized handling facilities including sorting, grading, washing, waxing, ripening, packaging & palletization etc.	25% of the cost of equipment subject to a ceiling of Rs.10.00 lakh per beneficiary
	–Setting up of both pre-cooling facilities with proper handling system as well as cold storage for storing	25% of the cost of equipment subject to a ceiling of Rs.10.00 lakh per beneficiary
	–Providing facilities for per shipment treatment such as	25% of the cost subject to a ceiling of Rs.25.00 lakh per beneficiary

	fumigation, X-ray screening, hot water dip treatment, Water softening plant	
	–Setting up of integrated post-harvest-handling system (pack houses/greenhouses with any two or more of the above facilities)	25% of the cost subject to a ceiling of Rs.25 lakh per beneficiary
	–Assistance for setting up of environment control system e.g. pollution control, effluent treatment etc	25% of the cost subject to a ceiling of Rs.10 lakh per beneficiary
	–Setting up of specialized storage facilities such as high humidity cold storage deep freezers, controlled atmosphere (CA) or modified atmosphere (MA) storage etc.	25% of the cost subject to a ceiling of Rs.10 lakh per beneficiary

How supportive is India's regulatory landscape for setting-up of foodservice business<sup>4</sup>- The number of permissions are usually dependent on service offerings of a restaurant and state-level requirements.

Certificates required for opening Restaurants-

**Table No. 2: Selected recent regulations of importance to the food industry**

Sr.No	License/ certificate	Purpose	Issuing authority
1	Food license	Primary requirement to register the business	FSSAI (Food Safety and Standards Authority of India)
2	Health trade license	Mandatory to be obtained in the state(s) of operation(s)	Municipal Corporation or Health Department of State
3	Eating house license	Required to have a proper eating place	Police department (city/state)



4	Fire security certificate	No Objection Certificate (NOC) required for security in case of fire	Fire department (city)
5	Liquor/bar license	Required if liquor served at the food outlet	Excise Commissioner (city)
6	Approval/re-approval	Mandatory to apply for Liquor license	Department of Tourism (state)
7	Lift clearance	Required for food outlets in multi-storey buildings to ensure compliance with safety norms for lift (elevator) operations	Labour Commissioner (Electrical Inspector)
8	License for playing music/video	Necessary for playing recorded music and/ or videos in the outlet to comply with the Copyright Act, 1957	Phonographic Performance Limited or Indian Performing Right Society
9	Environmental clearance	NOC required to ensure compliance with pollution norms	Pollution board (state)
10	Insurances	<ul style="list-style-type: none"> <li>• Public liability</li> <li>• Product liability</li> <li>• Fire policy</li> <li>• Building and asset</li> </ul>	Recognized insurance company
11	Signage license	Required for public display of signs	Regional/local civic bodies
12	Shop and establishment registration	Registration necessary to safeguard employee rights and working conditions	Concerned State authorities (as applicable)
13	Approvals for weighing and measuring instruments	Approvals required to comply with the Legal Metrology Act, 2009	Weights and Measures department
14	Registration under Factories Act*	Required if the number of employees exceeds 10	Department of Labour
15	State Tax and Value Added Tax (VAT)*GST	Required for registration under the applicable tax authorities	Department of Commercial Tax



Selected recent regulations of importance to the food industry <sup>4</sup>			
Food safety			
Agency	Authorizing legislation	Status	Description/purpose
FDA	FDA Food Safety Modernization Act (2011)	Seven different final regulations issued in 2015 and 2016 with implementation deadlines for business in 2017 to 2019	Modernize food safety regulation in line with best practices; address risks in fresh produce and from food imports
USDA/FSIS	Poultry Products Inspection Act (1957); Executive Order	New Poultry Inspection System Final Rule 2014; implementation	Updates and streamlines, inspection system, imposes new requirements to reduce

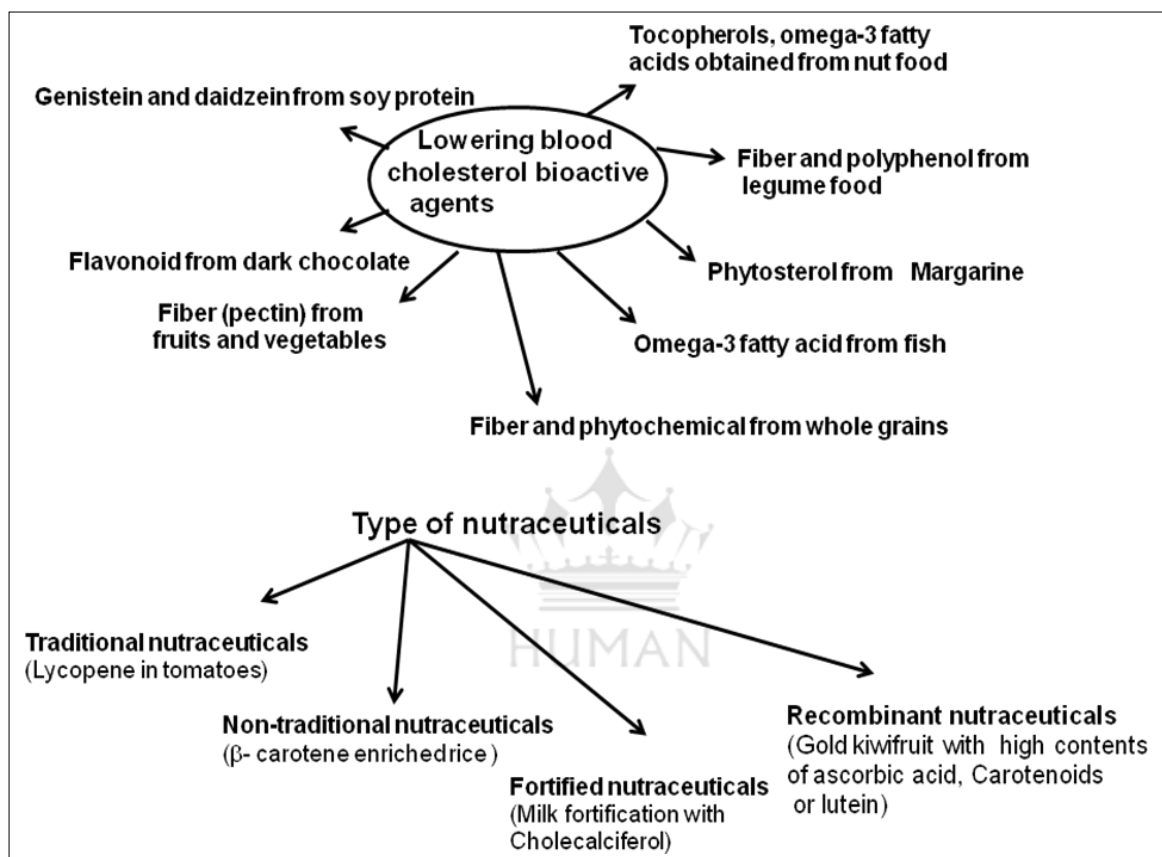
	13563 on Improving Regulation and Regulatory Review (2011)	immediate	Salmonella and Campylobacter.
Food labeling			
FDA	FDA Nutrition Labeling and Education Act (1990)	Changes to the Nutrition Facts Label rule final in 2016 with business in 2016 with business implementation by 2018	Updates serving sizes, Added sugars content required; updates format
FDA	Affordable Care Act (2010) Restaurant Calorie Labeling	Restaurant Calorie labeling Rule final in 2016 with business implementation by 2017	Calorie information required on menus in chain restaurants
USDA/AMS	National Bioengineered Food Disclosure amendment to Agricultural Marketing Act (2016)	USDA has until 2018 to design implementation rules	Requires food companies to provide information to provide information on GM content of foods on GM content of foods either through QR codes or phone number
Food assistance			
USDA/FNS	Child Nutrition Act (1966)	Revisions in WIC Food Packages Final Rule 2014	Increase fruits and vegetables, whole grains and low-fat dairy in WIC package

USDA/FNS	Healthy, Hunger Free Kids Act (2010) reauthorizing Act (2010) reauthorizing School Lunch and Breakfast Programs	New standards took effect 2012 – 2013 school year for lunch, 2013 – 2014 school year for breakfast, and 2014 – 2015 school year for competitive foods.	Increased the amount of fruits and vegetables served, emphasized whole grain-rich foods, required only low fat and nonfat milk, limited calories, and reduced saturated fat and sodium.
USDA/FSN	Farm Bill (2014)	Enhancing Retailer Requirements in SNAP Final Rule in 2016	Require retailers to stock more variety four categories-meat, poultry, or fish; bread or cereal; vegetables or fruits; and dairy.

Need for Nutraceuticals /Functional Food products in the food sector- Improved economic and developed people with their lifestyle have shaped many challenges of health issues (obesity, osteoporosis, cancer, diabetes, allergies and dental problems), due to variety of different food habits (such as consumption of manifold junk foods). It has created number of health problems (development of many diseases) related to nutritional deficiencies food, people have developed the habit for shifting of non-natural food ingredients to organic foods and ingredients, obtained from natural sources. In this regard, nutraceuticals food or its food products can perform important role in controlling the diseases via fulfilling all the health benefits to many people at worldwide. Incredible dietary supplements as nutraceuticals food (involvement in nutritional, immunologic and physiological functions) can help in prevention or treatment of many diseases (mitigating of gastrointestinal (GI) tract problem), as it is synthesized from raw herbals and lots of rapidly growing industries are reported to synthesize these natural products. And around 100 million people are found to take these products (power of plant-based materials) for getting health benefits. It can work as drugs as health benefit of nutraceuticals via regulation/ control for diseases. The global nutraceuticals market had been valued for US\$ 165.62 billion in 2014 and it would be grow the value of US\$

278.96 billion by 2021 with compound annual growth rate of 7.3%. This proposed paper will discuss the different types of nutraceuticals food or its functional components involved in the prevention or treatment of diseases.

5- Need Of Nutraceuticals / Functional Food Products for Health Benefits to World-Wide People By Rajesh K. Srivastava Gitam Institute of Technology and Management (GITAM) (Deemed to be University).



**Figure No. 1. Bioactive components from different food sources help in lowering of blood cholesterol concentration [13, 14].**

**Table No. 3: Food sources with Nutraceuticals properties of different health benefits in many diseases in people**

Source of foods	Parts used for	Health benefits
<i>Allium sativum</i> (Garlic)	Fresh or dried cloves or garlic extracts is utilized by patients	
		Arteriosclerosis, lowering of
		cholesterol in blood arteries is shown
<i>Capsicum annum</i> (Red or Bell pepper)	Fresh and dried fruit powder is used by patient. It is also used as colourant,	Natural antioxidant, stimulant, dietary antioxidants as health
	flavourant, and/or as a source of pungency.	benefits are shown It prevents the
		blood clots in heart attacks problem
<i>Zingiber officinale</i> , (Ginger)	Fresh dried root is used by patient	Help in Indigestion with the antioxidant property via having glutathione (GSH) activity and total superoxide dismutase (SOD). Also, help in the treatment of liver fibrosis
<i>Phyllanthus emblica</i>	Fruit pulp or dried fruit is used by the patient	Diuretic and anti-ageing is shown and utilized in diabetes, osteoarthritis
(Amla)		with chondroprotective potential
		Helping in Inflammation and
<i>5- Curcuma longa</i>	Dried root with curcumin compound and chemically known as diferuloylmethane	indigestion problem with antioxidant property and help in treatment of
(Turmeric)		multiple chronic diseases and has antibacterial agent
<i>6-Artemisia annua</i>	Shoot decoction and	Anti-malarial and antioxidant property of it is used for remedy against free radical damage

(Artemisia)	leaf-derived solvent extracts are used by patient	(erythrocytes haemolysis)
<b>7-Matricaria chamomilla</b> (Chamomilla) greek meaning "ground apple"	Dried flower is used by patient	It is used in wound healing, indigestion, insomnia, fever,
		inflammation, muscle spasms, menstrual disorders, ulcers, rheumatic pain and hemorrhoids

### Reason for the importance of Food Safety and Hygiene<sup>6</sup>

The Food Hygiene Regulations 2006 legally requires food businesses to carry out food tasks safely and hygienically. It is an offense under the Food Hygiene Regulations 2006 to supply food to consumers that is harmful to health. Food businesses have a duty of care when supplying food to consumers, and therefore food safety and food hygiene must be a priority.

### Health & Safety Knowledge Base | Food Safety Training



### Food Safety and Hygiene Practices

A safe and hygienic workplace helps to create a productive workforce, therefore creating a food safety and hygiene policy will ensure all employees know how to contribute to



appropriate work practices. Your workplace food safety and hygiene policy should include the following important principles:

### Thorough Cleaning

Ensure the area which you are working in is clean and hygienic. This involves thoroughly cleaning and sanitizing the workspace, utensils, and equipment before cooking, in-between cooking tasks and after cooking.

Cooking utensils and equipment, such as chopping boards, knives and mixers, must be thoroughly cleaned between dealing with foods. For example, either a separate chopping board must be used or it must be thoroughly cleaned between chopping raw chicken and vegetables. If this is not done, the bacteria from the raw chicken will transfer onto the vegetables and cross-contamination of foods will occur. Ensure there are no ways that pests or insects could enter the workplace, through keeping the area clean, using pest control sprays, and covering food appropriately.

### Personal Hygiene of Food Handlers

- Ensure the individuals handling food have a high standard of personal hygiene. This includes:
- Tying hair back to ensure no hairs fall into the food.
- Thoroughly wash hands with soap and hot water, before, during and after handling food, to ensure no germs from your hands are transferred to the food.
- Wear clean clothes to work, to ensure no germs from your clothes transfer to the food.
- Wear gloves if you are handling food with bare hands.



### **Storage of Foods**

- Store food properly. Identify which foods must be kept at room temperature, which must be refrigerated, and which must be frozen.
- If food needs to be refrigerated, it must be kept between the temperature of 0°C and 5°C. Therefore, refrigerators should be set at 3°C or 4°C.
- Domestic freezers must be set at -18°C, which will stop chemical reactions occurring within foods. This will stop bacteria from growing and producing toxins.

### **Correct Preparation and Cooking of Foods**

- Ensure you know which food requires washing before it is cooked.

For example, fruits and vegetables require washing under cold water before they are prepared. However, there are certain foods that certainly must not be washed, such as raw chicken, as this could spread the bacteria from the chicken across the workspace.

- Ensure you cook food to the right temperature. Food must reach a core temperature of 75°C, as this ensures that all bacteria will be killed off safely.
- Food safety and hygiene is taken seriously internationally. In November 2019, the Ministry of Health and the Singapore Food Agency investigated reports of 30 illnesses which occurred after individuals consumed food from Taj Catering, owned by Singapore Fast Food Pte Ltd. The catering company have had their license suspended until further notice, whilst the investigation is taking place. The employees responsible for food hygiene at Taj catering

will be required to pass a food hygiene officer course if the organization is going to be allowed to continue.

- Therefore, those involved in the food industry must understand how important food safety and food hygiene.



## CONCLUSION:

The officials and experts who laid the foundations and determined the direction taken by activities of the Joint FAO/WHO Food Standards Programme and the Codex Alimentarius Commission were first and foremost concerned with protecting the health of consumers and ensuring fair practices in the food trade. They felt that, if all countries harmonized their food laws and adopted internationally agreed standards, such issues would be dealt with naturally. Through harmonization, they envisaged fewer barriers to trade and a freer movement among countries, which would be to the benefit of farmers and their families and would also help to reduce hunger and poverty.

FSSAI name as Food Safety and Standards Authority of India. It plays an important role in controlling food quality. And ensure safety for customer satisfaction. Even, it deals in manages food manufacturing, processing, distribution, and storage. FSSAI works based on the Food Safety and Standards Act, 2006. Also, it forms the measures to cut the toxic and hazardous elements of the environment. Therefore, following the rules and regulations of FSSAI gives confidence to every customer of food security. The packaging of the food product talks about product quality. In this way, it notifies the customer about safety

standards. The manufacturers of food need to apply these standards to control food degradation. This is great to meet the confidence of the customer. Also, keep the food authorities satisfied. It may interest you in recognizing the new quality standards by FSSAI. Consumers who are buying food products can submit a few scientific techniques to the government. The government needs to set standards according to the budget. As strict standards need more finance. So, it's important to put in place those standards that come under its budget. All food products have different standards. The purpose is to assure the measures must implement which is an important particular food product. Public health must be of primary importance for the FBOs. Other violations involved such as fraud, adulteration, and misleading appeals to double-cross consumers must be prohibited, need to take care of as the way forward.

-FSSAI must also bring the manufacturers under the responsibility of commanding food safety. The focus should be on covering each person in the supply chain for assessment of food manufacturing, storing, and distribution.

-FSSAI has recently notified the draft Regulations on Food Recall Procedure to guide Food Business Organizations (FBO). This will enhance the present regulatory system.

-FSSAI and the state food authorities must conduct surveys of food business activity under their authority to assure a complete and secure database of FBOs and secure better enforcement and administration of the FSS Act.

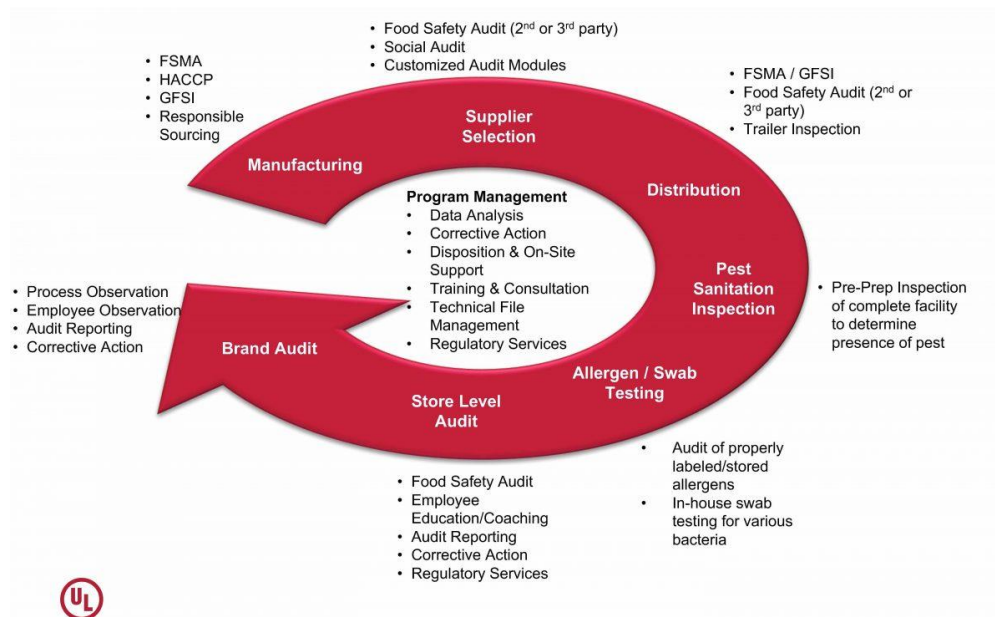
-Raising limits of compensation and fine in cases of injury or death and giving sufficient infrastructure such as food testing laboratories.

-CAG has recommended that FSSAI should frame standard operating procedures on the formulation and review of standards, and ensure that these are being followed shortly.

-There must be frequent appointments of Food consultants to ensure safety levels.

-The food consultants must manage audits to investigate whether the food industry is complying with the food standards or not.

-The government must interact with both the customers and the manufactures to ensure common understanding and for minimizing misconceptions.



In the present lifestyle Nutraceuticals, food has played important role in controlling such diseases with the provider of the health benefits to people. Dietary supplements as Nutraceuticals food have helped in nutritional, immunologic, and physiological functions with prevention or treatment of diseases of the gastrointestinal (GI) tract. Many herbals products with natural products has started to synthesize by many Indian or any other industries in world and more people are getting health benefits.

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