FOOD SAFETY LAWS IN INDIA: A STUDY OF PREVENTION OF FOOD ADULTERATION ACT 1954 AND FOOD SAFETY AND STANDARDS ACT 2006 AND THEIR IMPLICATIONS

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DECLARATION

This is to certify that the dissertation entitled **"Food Safety Laws in India : A Study of the Prevention of Food adulteration Act 1954 and the Food safety and standards Act 2006 and their implications"**, submitted by me in partial fulfillment of the requirement for the award of the degree of **Master of Philosophy** of Jawaharlal Nehru university. This work is original and has not been submitted so far, in part or full, for any degree or diploma of this university or any other university.

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CERTIFICATE

We recommend that this dissertation be placed before the examiners for evaluation.

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CONTENTS

List of Abbreviations

BSE	Bovine Spongiform Encepalopathy
Codex	Codex Alimentarius Commission
CCFS	Central Committee of Food Standards
CFS	Central Food Laboratory
CMO	Chief Medical Officer
DGHS	Director General of Health Services
FAO	Food and Agricultural Organisation
FSSA	Food Safety and Standards Act, 2006
GATT	General Agreement on Trade and Tariff
LHA	Local Health Authority
MFPI	Ministry of Food Processing Industries
MHFW	Ministry of Health and Family Welfare
MRL	Maximum Residue Limits
NGO	Non Governmental Organisation
PFA	Prevention of Food Adulteration Act, 1954
PHC	Primary Health Centre
SPS	Sanitary and Phyto Sanitary Agreement
TBT	Technical Barriers on Trade Agreement
WHO	World Health Organisation
WTO	World Trade Organisation

CHAPTER I

CHAPTER 1

Introduction

1.1 Background of the Study

Food is an integral part of the life of all living beings in the world. Food activates human life to proceed with its activities and to derive sufficient energy from it. A healthy body is the result of consuming fresh and healthy food by human beings. It is, therefore, imperative to ensure that whatever we consume is pure and un-adulterated. Adulteration of food can cause serious damage to human life. Due to the importance of food and increased awareness regarding safe food, modern society today, treats adulteration of food as a socio-economic crime (Sachdeva, 2005). If we take a cursory view of the state attempt at regulation of the food sector, one is struck by the effect of socio-economic factors in the effectiveness and the content of laws framed by the state for this purpose. Hence we can say that the existing legislations were not defined by the standard or purity alone.

The quality of food was not an important issue or a cause of concern in the beginning of the 19th century. However, in the second half of the century, the problem had proliferated to an unprecedented extent. Intensifying trade competition and increasing concern over public health issues compelled many countries to regulate the food sector. States exercised the principal control over domestically produced and distributed, foods and drugs.[1] Hunger and malnutrition seriously affected the health of the people at that time.

Development of capitalism and the subsequent rise and increase in the power of the state in regulating the market-proved to be driven by the desire of profits than quality increasingly led to enactment of tough legislations to deal with adulteration. A case in this point is the Adulteration of Food Act of 1860 in England. Consumer resistance and the desire for reasonably priced good food and commodities also added to this movement (J.Burnett, 1989). Frederick Engels, in his book, 'The Conditions of the Working Class in England' written in 1844-5, remarked that "bad food produced by profit hungry

[1] See http://www.fda.gov, last accessed on 12 December 2006.

companies has been a hallmark of capitalism from the beginning." He noted that chicory was mixed into good coffee; cocoa was extensively adulterated with fine brown earth, wrought up with mutton fat, so as to amalgamate with portions of the real product. Karl Marx, in the first volume of the 'Capital' commented, based on the 1863 Royal Commission finding ".....but they did not know that he had to eat daily in his bread a certain quantity of human perspiration mixed with the discharge of abscesses, cobwebs, dead cockroaches and putrid German yeast, not to mention alum, sand and other agreeable mineral ingredients" (Kimber, 1945). As capitalism expanded from the developed to the colonial countries that is in effect is a penetration of commodity relations even in the most insular villages, a need was rightly felt to regulate the growing food market. Hence we see a plethora of food laws being implemented across the world. Food safety thus became a public health concern.

Park (2000) viewed that food surveillance is essential for the protection and maintenance of community health. Good health is closely related with consuming good food. Food surveillance, in its broad sense, implies that food must be safe and prepared in a hygienic way. The WHO (World Health Organisation) defined food safety as "all conditions and measures that are necessary during production, processing, storage, distribution and preparation of food to ensure that it is safe, sound, wholesome and fit for human consumption" (Park, 2000). The WHO Declaration of Alma Ata considered food safety as an essential component of primary health care.[2]

The importance of food surveillance and food borne diseases had been underlined in the WHO Sixth General Programme of Work for the period 1978-1983. The most important international programme carrying out activities in the food hygiene is the joint FAO/WHO Food Standard Programme known as Codex.[3] Codex (Codex Alimentarius

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2 Alma Ata Declaration on Primary Health Care, 1978. Part VII (3) reads as Primary health care includes at least: education; promotion of food supply and proper sanitation; adequate supply of safe water and basic sanitation; maternal and child health care; including family planning and immunization; prevention and control of locally endemic diseases etc.

3 WHO (1978), Weekly Episode Records No 53, p. 37-44, http://www.fao.org. accessed on April 2007

Commission)[4] standards have been adopted by more than 170 countries and thus it has become an international reference point under the WHO.

The problem of nutrition deficiency was a common feature of mothers and children in colonial as well as post-colonial India (Mark Harrison, 1994). After Independence (1947), India embarked upon a planning effort with definite policies and programmes for increasing the nutrition levels and agricultural production as a part of raising the living standard of the people (Banerji, 1985). Efforts such as the Vitamin A prophylaxis Programme, Iodine Deficiency Disorders Control programme, Special Nutrition Programme, Balwadi Nutrition Programme, ICDS programme and mid day Meal Programme[5] were all implemented with the basic purpose of improving nutrition and the overall health of women and children (Park, 2000). The Green Revolution and other such agricultural programmes aimed at achieving the self-sufficiency in agricultural sector. After Independence, the government concentrated more on issues such as poverty alleviation and providing sufficient quantity of food to the poor. However, at the same time, the government also undertook policies to ensure safe food. These policies were enacted after realizing the harmful effects of adulteration and contamination of food items and thus ensuring the health and well being.

The problem of adulteration can be dealt with by adopting stringent legal measures to prevent adulteration, quality checks by officials, strict adherence to procedures for granting license to carry over business etc. In India, 'adulteration of food and other goods' is an item that finds mention under the Concurrent List in the Constitution of India.[6] In order to prevent the adulteration of food, the Indian government

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4 The Codex Alimentarius Commission is an intergovernmental body formulated to implement the Joint FAO/WHO Food Standards Programme which was established through an FAO Conference resolution in 1961 and a World Health Assembly resolution, WHA 16.42, in 1963. Its principle objective is to protect the health of consumers and to facilitate the trade of food by setting international standards on foods (i.e. Codex Standards) and other texts which can be recommended to governments for acceptance. See http://www.codexalimentarius.net, last accessed on 2 January 2007.

5 These are large scale supplementary feeding programmes and programmes aimed at overcoming specific deficiency diseases through various Ministries to combat malnutrition.

6 According to the Seventh Schedule of the Indian Constitution; List I – Union List; Parliament has exclusive power to make laws with respect to matters enumerated in List I, List II – State List; Legislature of any state have exclusive power to make laws with respect to any of the matters enumerated in List II and List III – Concurrent List; Parliament and subject to clause 1 of Article 246, the Legislature of any State also, have power to make laws enumerated in List III.

enacted a comprehensive legislation called 'The Prevention of Food Adulteration Act, 1954' to curb food adulteration activities in the country. It has, thus far been amended four times in 1964, 1971, 1976 and 1986 respectively, in order to make the punishment for adulteration more stringent.[7] In 2006, new integrated food legislation was passed namely 'The Food Safety and Standards Act, 2006.' This study is based on these two legislations.

1.2 The Role of Government in Ensuring Safe Food

The government's investment in public facilities such as drains, roads and better housing will go a long way in enhancing good health of the populace. Today, the State is not seen as a primary promoter in maintaining public health. In today's individual based market economy, health is no longer a public good, but is a commodity which can be bought only by those who have the purchasing power. The ideology of health as a commodity has its roots in and has been legitimized by the neo-liberal regime of the 1980's and 90's in most parts of the globe (Lang & Heasman, 2004). This new ideology proposed that state involvement in health should be reduced, that pricing and market mechanisms could manage services efficiently. John H. Jackson (1994) who opined that the goal of the new economy is to minimize the amount of interference of governments in trade, defines the concept of 'Liberal Trade' from this neo-liberal point of view only.[8] The liberal trade philosophy is now deep rooted in all areas of life. When the market gives importance to the interest of the consumer, to a certain extent, the government's decision to pursue the policies of liberalization and the consequent injection of competitiveness into the manufacturers and the service sector, has created an atmosphere favorable to the growth of consumer movements and consumer protection laws in the country (Bhargava, 1993). But the reality however is, different as John Galbrith (2007) points out that 'it is the large corporations which are the kings of the economy, whatever happens is not because the consumer wants it that way. It is simply because large corporations prefer it that way.'[9]

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7 http://www.mohfw.nic.in, last accessed on 6 June 2007.

8 Jackson talks about this concept in the context of trade and policy assumptions of world economic system. It is an economic argument, supporting neo-liberal economy and argues for free trade.

9 John Kenneth Galbraith's Notes on Aging in *Encyclopædia Britannica.* from Encyclopædia Britannica Online: http://www.britannica.com/eb/article-218597, Last accessed on 14 June, 2007. See also http://www.johnkennethgalbraith.com/, last accessed on 14 June, 2007.

Unlike the well-off individual consumer, who has the money to buy good health care, those individual consumers who have no money or power, have to depend upon the State to take care of their primary health care and the State then has the responsibility to look into their social welfare. Schneider (2006) opines that the prime responsibility to take necessary health protection lies with the government. Necessary law and policy prevailing in the country determine the government's role. He states that the 'body of public health law is massive consisting of all written statements relating to health by any of the branches of government, even if it is central, state or local level.' It is the duty of welfare state to ensure that the food produced and supplied in the country is safe and does not harm the citizens. The State that considers its citizens' health as one of the important national assets must intervene in the food business of the country to control and ensure safe food.

In a democratic country like India, the government has to play a valid role to ensure safe food by interfering in the food industry of the country (Sharma, 2006). The safety of the food in its every stage must be ensured and any kind of adulteration must be stopped and adequate punishments given for the offenders. Article 47 of the Constitution of India says that it is the State's endeavor to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs, which are injurious to health (Bakshi, 1998). It also implies that the State shall have to take measures to prevent all illegal actions, which will cause injury to health.

The WHO points out that food safety is a shared responsibility by everyone involved with food from its production to its consumption; including growers, processors, regulators, distributors, retailers and consumers. The government has to provide an enabling institutional and regulatory environment for the safe supply of food. The food control systems in the countries have to incorporate a number of essential elements like:

- Laws, policies, regulations and standards;
- Institutions with clearly defined responsibilities for food control management and public health;
- Scientific capacity;

- Integrated management approach;
- Inspection and certification;
- Diagnostic and analytical laboratories;
- Standard setting;
- Infrastructure and equipment;
- Monitoring structures and capabilities;
- Surveillance of human health problems related to food intake;
- Capacity for emergency response;
- Training;
- Public information, education and communication etc. (WHO, 2006)

1.3 Scope of the Study

As Weber points, 'if state is authority vested with right to coercive physical action. Law is its weapon to control undesirable Behaviour of citizens' (Weber, 1954). If the citizen does something that is not sanctioned by the authority, he/she shall be punished. 'Law is the primary norm which stipulates the sanction' (Hart, 1997). Law may be defined as the body of rules recognized and applied by the state in the administration of justice.

The wide horizon of food law and regulations includes regulations on production, trade and handling of food. It can be interpreted in a broad and a narrow sense. In a narrow view, it restricts the meaning given to the regulation of food; food safety and food trade at a national level and would focus on laws and regulations that would refer to a specific kind of food or to food in general. In a broader sense, food law includes all regulations to ensure safety, production, trade and handling of safe food. In other words, everything having to do with food at national level, whether directly or indirectly would come within the ambit of food law. Thus it can be specific food safety laws as well as consumer protection laws, laws on weights and measures, customs laws, import and export laws, meat inspection laws, fish products inspection rules, laws on pesticide and veterinary drug residues and laws specifying standards of animal feeds. In that sense,

food law would include not only regulation of food control, food safety and food trade, but also food security as well as implementation of the right to food (Vapnek and Spreji, 2005). In India, the food legislations were combinations of many laws and related orders handled by different ministries and authorities. Now it is undergone a process of integration by a single law. It is important to look at how India is enforcing controls on the food industry, both domestic and import sectors by legal measures and how these measures are working.

In India, the Prevention of Food Adulteration (PFA) Act 1954 is a major law for ensuring safe food for the consumers. In 2006, an integrated food law named the Food Safety and Standards Act, (FSSA) was passed by the Parliament to eradicate all the drawbacks of the PFA Act and other food related regulations. The Act was set in the backdrop of the trend towards integrated food safety laws observed in the post globalized period. The important elements of this new law should be analysed to see how far the global trend has affected the Indian institutional system and its appropriateness for the Indian context from a public health perspective.

The globalisaton of food trade and the harmonization of food standards all over the world and the food safety measures have led to significant changes in the international and national regulatory frameworks (Vapnek and Spreij, 2005). In this context, the introduction of a new food law has a global impact as well as national importance. It is also necessary to look at why India enacted a new food law after half a century of independence. This study also undertakes to analyse the effect of the new food law on the common people, food industry and small traders of food items.

In the post liberalization period (1991), many new players from all over the world have come to the Indian food sector to find their market. International brands like McDonalds, Pizza Hut and Kentucky Fried Chicken have become household names and more companies are on their way. The spread of international eating-house chains gives us a variety of food products with more quality and variety. The liberalization and international trade of food affects national industry as well as the food culture of the country. With globalization, the flow of goods and services have increased manifold, so have the diseases transferred from one country to another. When a contaminated or

adulterated product is flowing to another country without a proper check, it will affect the health of the people of those countries. A classic example of this is the import of meat products that raises the possibility of spreading diseases like 'bird flu.' To prevent these kinds of incidences all countries should take certain standard quality control measures for food. Food products that are produced as result of discoveries in biotechnology also have some effects on our health. Internationally, there is a new set of rules under the Cartagena Protocol on Biosafety is adopted in 2000 to address the issue of cross border transfer of Genetically Modified Organisms (GMOs).[10]

It is important to set up international food standards accepted by both developed and developing countries to make the trade easy. The Codex is a step in this direction and purports to formulate international food standards. The general principles are contained in World Trade Organization's (WTO) Sanitary and Phyto-sanitary Agreement (SPS) to serve this purpose. The FSSA 2006 is framed at par with these international standards.

Along with the PFA Act, there are a number of legislations and rules that have been initiated to control the food sector in India. The implementing powers are centered in the hands of the government authorities at different levels of the government; the Centre, State and local levels. Regulations such as the Milk and Milk Products Order 1992, Fruits Products Order 1955, Meat Food Products Order1973, Vegetable Oil Products (Control) Order 1947 and many other orders issued under the Essential Commodities Act 1955 gave broad powers to the government authorities to regulate the food sector. However, this multiplicity of laws for regulation of food safety hampers the development of the food industry and can cause confusion in administration. There are many other problems also in their monitoring and enforcement. The FSSA integrates all the food legislations present in the country. The Act consolidates nine legislations and modified other nine laws.

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[10] The discussion on the subject whether GMOs are harmful to the health is in a preliminary stage. So far there is no scientific evidence to prove that GMOs are harmful to health. See different arguments in favour and against GMOs in http://www.fao.org/english/newsroom/focus/2003 /gmo8.htm, last accessed on 22 April 2007.

The FSSA, 2006 was passed by the Parliament on August 24, 2006. Under the Act, a Food Safety and Standards Authority will be constituted to work as the supreme authority to look after all affairs of food safety in the country. Many new provisions are added in this Act other than the PFA Act. Rules applicable to new food varieties like genetically modified foods, organic foods, food supplements, proprietary foods are some of them. These will require labeling and packing procedures as per international norms. It will help the country to negotiate better in the global market. The Act emphasizes on the traceability issue and the burden of adulteration goes back to the manufacturer. In most of the incidents of food adulteration, the burden of proof is with the vendor or the trader. There are provisions in the Act for food-recalling procedure from the market if the food distributed is adulterated or contaminated. However, many NGOs and representatives of food associations fears that provisions like licensing and high quality norms will affect the small-scale industries negatively in future. The food processing industry is considered as one of the booming industries in India. The Act is set to have a different impact upon the big and small players in the market.

The PFA Act, 1954 was enacted mainly to prevent all kinds of adulteration. The Act was enforced through a food inspector all over the country and a chain of food analytical laboratories and food analysts. The food inspector collects the samples and food analyst analyses the contents in it with the help of other specialists. If the food is found to be adulterated, the food inspector will start prosecution procedures before a court of law. There are central advisory committee also to give advices to state and central governments. Apart from the PFA Act, there are many other food related laws and regulations in the country. Many areas like genetically modified organisms, organic foods, Hazard Analysis Critical Control Point (HACCP) standards in manufacturing units etc. were not dealt under any of these old laws. Then the government felt the need of enacting a new law integrating all existing food related laws and consequently the FSSA 2006 was framed to serve this purpose. Even though the Act has been notified (26 August 2006), the substantiating Rules under the Act are yet to be formulated.

Recent trends in global food production, processing, distribution and preparation are creating an increasing demand for food safety research in order to ensure a safer global food supply. In India, the repeal of the PFA Act and more than a dozen food related rules

made it necessary to examine the new law from the health as well as legal perspective. This study is an analysis of the problems in the existing PFA Act, 1954 and the new provisions in the FSSA 2006. By analyzing some of the existing problems of food safety and food industry in India, the study examines these laws in the context of public health issues in India.

1.4 Objectives of the study

1. To explore the global context of food standards legislations with special reference to Prevention of Food Adulteration Act 1954 and Food Safety and Standards Act 2006.
2. To analyse these legislations in the context of public health in India.
3. To examine the infrastructure facilities, monitoring mechanisms and prevalent structures involved in the implementations of the above Acts.
4. To understand the perceptions of policy makers, the food vendors and the public about problems and perceptions of the new law.
5. To analyse the appropriateness of the new Act for the Indian context from a public health perspective.

1.5 Methodology

This is largely a review study. First, both PFA Act 1954 and FSSA 2006 are critically analysed. Analysis of secondary literature, which includes policy documents, books and articles from journals and magazines are done to locate history of Indian food laws, global food safety agreements, food safety issues, adulteration, food safety and standards in India. Government documents like reports on food adulterations issues, Five Year Plan reports, Health Policy, Standing Committee Report on Agriculture, Report of the Prime minister's Council on Food and Agro Industries, parliamentary debate reports and international food safety agreement documents and reports are widely used. Interviews were conducted with key personnel including government officials like Deputy Director in Ministry of Health and Family Welfare, Assistant Director in Ministry of Food Processing Industries, food inspectors and food analysts in PFA Directorate, representatives of food processing industry like Chief Editor of All India Food Processors Association and Secretary of

Halwais, Bakers and Restaurants Association, food Processors like Bikaneerwala Foods, NGOs involved in the field of food safety like Forum for Biotechnology and Food Security, consultants on food safety issues, food vendors in Chadni Chowk area and consumers to get diverse perspectives on food safety and monitoring mechanisms of food adulteration.

1.6 Limitations of the Study

When we look into food safety laws in India, apart from the PFA Act, there are a number of laws in the country like Food Products Order, Meat and Meat Products Order, Fruits Products Order etc. Thus study is mainly focussing on only two Acts that is, The Prevention of Food Adulteration Act 1954 and The Food Safety and Standards Act 2006. Another limitation of the study is that the Rules of FSSA are yet to be formulated and hence review and analysis of the same cannot be included.

1.7 Chapters

The first chapter introduces the subject and explains the background of the study while the second chapter discusses the potential hazards from unsafe food at its various forms in different stages of production, distribution, processing and supply. This chapter gives a picture of food in its making process from agricultural farm to our table. The third chapter examines the PFA Act, 1954, the main law dealing with food adulteration before the coming of FSSA, 2006. This chapter gives a historical analysis of coming of PFA Act and a complete scrutiny of the Act by interpretation of definitions, various provisions on administration, enforcement, food standards and penalties etc. The fourth chapter covers the FSSA, 2006. By looking at the global food safety agreements, the chapter analyses Indian legislation in the background of effects of globalization on food trade and safety regulations. The effects of international agreements on FSSA by its various provisions are also analysed. Chapter five analyzes the common and conflicting perspectives in these Acts and how both are similar and contrasting in their perspectives. The debate on street food vendors and provision for safe water are also discussed in this chapter. The discussion and the view points on different provision of PFA and FSSA and many food related issues collected from key informants like personnel in Health Ministry, Ministry of Food Processing Industries, food inspectors, health inspectors, food analysts dealing

with food law, representatives of food processing industry, consumers, food vendors and NGOs involved in the field of food safety are included through out the chapters to analyse the issues. The concluding chapter summarises the study and gives some suggestions for better working of the system.

CHAPTER II

CHAPTER 2

Health Impacts of Unsafe Food

2.1 Introduction

Everybody expects that food they eat should be pure, nutritious and free from any kind of adulteration for maintaining good health. Ackerman (2002) states that eating is not a less risk activity as most of us consider it to be. The food we take outside our homes, the ingredients we add to the food cooked at home etc. is contaminated or adulterated and thus cause for illness. Ensuring overall safety of food items purchased from the market is a difficult task. By simply looking at or tasting, we cannot ensure safety of food items. For some food items, even laboratory testing may fail to prove microbiological contaminants. The food items produced inside our country that are not subjected to stringent quality controls or those imported without proper checks, can lead to contamination and adulteration. As we do our daily cooking, using the raw materials purchased from the shops that we know of, branded food items that we are familiar with, it is hard to imagine that stretching from the local corner store to the giant food multinational, right from the very beginning of food production, how food is produced and processed can have long term impacts on our health (Lang and Heasman, 2004). This chapter analyses different stages of contamination and adulteration in food from the agricultural farm to the market, which is known as tracing the food from farm to fork.

'Farm to Fork' traces the different stages of the food chain system and examines the practices and procedures that ensure the safety of our food. Food chain from agricultural farm to the market and table is very important concept in analyzing the various stages of food in its making. This is the key factor to strengthen each and every link in the complex process of food reaching the consumer, from the way it is raised, how it is collected, processed, packaged sold and consumed – the ways from the agricultural farm to our table. According to FAO Assistant Director Hartwig De Haen, 'we need to strengthen every single part of the food chain. One weak link, especially near the beginning, can make the whole food chain collapse.'[1] Ensuring the safety in every stage

[1] http://www.fao.org/english/newsroom/news/2003/15903-en.html, last accessed on 1 July 2007.

of production will help to the preparation process has important impact on safety of food. It affected the food industry also in a positive way. Sardana (2005) opines that the integration and consolidation of agriculture and food industries with the introduction of 'farm to table' concept is changing the patterns of food production and distribution in India beneficially.

Safe food plays an important role in assuring a healthy life. There are many preservatives, food additives and adulterants in food items that can cause harm to our health. The side effects of these items, preservatives, additives and some other ingredients causing health hazards are not properly tested or not proven in most of the cases. One of the main problems in our country is the lack of proper laboratories and expert personnel for providing effective testing services. In most of the cases, consumers are forced to believe what the companies claim about the components in a product rather than to be assured of it by a testing and declaration from national agencies.[2] The director of a food related NGO in Delhi gives an example for this. When a multinational potato chips company claims that their product contains certain quantity of proteins, iron content and calories, there is no corroboration or confirmation from the government agency in India. Food laboratories in India are ill equipped in manpower and machinery to prove or disprove the claims and counter claims of these manufacturers. [3]

2.2 Food – Meaning and Definitions

Food is defined in the American Heritage Dictionary as "material usually of plant or animal origin that contains or consists of essential body nutrients, such as carbohydrates, fats, proteins, vitamins or minerals and is ingested and assimilated by an organism to produce energy, stimulate growth or maintain life." In broad terms, any substance taken into the body for the purpose of providing nourishment can be termed as food.[4] Mintz (1994) noted that there are three basic types of foods that have been around for a long time all over the world. The first are the complex carbohydrates such as rice, wheat, potatoes, sorghum etc.; secondly, the flavour-giving foods; and thirdly, protein carrying plants such as peas, beans and pulses. These he refers to as *core, fringe* and *legume*

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2 Researcher's conversation with Food Analyst, PFA Directorate, New Delhi.

3 Researcher's conversation with National Consultant, WTO Cell, Ministry of Health, New Delhi.

4 American Heritage Dictionary. www.http//www: answers.com, last accessed on 12 January 2007.

(CFL) and he argues that that they form a basic pattern in human food. Park (2000) points out there are different ways of classifying food items based on their function and composition. These are as follows:

1. *Classification by origin*
    - Foods of animal origin
    - Foods of vegetable origin
2. *Classification by chemical composition*
    - Proteins
    - Fats
    - Carbohydrates
    - Vitamins
    - Minerals
3. *Classification by predominant function*
    - Body-building foods – milk, meat, poultry, fish, eggs
    - Energy giving foods – cereals, sugars, roots, tubers, fats and oils
    - Protective foods – vegetables, fruits and milk
4. *Classification by nutritive value*
    - Cereals and millets
    - Pulses
    - Vegetables
    - Nuts and oil seeds
    - Fruits
    - Animal foods
    - Fats and oils

- Sugar and jaggery
- Condiments and spices
- Miscellaneous foods

The FSSA, 2006 defines food as any substance whether processed, partially processed or unprocessed, which is intended for human consumption and includes primary food, genetically modified or engineered food or food containing such ingredients, infant food, packaged drinking water, alcoholic drink, chewing gum and any substance, including water used for the manufacture of processed food, preparation or treatment but does not include any animal feed, live animals unless they are prepared or processed for placing on the market for human consumption, plants prior to harvesting, drugs, and medical products, cosmetics, narcotic or psychotropic substances (FSSA, 2006, Section3(j)).

In legal terms, the definition of food is narrow and quite different from a common man's understanding of what constitutes food. For law, substances that can cause any kind of harm or illness are not considered as food. Food includes only those items that do not cause harm to the human body by any means. Apart from all these definitions and interpretations, food for a common man is an eatable or drink that suppresses his hunger or thirst. He is not concerned about the calorie, fat, vitamin or mineral contained in it. His main concern is quelling his hunger.

Lang and Heasman (2004) consider that there are five key elements that are crucial about the food. These are:

- Health: the relationship between diet, disease, nutrition and public health;
- Business: the way food is produced and handled, from farm inputs to consumption;
- Consumer culture: how, why and where people consume food;
- The environment: the use and misuse of land, sea and other natural resources when producing food: and
- Food governance: how food economy is regulated and how food policy choices are made and implemented.

2.3 Food: A Health Hazard

In most of the developing countries, including India, unsafe or adulterated food is a major cause of ill health. The World Health Report 2002 points out that, in developing countries, water supply and general sanitation remains the fourth highest health-risk factor (Lang and Heasman, 2004). Ensuring safe food to protect public health and promote economic development, remains a significant challenge in both developing and developed countries. Considerable progress to strengthen food safety systems has been achieved in many countries. Changing global patterns of food production, international trade, technology, public expectations for health protection and many other factors have created an increasingly demanding environment in which food safety systems operate. Food - borne diseases cause a lot of health suffering and economic losses to people. Every year food and water borne diseases kill 2.2 million people all over the world.[5] Hazardous materials like pesticide residues in the food chain pose long-term adverse effects on public health.[6]

Food is a potential source of infection and is liable to contamination and adulteration at any point during its journey from producer to the consumer. Food safety in its widest sense, implies hygiene in production, handling, distribution and serving of all types of food.[7] Access to safe food is the right of every individual and one of the basic human rights encompassed in all the Human Rights Conventions.[8] However, still most of the people have no access to safe food because of economic, political and social reasons. Khanna and Saxena, (2003) points out that the consumers are not getting appropriate quality food in Asia.

In the context of globalization, the meaning of food includes, more than mere food. It refers to a consumer culture and a civilization. Food trade and regulations have had many positive and negative impacts on our food plate in a globalised world. A

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5 http://www.fao.org, last accessed on 15 March 2007.

6 Studies show that pesticides can cause health problems, such as birth defects, nerve damage, cancer, and other effects that might occur over a long period of time. http://www.epa.gov/pesticides/food/risks.htm, last accessed on 2 February 2007.

7 Stewart, S (1975), Sanitary Officers Practice : Food Inspection, Butterworth, London, Quoted by Park (2000).

8 http://www.unhchr.ch, last accessed on 3 February 2007.

developing country like India has to assess these impacts especially since this is a time, when all international food chains are making their presence felt in India.

In this 21st century, good health is considered as a commodity, where one can trade it internationally. Only those who have money can buy quality food and thus can keep healthy. Since man eats what he likes and can afford to buy, the question remains whether it is the affordability or the social factor that affects the quality of food consumed by people (John, 1968). It may be true that utter poverty has decreased, but the number of poor people all over the world has increased. A new global class structure has emerged from the crisis in health. Diet related ill health is the greatest among the poorer economic group who are locked into a cycle of either hunger, premature death, or of malnutrition, and obesity and degenerative diseases.

2.4 Food Safety: Past and Present

Since the olden days, human beings were deeply concerned about the safety of food they consumed. There are many vegetables and pulses found freely in nature. Some of them are poisonous and some are not. If human beings consume these poisonous vegetables or pulses they can cause illness or sometimes, even death. When these incidents of ill health and death began to happen rather frequently, humans became more concerned about safety of the food they ate. From this concern, people in those times, developed the practice of feeding a portion of their food to animals to find out whether they were hazardous or not (Hobbs, 1996).

Food preservation techniques such as drying, freezing, marinating, salting and pickling have thousands of years of history behind them. These methods were adopted to preserve the food items for later use and safeguard as well to improve their flavour. Even cooking can be viewed as an ancient method of making food safe for eating. In 500 B.C, Chinese warned against the consumption of sour rice, spoilt fish or flesh, food kept for long and insufficiently cooked food. They believed that anything uncooked could be poisonous. [9]

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[9] www.foodsafety.answers.com accessed on 2 April 2007.

In the early days, people generally consumed the food they produced at home. Chances of contamination and adulteration hence were less, as fruits and vegetables were grown mostly in their own gardens. Therefore they were not concerned with governmental regulation (Jacob, 1987). In later years, with increasing division and specialization of work, the production and distribution of food grains become market-oriented. The connection and intimacy of the production and processing of food was lost as food became a fully marketed commodity.

Khanna and Saxena (2003) observed that food production and supply have become more complex and moreover consumer needs have also changed. Many consumers now rely on information provided by manufacturers, labels on the package and the advertisement of the product to figure out the contents of the items they consume. They mostly rely on the food industry and regulators to ensure their safety from food related hazards.

The marketed food undergoes many different processes and passes through many ports, road and rails to reach our plates. From the agricultural farm to the production centers and to processing, distribution and preparation centers, in all these stages, the chances of adulteration are manifold. It can be unintentional contamination or intentional adulteration that can cause illness.

Most of us consider home made food as the best, safest and most hygienic option. The way we clean, cook and eat the food prepared in the proper manner ascertains what we define as safe food. But it is not possible for us to stop the contamination of food that enters in by way of pesticides in vegetables, chemicals used as preservatives in meat and fish etc (Ackerman, 2002). For example, it is well-known fact that even small-scale sellers are using carbide to make mangoes look luscious and ripe and lend a bright yellow colour and also the use of the chemical ammonia to make fish stay fresh for long.[10]

[10] Researcher's conversation with vendors revealed that the traders are using many chemicals to preserve their products.

Farmers all over the world use pesticides and drugs to improve their yields. In many areas of India, there are reported cases of using pesticides like Endosulfan[11] banned by many developed countries. These pesticides are banned in these countries since they are proven to have caused ill health to consumers, farm workers and the environment (Sahai, 2004). Besides these pesticides, there are other hazards like health hazards due to food borne pathogens in animal meat. The practice of using antibiotics in food for animals to speed up their growth has also raised health concerns (Ackerman, 2002 and WTO 2002B). Various health supplements and their side effects are another important area of health concern.

Adulteration of foodstuff is a threat that saps the life of our people. The Indian consumer in general, is blissfully ignorant of the insidious hazards of consuming adulterated foods. The Indian consumer generally judges food on the basis of taste, texture, stability and richness. The Indian consumer has an indefinite number of choices to choose from amongst all the new products available, choices that should be important from the point of view of utility and safety too. In these days there are a number of food items available in the market and promotion of sales and not consumer safety or protection to any appropriate degree seems to be the prime concern of the traders in India today (Jacob, 1987).

2.5 Food-borne Diseases

In the eighteenth and early nineteenth centuries, the killing diseases like cholera and typhoid were common in every parts of the world. The incidence of these diseases has fallen, at least in the developed world, due to improvements in food sanitation and safety that includes better animal husbandry, refrigeration, and pasteurization of milk and food preservation techniques. But many new food borne diseases have taken the place of old ones. New food borne diseases caused by bacterias like escherichia coli, salmonella enteritidis, shigella sonnei etc. are as deadly as the earlier food borne diseases. Some of these are new forms of old microbes; others are the same as they have always been but

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[11] It was reported that due to the Endosulfan pesticide usage in the cashew plantations of Padre village in the Kasargod district of Kerala, many of the people in this area is affected by physical deformities, cancers and disorders of the central nervous system. Consequently the Kerala High Court banned the use of Endosulfan or any of the like formulations in 2002. The *Hindu Business Line,* August 13, 2002.

are popping up in new places (Harvey & Hill 1952, Christie, 1971). These bacteria are causing serious infections which some times even lead to death.

Rieman (1979) defines food diseases as syndromes that are acquired as a result of eating foods that contain sufficient quantities of poisonous substance or pathogens and caused by the agents that enter the body through the indigestion of contaminated food. Food borne diseases are those diseases that have its root in the food the patient consumed.[12] These diseases are classified as either infection or intoxication and include a range of diseases of chemical and biological origin, including a wide range of diseases like cholera, campylobacteriosis, E.Coli, gastroenteritis, salmonellosis, shigellosis, typhoid and paratyphoid fevers, brucellosis, poliomyelitis, diarrhoeal diseases as well as number of parasitic diseases. Park (2000) classified food borne intoxications in to four categories. They are due to naturally occurring toxins in some foods, toxins produced by certain bacteria like Botulism, toxins produced by certain fungi and food borne chemical poisoning. Food borne infections are classifies as bacterial diseases, viral diseases and parasites.

The WHO indicates the major factors that are responsible for food borne diseases are:

- The preparation of food long before it is eaten;
- Prepared food left too long at a temperature permitting bacteria to proliferate;
- Inadequate heating;
- Cross-contamination between cooked and raw food;
- An infected person or a healthy carrier with poor hand hygiene who handles food.(WHO, 2006)

Although most food borne diseases are microbial in origin, the widespread use of chemical substances throughout the food production chain has increased the risk of chemical contamination in recent years. Commonly used chemicals include agricultural pesticides and fertilizers, veterinary drugs, growth stimulants and food additives. Consumption of food items that contain these chemicals beyond certain level can cause diseases. In India, the diseases transmitted by the food are commonly referred as food

[12] http://www. who. Int / fsf, last accessed on 25 December 2006.

poisoning and are characterized by the abrupt beginning of gastrointestinal disturbances viz. abdominal pain, vomiting and diarrhea (Christie, 1971).

Ackerman (2002) quotes the opinion of Particia Griffin, Chief of the US Centre for Disease Control and Prevention's Food Borne Diseases Epidemiology section as stating that, "whether the overall incidence of food borne incidence and food borne diseases has risen over the past generation is not unknown because we can't track all food borne illnesses. What is clear is that the incidence is high, that some food borne illness has clearly increased, and that drastic changes in our food production system are likely to be playing a major role." Today, proponents of food safety are actively trying to promote a second wave of food safety intervention but this time, using a risk reduction management system known as Hazard Analysis Critical Control Point (HACCP), an approach designed to build safety awareness and control of potential points of hygiene break down in to food handling and management systems. As food supply chains become more and more complex and as the scale of production, distribution, and mass catering increases, so the chances for problems associated with food contamination rise. The break down in food safety in any of these areas spread contamination and pathogens widely (Deodhar, 2004).

Every year 1500 million episodes of diarrhea occur in children under five and over 3 million die as a direct result. Indirectly many million more die from the combined effects of diarrhea and malnutrition. It was previously thought that contaminated water supplies were the main source of pathogens causing diarrhea. But it was now recognised that food plays an equally important role. It is estimated that up to 70% cases of diarrhoeal diseases may be caused by contaminated food (WHO ,2002 B).

The WHO says that each day 1000s of people die from preventable food borne diseases.[13] According to the WHO estimate, roughly 2.1 million children die every year from diarrhea caused by contaminated food and water, asserting that each year there are thousands and millions of cases of food borne disease. It is not only in India, but most of

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[13] World Health Organization given the figures about food borne diseases from developing countries only. Most of the figures about different kinds of food borne diseases are from developed countries like United States, Australia etc. In developing countries like India there are limited statistics on a certain number of food borne diseases and incidents only.

the developing as well as developed countries face the problems of food contamination. In the developing world, the reasons are related with the microbiological agents that contaminate food and water and they rapidly spread disease. The improper food hygiene practices, poor environmental sanitation and inadequate regulation of food and food trade also add to this situation. In industrialized countries, it is estimated that one third of the population suffers from food borne diseases every year, and out of these perhaps up to 20 per million die (WHO, 1999). Shetty (2004) considers that in the developed world, the advances in processing and sanitation have diminished food borne threats than in the developing world. The threat of food borne diseases today is on the rise due to the import of food items, decline in home cooking and spread of the fast food culture and the effects of large scale production.

2.6 Food Safety and Risks

Food safety should not mean only freedom from toxins, pesticides, chemical and physical contaminants in food but also microbiological pathogens such as bacteria, parasites and viruses that can cause illness.[14] The WHO defines food safety as the assurance that food will not cause harm to the consumer and also prevent contamination by chemical and biological agents and concerns about inherent food nature. It refers to the conditions and practices that preserve the quality of food and prevent contamination and food borne illness.

Lang and Heasman by quoting the World Health Report 2002, point out that in developing countries, water supply and general sanitation remains the forth highest health-risk factor, after under weight, unsafe sex and blood pressure. This is because of the lack of investment and infrastructure, including drains, housing, water supplies and food control systems. Food safety problems include risks from:

Chemicals such as :

- Veterinary drugs and pesticide residues;
- Food additives;

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[14] Food safety www.answers.com, http://www.wikipediaencyclopedia.com, last accessed on 19 December 2006.

- Environmental toxins such as heavy metals (eg., lead, mercury)

From organic / living organisms as :

- Pathogens (ie., illness –causing bacteria, viruses, parasites, fungi and other toxins)
- Persistent organic pollutants such as dioxins;
- Unconventional agents such as prions associated with BSE [(Bovine Spongiform Encephalopathy) Lang and Heasman, 2004].

Most of the microbes coexist peacefully with our own cells and even assist and helping with digestion, synthesizing vitamins, shaping the immune system and fostering general health. Nearly all raw food, too, contain bacteria. But the microbes that produce food borne illness are bugs of a different order, capable of causing severe illness and even lasting damage – disorders ranging from temporary paralysis to kidney disease. Many of those microbes are present in the animals we raise for food. When a animal containing pathogens is slaughtered, its stomach contents or manure can infect meat during processing. Fruits and vegetables can pick up the pathogens if washed or irrigated with water contaminated with manure or human sewage. These microbes can get transferred, multiply and hide on sponges, dish towels, cutting boards, sinks, knives, and plate shelves, from where they can get easily transferred to food or hands. (Christie, 1971)

Even in the United States which claims to be distributing safe food, every year one in four citizens suffer from a food borne illness, and some 5000 people die from food contamination. According to the Centers for Disease Control and Prevention, each year in the United States, 76 million people suffer from food borne diseases; 325000 of them hospitalized and 5000 die (Ackerman, 2002). When we analyse the food safety scene in India, the statistics of food borne illness will be much higher than the United States. In most of the states of India we use banned pesticides, follow unhygienic food process and preparation conditions. There is evidence to show that even government storage facilities lack adequate infrastructure to ensure food safety. There was news of contaminated wheat and rice in the godowns of the Public Distributions System (PDS). There were even incidences of school kids becoming sick after consuming food served at government sponsored mid- day meal programmes which clearly shows our complete disregard for

norms of food safety. In the mustard oil adulteration case in 1998, over 60 people died in India (Pilkhane, 2005). These cases clearly illustrate the inefficient and improper working of enforcing mechanisms available for food safety.

When we look into the statistics of food borne diseases in India, we can find that only very limited information is available about the food borne disease in India. The statistics of many food borne diseases are not available. According to the health information of India's statistics, the diarrhoeal disease including gastroenteritis is the most acute food-borne disease and its number is the largest among other illnesses. In the year 2005, 2040 people died from this disease.

Table 1

Statistics of Some Food Borne Diseases in India

	1991		2001		2002		2005	
	cases	Deaths	Cases	deaths	cases	deaths	cases	Deaths
Cholera	7088	150	4178	6	3455	10	3156	6
Diarrhoeal diseases	9280945	7493	9289558	2787	9441456	3475	10759128	2040
Poliomyelitis							187	0

Source: Health Information of India 2005

In the public markets all over India, we can see vegetables, fish and meat being sold in open spaces; traders sitting in dirt contaminated by even animal refuse. The open fast food stalls on roadsides; their unhygienic cooking situations are common scenes not only in India, but also in many developing countries. There are many tales of people getting sick due to consumption of contaminated vegetables, juices, eggs, chicken and all sorts of eatables served in kitchens and common places such as restaurants and nursing homes, on cruise ships and farms, family reunions and marriage functions (Lang and Heasman, 2004).

To ensure food safety one should understand the whole food safety system, from production, processing, distribution and preparation; in different stages from the

agricultural stage to our dining table. Any effort to enhance food safety in India must reckon with the maxim, 'the chain is as strong as the weakest link'. It is equally important to remember that safety is a societal responsibility as its achievement can only be possible with the active participation of all the segments, viz., the producer, the processor, the consumer and the government (Aiyer, 2001).

The WHO had identified 11 global factors that affect national food safety systems. Some of these changing factors contribute directly to increasing food-borne risks to human health, while others demand more rigorous evaluation and sometimes modification of existing food safety standards and approaches. These 11 factors are:

1. Increasing volume of international trade
2. Expanding international and regional bodies and resulting legal obligations.
3. Increasing complexity of food types and geographical sources
4. Intensification and industrialization of agriculture and animal protection
5. Increasing travel and tourism
6. Changing food handling patterns
7. Changing dietary patterns and food preparation preferences
8. New food processing methods
9. New food and agricultural technologies
10. Increasing resistance of bacteria to antibiotics
11. Changing human animal interactions with potential disease transmission (WHO, 2006).

2.7 Food Contamination and Agricultural Inputs Linkages

About two-thirds of Indians derive their livelihood from agriculture.[15] A large percentage of the population in the country is still engaged in agriculture. Agricultural sector contributes 18.5% of the gross domestic product (GDP) and about 10.2% to the national

[15] Encyclopedia Britannica Online, http://www.britannica.com/eb/article-46416/India, last accessed on 12 December 2006.

export.[16] Moreover, it fulfills almost all the basic needs of other sectors and supplies raw material to other related sectors. The total market for food processing goods in India was approximately $69.4 billion in 2005.[17] India is the second largest food producer in the world but accounts for less than 1.5% of the international food trade. The Indian food industries sales turnover was Rs. 14, 000 crore in 2000 and is growing at a fast pace.[18] Its food production is equal to that of USA and second only to China. The total food production in the country is projected to double within the next 10 year period. Today India is the first in the production of potato, sugar, jute, spices, banana, cotton, pulses and confectionary products, second in the production of wheat, mustard, groundnut, vegetables, mangoes and bakery products, third in the production of rice, onion, butter, floriculture, fishery and cold drinks (Gupta and Garg, 2005).

The agricultural production in India is governed by Agricultural Produce Market Committee (AMPC) Act 1937. Their purchase, sale, storage and processing in specified areas and markets are regulated by this Act. The grading and marketing (Agmark grades) of the agricultural products are covered under Agricultural Produce Grading and Marketing Act 1937. This legislation has been enacted throughout India and covers a large number of agricultural and horticultural produce. Many types of agricultural products already covered under this Act have been covered also under the PFA Rules. Chemical contamination is not considered under Agricultural Produce Grading and Marketing Act. But the PFA, Act 1954 covers all aspects of food safety which includes contamination due to the presence of chemical contaminates, presence of poisonous metals, crop contaminants, naturally occurring toxic substances and excess of pesticide quantities (Mahindru, 2000).

The Green Revolution gave way to single crop cultivation in large areas of land that in turn, attracted a lot of pests. The only way to keep the pests at bay was by the increased use of pesticides. To provide enough food to feed the ever-growing millions of the world, it became necessary to increase the yield and thus fertilizers came into the

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16 Economic Survey, 2006-07, India, http://indiabudget.nic.in/es2006-07/agriculture.htm, last accessed on 15 June 2007.
and http://www.researchandmarkets.com/reportinfo.asp?report_id=301182, last accessed on 28 May 2007.

18 http://www.indianfoodindustry.net/, last accessed on 10 October 2006.

picture. These agricultural products began to absorb the chemical contents of pesticides and thus cause harm to our body (Jacob, 1987).

2.7.1 Pesticides

Most of the pesticides create some kind of harm to the health of the people or the environment. According to the US Environmental Protection Agency (EPA) a pesticide is defined as "any substance or mixture of substances intended for preventing, destroying, repelling, or lessening the damage of any pest."[19] According to Bag (2000), it is defined as any substance and mixture of substances, intended for preventing, destroying or controlling any pest including vectors of human or animal diseases, unwanted species of plants and animals. It includes substances intended for use as a plant growth regulator, defoliant, desiccant or fruit thinning agent, for preventing the premature fall of fruit, and contains substances applied to crops to protect the commodity from deterioration.

Pesticide uses in India have also rapidly increased after the introduction of high yielding variety seeds during the mid-sixties (Anish Kumar, 2003). Animal foods such as meat, milk, eggs and fish were invariably found to have higher levels of persistent pesticides such as DDT and BHC and Malathion. In certain parts of India, where farmers are in the habit of treating the grains and pulses directly with DDT, these foodstuffs have shown a substantial amount of DDT residues. Even low residues in a staple like rice or wheat can spell danger, since large quantities of the cereal are consumed at a time in our country. The foodstuffs that contain pesticide residues more than the tolerance levels[20] will lead to both acute and immediate chronic toxicity. The concern over potential dangers inherent in the capacity of pesticide residues to remain in food stuffs for a long period after application, led to a change in the farming practices making practices like organic farming, fashionable and desirable (Hough, 1998).

Pesticides are also used in public health services to control the spread of certain diseases communicated by insects, parasites, larvae etc. Community spraying of water bodies, garbage dumps, sewers, marshy lands, etc. is the most common method of public health use of pesticides. In 1994-95, about 5 per cent of the total pesticides used in India

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19 http://www.epa.gov/pesticides/about/index.htm, last accessed on 17 November 2006.

20 The pesticide residue limits are known as tolerance levels, which will beset by each state agency through a particular legislation.

were for public health purposes. Malaria control is one of the major public health uses of pesticides in India that started in 1958 (Bag, 2000).

2.7.2 Fertilizers

Food safety procedures should begin from the farm and implemented at every step of production: growing, harvesting, processing, packaging and shipping for the safety of products. Fertilizers are used heavily to increase the yields of agricultural products. This gives desired results to the farmer, but it also can create some health problems. Heavy metals deposition in the solid form is the primary problem that is caused by over use of fertilizers.[21] However, the fertilizers are considered less harmful compared to pesticides. There is considerable public concern about nitrates in vegetables. Nitrogen based fertilizers and its derivatives can cause anemia in children and it has the ability to alter the components in DNA in somatic or body cells. Cadmium is absorbed by the roots of plants, edible leaves, fruits and seeds (Kaneta, Hikichi & Sugiyima 1987). If cadmium is absorbed in the digestive and respiratory systems it can ultimately led to kidney failure.[22]

Steel mills, paper mills, and other major polluting industries turn their waste into fertilizer that is spread onto food-producing lands. As a result, poisons such as lead, cadmium, arsenic, and dioxins wind up in fertilizer products used for farms and backyard gardens. The buildup of metals and other contaminants in agricultural soils can cause crop damage, contamination of groundwater or surface water, and the contamination of food. Lead, cadmium, arsenic, and dioxins are all harmful to children and adults at low doses and they persist in the environment. The only way to avoid contamination is keep toxic waste out of our food supply by banning toxic waste in fertilizers, especially wastes containing dioxin.[23]

2.7.3 Animal Farms and Poultry

Milk, meat, fish and egg contribute to a major portion of our diets. Animals in the farm are confined to fields or locked in farms, their reproduction regulated by artificial insemination and their milk production controlled by dairy requirements. The 'natural

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21 http://www.safefoodandfertilizer.org/, last accessed on 5 January 2007.

22 http://www.harmo.org/Conferences/Proceedings/_Sofia/publishedSections/Pages179.pdf, last accessed on 10 June 2007.

23 http://www.enviroalternatives.com/fertilizer.html, last accessed on 05 January 2007.

environment' for the cow and the hen is confined to the cowshed or a deep-litter shed. The overpopulated poultries are high health risk areas since disease-germs in one animal get easily transferred to others.

In most of the farms, animals are crowed together, increasing their stress levels and weakening their immune systems. They defecate and urinate where they stand. Despite repeated washing and cleaning of the cowshed, the walls and floors of the cowshed can never be sterile. Germs flourish in such conditions and diseases spread. Ultimately, the effect of the diseases will be on men who consume its products. Maize is used as the major feed for the poultry. Over usage of pesticide in the maize cultivation also ultimately affects the health of the people who consume these poultry that was fed on such feed (Stadelman, 1973).

2.7.4 Growth Hormones and Antibiotics

The practice of administering antibiotics in food animals to speed up growth, has raised health concerns. There are many chances of transfer of many diseases of animal origin to humans. For example, recombinant bovine growth hormone is a hormone used to increase milk production in cows. A regular consumer of such milk is bound to develop problems with his/her hormonal and immune system (WTO, 2002).

2.8 Food Processing

According to the Food and Agricultural Organization (FAO) processed food can be divided into three types:

1. Primary - basic cleaning, grading and packing
2. Secondary – modification of the basic product to a stage just before the final preparation at the consumer's kitchen. Example: tomato puree.
3. Tertiary – leads to high value added, ready to eat products like sausages [24]

Adulteration can occur at any of these stages of processing. The colours, flavors, preservatives and additives are added in the stages of manufacturing process. In India, most of the big as well as small manufacturing units do not possess testing laboratories to

[24] http://www.fao.org/fs/esn, last accessed on 22 May 2007.

scientifically weed out the bad effects of all those colours, preservatives and additives. Apart from that, the manufacturers intentionally adulterate food products for example adding similarly colored stones in rice and lentil, papaya seeds in pepper, oil in ghee etc. Apart from manufacturers, the vendors also indulge in adulteration.[25] Adulteration of milk with urea is quite common everywhere. Milk is also adulterated by adding chemicals to it. Most of the sweets made out of such milk also pose health risks. Ghee is adulterated by mixing oil with it. We find adulteration in all common cereals like pulses rice, wheat and spices. Turmeric is adulterated by adding similar color powder in it. Dried Donkey fecal materials are mixed in coriander powder and mostly the general public is unaware of such adulteration.[26] Indian chilly powder was rejected by most importing countries citing adulteration by mixing red colour called Sudan Dye into the chilly powder. This case later on came to be called as "Sudan Dye case" (Pilkhane, 2005).

Packaging and labeling is an important stage in processing. It gives identity to the products and also gives information about the content of the food product. Food labeling is the means by which an identity mark is given to food commodities, fresh as well as processed ones. The purpose of labeling is to inform consumer about the products value. Without adequate product labeling, the consumer has neither the knowledge nor the information needed to make an informed product choice (Sharma and *et. al*, 2005). The food must be sold in a packed form with a label is an international requirement as per the WHO Codex guidelines. Packaged food can be a great hazard to public health, if it is not subjected to rigorous safety checks. At the same time, food processing industries are a source of employment and income for India. It was with this perspective, that a Ministry was formed in the country for the development of processed foods called Ministry of Food Processing Industries in the year 1990.

Food Additives are one of the important factor that can cause contamination. These are added to food in the secondary and tertiary stage of food processing. Food additives are required to preserve, texturize, flavour, and colour foods. Food additives

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25 Conversation with Food Analyst, PFA Directorate and consumers in Delhi.

26 Girdhari lal Bharghava, in his speech in Parliament debate on the Food safety and standards bill 2005 on 22nd May 2006.

include acids, bases and salts. Preservatives, antioxidant synergists, anti-caking agents, colours, emulsifiers, thickening agents, extraction solvents, colour solvents, flavors, flavour enhancers, non-nutritive sweeteners, processing aids and enzyme preparations usually come under this category. This list is issued by the Secretariat of Joint FAO/WHO Food Standards Programme in 1973. Many additives occur naturally in foods or in the body. Some are nutrients, for example glutamic acid, sucrose, vegetable gums. Some food additives are even essential nutrients like sodium chloride and cobalt. There is no doubt that many food additives are absolutely necessary for the manufacture of processed foods and for their preservation. But many of them have bad effects (Leonard, 1978).

2.9 Distribution

Distribution of food includes the process of transportation, redistribution and supply. At the processing plant itself, the food items can get contaminated. For example, if chicken is not properly refrigerated at the store, bacteria will multiply. Studies show that a majority of stored chickens contain pathogens. (Christie, 1971)

New technologies have made possible the feeding of a wide range of materials including wastes to cattle. Chickens in the US, eat a variety of feed, which includes fishmeal from Asia. Cattle eat such agricultural by-products as peanut hulls, almond shells waste from bakeries and poultry- manure. These commodities are shipped all over the world and the circulation of these animal foods most often leads to the spread of diseases.

Transporting fruits and vegetables in unsanitary trucks and storing them at improper temperature can also lead to contamination. Transportation of cattle to slaughterhouses is usually carried out in trucks where the cattle are piled on one another. By the time they reach the slaughterhouse, they are covered with fecal matters and crowded together. Even one animal carrying any diseases or pathogens can make the others also sick under such conditions. (Ackerman, 2002)

2.10 Preparation

This stage of food processing makes the food ready for eating. This is the cooking stage. The number of people having their food outside home is increasing these days. The ready availability of these food items and the changes in the life styles and social life are the added factors to this. In India, we can safely say that by far the number of people consuming food from outside home is far less when compared with western countries.

Cooking the food in proper heat will kill the harmful microbes. However, problems can arise from cross contamination as well. The hygiene of the cooking people, their diseases also spread with the food they cook. The pathogens are alive in all dirty parts of kitchen (Christie, 1971). The flavors we are adding to our food in the stage of preparation can cause some bad effects to our health. A flavour mix can be prepared in an oil base or in water-soluble solution by solvents; natural or chemical mix. They can cause acidity and other related problems (Berry, 1998). For some foods and most Chinese preparations, a flavor enhancing mix called Ajinomoto or Chinese Salt is added to most dishes. In some other dishes, we add sodium bicarbonate for baking. These chemicals can cause some ill-effects to our health, in the long run. [27]

The WHO has laid down some "Golden Rules' for safe food preparation to reduce the risk of food borne disease significantly. These are as follows:

1. Choose foods processed for safety: fruits and vegetables can be safe in their natural form, but others simply are not safe unless they have been processed. For example, always buy pasteurized milk, select fresh and frozen poultry etc
2. Cook food thoroughly: thorough cooking will kill the pathogens in milk, meat and poultry in atleast 70* C.
3. Eat cooked food immediately: when cooked foods cool in room temperature, microbes begin to proliferate. The longer the wait, the greater the risk.
4. Store cooked foods carefully: if the food is preparing in advance or we want to keep the leftovers, it must be made sure that it is stored under either hot or cool

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[27] Conversation with Food Analyst at PFA Directorate, New Delhi.

conditions. Food for infants should be prepared and served freshly and preferably not stored at all.

5. Reheat cooked food thoroughly: thorough reheating of all parts of food protect against microbes that may have developed during storage.
6. Avoid contact between raw foods and cooked foods: safely cooked food can became contaminated through even the slightest contact with raw food. For example, don't prepare a raw chicken and then use the same unwashed cutting board and knife to cut vegetables. It can reintroduce risks for microbial growth.
7. Wash hands repeatedly: hand washing before and after preparing food has remarked importance. Especially if one has had to change the baby or may have been to the toilet. If there is an infection on hand, be sure to bandage or proper covering. Pet animals can also harbor pathogens that can pass through hands into the food.
8. Keep all kitchen surfaces meticulously clean: every scrap, crump or spot can be a potential reservoir of germs. Clothes that come into contact with dishes and utensils should be changed and subjected to boiling before re-use as this will reduce the contamination.
9. Protect foods from insects, rodents and other animals: animals are frequent carriers of microorganisms and cause diseases.
10. Use pure water: pure water is just as important for food as for drinking. If there is any doubt about water supply, the boiling of water before adding it to food or to make ice or drinks will reduce the risk (WHO, 1991).

2.11 Food Safety in a Globalized World

Globalization is defined as the free flow of goods and services without any barriers. When the goods and services are flowing throughout the world all the diseases attached with these goods also transfer from one country to another. The Director General of WHO, in a speech on food safety to the UN Codex Alimentarius Commission, said: 'globalization of the world's food supply also means globalization of the public health concerns' (Lang & Heasman, 2004).

The great increase in eating in already-prepared food inside and outside the home is having profound effect on our lives. Unlike European countries, Indians rely more on homemade food rather than on restaurants and hotels. Most of the Indian wives are not working and the availability of the domestic help with out much difficulty is adding to this love for home made food. However, liberalization has drastically changed the food habits of the average Indian families. The Indian market saw an influx of processed food supply chains which was unheard of before 1990. In these modern days, we cannot stick to home made food only. The food in the dhabas and even big hotels are being prepared in unhygienic and unsafe conditions. The people working in these places are young or inexperienced and often underpaid.[28]

Globalization has affected our production and processing pattern, preparation and consumption and overall food culture. All kinds of food production technologies are available in our country today. Manual labour is being rapidly replaced with machines in the industrialization period. The world is divided into different sections like developed, developing and under developed countries. The developed world has achieved the power to control the other two with its economic power. In this time, three factors stand out to support that control: technological changes, notably the development of information technology and biotechnology; the dramatically increased power of the financial sector in the world economy, which emphasized the isolation of the individual in the society and also provided ways of coping with the situation; and the role of the media, which is becoming more and more concentrated. These factors have had an increasingly important role in shaping how people conceive their lives. These and other factors, especially in industrialized countries, contributed to an increasing perception of risk, greater public awareness of the role of science in confronting risks, and the rise to prominence of a discourse about risk. These factors distinguished the developed and developing world's food and food culture (Lang and Heasmann, 2004).

The important element that runs through out all the debate of food safety is the shift to risk regulation. As a result we think of food safety law as social regulation, with few, if any distributive or re-distributive consequences. It is essential, however to

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[28] Researcher's conversation with food inspector, PFA Directorate, Delhi

distinguish between discourse and impact, and also take into account of globalization, in the sense of a change in political scale and the enlargement of social arenas. The proper implementation of this social regulation is very difficult for many developing countries because legal instruments, techniques and tools of risk regulation are poor in those countries. The other important problem in this regard is the extent of the poverty that exists in the countries. Even if safe food is available, many people do not have access to it. In this context the regulation of food safety raises the questions about who should bear the cost of regulation, how the non-financial burdens of food safety should be distributed, and how access to safe food to all people can be guaranteed (Vapnek and Spreij, 2005).

In recent times, the government as well as many agencies like NGOs are spreading information and creating awareness and encouraging the intake of health food as a part of consumer choice. However, how much of this information is affecting the decision making of the people is not proved. But the information has made the people became well aware of the importance of nutrition in daily diet. As a result many new answers are coming out to ensure the safe food, that is without the effects of pesticides and fertilizers and the improvement of modern technology like genetically modifies foods and organic foods.

2.11.1 Genetically Modified Foods

Modern biotechnology has many applications in the pharmaceutical and agri-food industries. Genetically Modified Organisms (GMOs) are organisms such as plants, animals and micro-organisms (bacteria, viruses, etc.), the genetic characteristics of which have been modified artificially in order to give them a new property (a plant's resistance to a disease or insect, improvement of a food's quality or nutritional value, increased crop productivity, a plant's tolerance of a herbicide, etc.).[29] Genetically modified foods are known to contain new proteins produced by recombinant DNA technique and are also called transgenic or biotech foods. The basic procedure involves transfer of a gene from a potential organism to a host organism. Genetic engineering means to remove a gene from one organism – a plant, an animal or a microbe – and then transfer them to another (Rao, 2004). This genetic modified technology has many benefits and applications.

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[29] http://ec.europa.eu/food/food/biotechnology/index_en.htm, last accessed on 06 January 2007.

The first GM crop is tomato[30] and it came in 1994 followed by potatoes and cotton. But in spite of many of its potential benefits, there are many negative effects attached to its use. Many experts points out to the harmful health effects of GM crops. GM crops can also be harmful for the environment causing food safety issues for the coming generation.

In Indian markets, genetically modified tomatoes, brinjals, potatoes, pumpkins and some other vegetables and fruits like apples, oranges and pomegranates etc are available. These vegetables and fruits are high yielding, immune from pests and have increased shell life (Nair, 2007). GM rice called golden rice has also been developed to overcome the vitamin A deficiency. This rice is said to increase iron absorption. In India, where malnutrition is still a serious problem, particularly among women and children, the high quality crop products can have very significant effect to reduce poverty and malnutrition. There are also cases where vaccines are also developed with specially modified fruits and vegetables. Many supporters of these products claim that these are safer than the ordinary products because they have gone through highly rigorous testing. Ehrlich (1993) points out that within the next two decades, genetic engineering may enhance the nutritional quality of diets by increasing the diversity of foods available, by making some products more nutritious, or by developing qualities that make food safer to consume and easier to ship and store.

The critics have coined the term 'Frankenstein food' for genetically modified foods (Bhattacharya, 2000). Recently Greenpeace[31] activist Ms Divya Reghunandan has given an application to Department of Biotechnology under The Right to Information Act for information about safety tests done on genetically modified crops and it was rejected on the ground that disclosure could harm the competitive position of the third party – the company which developed the crops. It clearly shows that even the government thinks that the profit rate of a company is more important than concern over public safety. There was no clear reason why the government could withhold data on the toxicity and bio

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30 The first commercially grown genetically modified food crop was the Flavr Savr tomato which was made more resistant to rotting by Californian Company Calgene. This particular crop was allowed to release by a special labelling. http://en.wikipedia.org/wiki/Genetically_modified_food, last accessed on 12 June 2007.

31 An NGO working in the field of environmental protection.

safety tests of these crops. Even if the technologist cries hoarse over the good effects of GM crops, in popular mind, it is a technology not yet been proved safe for human consumption (Menon, 2007). There are cases reported in Andhra Pradesh of animal deaths after grazing on Bt cotton[32] fields. It is estimated that about 1800 goats and sheep had perished after grazing on Bt cotton residues between the period February to March 2006. But the Industrial Toxicological Research Center, Lucknow, UP says in their study, that this Bt cotton indicated no toxic effect. The Genetically Modified products are in controversy in many parts of the world (Venkaeshwarlu, 2007).

In India, the law pertaining to the control of GMOs has to be read from the Environmental Protection Act, 1986. Sections 6(c),[33] 8[34] and 25 of the Act provide for making rules for the handling of hazardous substances. Pursuant to the powers under the Act, the government notified Rules for 'The Manufacture, Use, Import, Export and Storage of Hazardous Micro Organisms Genetically Engineered Organisms or Cells in 1989.'[35] The object of the rules is to "protect the environment, nature and health, in connection with the application of gene technology and micro-organisms." The law is applicable for genetically *engineered organisms,* microorganisms, cells and correspondingly to any substances and products and food stuffs, etc made from such organisms. However, the word used in the Protocol is "living modified organisms." There is an urgent need to include the definition explicitly in the rule. The legal sanctity of the rule making process is always questioned in Indian courts. This is because in India, rules are made under subordinate legislation.[36] This rule was made in a time when there were no field trials of GMOs in India. The situation has now changed as India has become one of the largest cultivators of Bt.cotton and many more products using biotechnology

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32 A genetically modified cotton developed by Mahyco –Monsanto Company USA.

33 See Rule 13 of Environment (Protection) Rules, 1986, and
i. Hazardous Wastes (Management and Handling) Rules, 1989;
ii. Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989; and
iii. Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Micro organisms, Genetically-engineered organisms or Cells.

34 Section 8 provides that "no person shall handle or cause to be handled any hazardous substance except in accordance with such procedure and after complying with such safeguards as may be prescribed."

35 Notified on 5 December 1989.

36 Mainly prepared by the bureaucrats in the concerned Ministry.

applications are pending for approval of government before it can be introduced in the market.

Ingredients and additives contained in bio-engineered organisms shall not be produced used or imported without the approval of GEAC. Regulatory bodies like Genetic Engineering Approval Committee (GEAC) and Biotechnology Regulatory Committee have formulated guidelines but these were found to be inadequate to deal with genetically modified products (Nair, 2006). All such approvals, if granted shall be for a specific period not exceeding four years at the first instance, and renewable for 2 years at a time, subject to terms and conditions (Sardana, 2006). Many scholars have pointed out the lack of transparency in the functioning of these bodies while dealing with cases related to Genetically Modified Products (Nair, 2006). The government should come up with proper laws in accordance with international standard to deal with GMOs.

2.11.2 Organic Foods

Organic food is defined variously. It usually refers to all "naturally produced" foods, or those produced by organic farming.[37] Food from plants and animals that have been grown without the use of synthetic fertilizers or pesticides, and without antibiotics, growth hormones, and feed additives, can be called as organic food. [38] Organic food consumption has become trendy these days. Supporters of organic food claim that it contains phenolic compounds that protect you from developing heart disease and cancer. Organic food ensures high food quality, which other conventional foods cannot ensure. Since organic food is natural and fresh, it boasts off rich taste too.

The demand for organic food is steadily increasing in both developed and developing world with an average growth rate of 20-25 %. Organic production systems are based on specific standards precisely formulated for food production and aim to achieve agro-ecosystems that are sociologically and ecologically sustainable. Organic food is not a health claim but a process claim. The synthetic fertilizers and pesticides are avoided in producing organic products. The result is that it contains fewer nitrates, lower level of pesticides and other residues. The organic food claims that they contain a better

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37 See www. encyclopedia.worldvillage.com/s/b/Organic_food, last accessed on 15 May 2007.

38 www.ecohealth101.org/glossary.html, last accessed on 15 May 2007.

balance of vitamins and minerals than the ordinary products. As per a survey report, the current share of nutritive and organic food is about 2.5-3.0% and is expected to rise to 10-12% within 10 years (P Ramesh, Mohan Singh and Subhha Rao, 2005). Organic foods are not only nutritive, but are very delicious, tasty and healthy and save money spent for chemical farming. Organic foods are very popular in European countries and in the US because of their high health value. The main organic food consuming countries are the US, UK, Japan, France and Germany. Its demand has been increasing day by day in other countries like Hungary, Mexico, Morraco, Canada and Spain and would be extended to other European, Asian and Arabian countries (Gupta and Garg, 2005). The highly increasing consciousness about health, diet and nutrition among the high-income people mainly in urban areas is the main reason for its growing popularity. Organic products are generally priced at higher rates making it unaffordable for the lower classes.

2.12 Conclusion

The present day consumer is more eager to know the contents of what he eats and drink. The pesticide residues in bottled drinking water and heavy metals in common vegetables like cauliflower and spinach is not a new story. Serious contamination of milk, butter, grains, vegetables, poultry etc. by pesticides, heavy metals and artificial colors are common. It is the duty of the government to provide safe food to consumers. However, the food safety is given least attention by regulators and politicians from time to time. The food safety be ensured beyond a mere change of paper standards, for both rich as well as poor. First, the governments should understand the seriousness of the problems of contamination and adulteration. The problem spans pesticide usage, quality of irrigation water, lack of information to farmers, health impacts on poor communities, inadequate food storage facilities, and a total lack of information to the consumer. Currently there is no mechanism to ensure safe food to the consumer. The present regulatory regimes are not sufficient to provide safe food. These regulations never consider food safety as a health issue rather as a criminal activity. The solution may be more awareness creation among all stakeholders on food safety and proper management of food stuffs from farm to table. Any regulation should focus on better health through safe food.

CHAPTER III

CHAPTER 3

The Prevention of Food Adulteration Act 1954

3.1 Introduction

The Prevention of Food Adulteration (PFA) Act came into force in 1954.[1] It is a major enactment for ensuring the purity of food in the independent India. This kind of law to check food adulteration is not a post independent phenomenon. It dates back in history to as early as 300 BC. In ancient India, under the regime of the Maurya's in 325 BC, under the initiative of Kautilya,[2] the writer of 'Arthasastra,' one of the objectives of the state policy was to provide pure food for distribution (Rath, 1985). Today adulteration is associated with pesticides, hormone residues in foodstuffs, adulterants in raw food etc. In olden days vendors made profit out of creating artificial scarcity and adulterate by adding stones in rice and wheat and pulses.[3] The references to adulteration were also there in some religious and ethical books like Manusamhita[4] and Vidur Niti.[5] Adulteration of food has been categorized as an unforgivable socio economic offence. Food adulteration cases were given rigorous punishments and the offenders were condemned by the society, hence such offences were rarely committed in those days (Sachdeva, 2005).

3.2 Food Adulteration Legislations in Colonial India

In colonial India, there were separate laws to deal with adulteration in different provinces of India. Madras Prevention of Adulteration Act 1918, Bombay Prevention of Adulteration Act 1925, Bengal Food Adulteration Act 1919, Punjab Pure Food Act 1929 and Assam Pure food Act 1932 were enacted (Rath, 1985). Provincial governments, under the system of transfer of power from the centre to the state, enforced these laws.

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1 Prevention of Food Adulteration Bill was passed by both the houses of Parliament and received the assent of the President on 29th November, 1954. PFA Act was come into force from June 1, 1955, vide notification No SRO1985, dated may 10, 1955, Gazette of India, Part II S.3p, 874.

2 Kautilya was the prime minister of India's first emperor in 4 B.C. Chandragupta Mauryan.

3 Researcher's Conversation with Food Inspector, PFA Directorate, New Delhi

4 These are the ethical and religious texts in ancient India. Manusamhita is written by Manu, the ancient law giver who interprets the law. In the Indian mythology Manu is the first man legendary author of an important Sanskrit code of law, this book. It's also called Manu Samhita and Manu-smriti.

5 Vidurniti is a code of political ethics expoundered by Vidur, the learned statesmsn to his elder brother king Dhrutrashtra. It forms the portion of Mahabharat, Udyog parva, Chapter 33-41 www.swaminarayan.org. last accessed on 23rd June, 2007

These were mainly to prevent adulteration in Milk and milk products. Milk diluted with water and ghee with oil was common in many places (Anonymous, 2006).

Some of the legislations emphasized on purity of food and some are on prevention of adulteration. They were administered independently by the states without any co-ordination. The need for a central legislation for the whole country in this matter has been felt since 1937 when a committee appointed by the Central Advisory Board of Health recommended the drafting of a new law at that time for the whole country. This advisory board analysed the food adulteration cases prevailing in India at that time by taking samples from all over the country. In the Indian Penal Code 1860 (IPC) also there were many provisions related to food adulteration, fouling water, spreading of infections, making the atmosphere noxious to health etc. (Section 269,271,272, 276,277, 278 of Indian Penal Code).[6]

3.3 Prevention of Food Adulteration in Various Government Reports and Policies

3.3.1 Health Survey and Development Committee Report, (Bhore Committee Report) 1946

During the British period, a health survey and development committee was appointed by the government of India in 1943 under the chairmanship of Joseph Bhore and it comprised of many experts from different sections of society. After a survey of the health condition and health organization in India, Bhore committee submitted its report in 1946 known as the Bhore Committee report (GOI, 1946).[7] The Bhore Committee set a vision for the development of India as its recommendations gave a comprehensive blue print of health development in India (Banerji, 1985).

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6 Indian Penal Code (IPC), 1860, Section 269 to 271 deals with the spreading of infectious diseases. Section 272 to 276 deals with the 'adulteration of foodstuffs and drugs'. Section 272 reads as "whoever adulterates any article of food or drink, intending to sell such articles as food or drink knowing to be likely that the same will be sold as food or drink shall be punished with imprisonment or either description for a term which may extent to six months, or with fine which may extent to 1000 rupees or both. Section 277 deals with the Fouling of water and section 278 deals with making atmosphere noxious to health. Section 481 deals with the penalty for falsely making goods, cases and packaging or other receptacles of food in such a manner as to make false claims.

7 Bhore committee set up by the government of India in 1943 to look into and suggest improvement in the Indian Public Health system. Under the chairmanship of Sir Joseph Bhore the committee made many landmark recommendations in its final report in 1946.

Along with other health related factors, the Committee also looked in to the actions taken by the health authorities for the control of food adulteration as well as for the sale of various articles of food. Bhore Committee recommended the need for supervision of food supplies to ensure the maintenance of food standards. The committee gave a detailed analysis of the administrative system of then existing food adulteration laws. At that time, the responsibility of controlling food adulteration rested with the provincial governments. In all the provinces the necessary powers have been provided by the Provincial Food Adulteration Acts. These Acts entrust the enforcement of the law to local authorities and gave considerable powers of supervision and control to Provincial governments. Each government is empowered to apply the Act concerned either to the whole area or to particular local areas and apply it to all or to any specific articles of food. In the two provinces of Bihar and the United Provinces, the concerned Act, provided for the control of adulteration of drugs in addition to that of food (GOI, 1946).[8]

Bhore committee reported that adulteration of different articles of food was widely practiced in the country at that time. To support this fact, the report gave figures related to adulteration from the Report of Food Adulteration Committee of the Central Advisory Board of Health (Part I of 1939 and Part II of 1943). In 1940, the Adulteration Committee did a sample collection and from the total number of samples examined in each province, the highest percentage of adulteration was recorded in the Central province (84.9 percent) and the lowest in Sind (19.9 percent). The Committee has drawn attention to the fact that methods of analysis employed in the provinces have not been standardized and this may also explain, in part to the difference between the percentages for individual provinces. It was also reported that in certain provinces, the Acts were being implemented 'only in papers.'

A study of the Food Adulteration Committee of the Central Advisory Board of Health (1939 and 1943) states, the main articles of food that were found adultered at that time were milk and milk products and the edible oils. The percentage of adultered samples with respect to milk and milk products varied, in 1937, from 100 per cent in the case of Central Provinces and Delhi to 15.9 per cent in the case of Sind. Samples of

[8] GOI (1946) Vol. 1 Chapter V, page 58

edible oils showed percentage of adulteration ranging from 80.0 percent in Bengal to 5.4 per cent in Assam.[9]

The Bhore Committee points out the defects in the enforcement of food adulteration laws in the Provinces:

1. In certain provinces the operation of the act has been extended to specific areas, without due regard being given to the need for ensuring that the local authorities concerned possess adequate funds and personnel enforcement of the Act.

2. In many areas local authorities used their powers only to a very limited extent, or not at all, for taking samples and getting them examined. The Food Adulteration Committee has pointed out that "in Punjab, United Provinces and Baroda, there were instances of local bodies failing to send even a single sample for examination during 1940, while in certain other provinces the number of samples from individual local bodies was as low as one or two for the whole year".

3. Failure to prosecute offenders under the Act was to be found to varying extents in the different provinces. The power of sanction to prosecute was vested in the executive authority of the local body concerned. The chairman of the local body, who was the executive authority in most parts of the country, often found it difficult to enforce the law in the face of opposition from vested interests, probably because he lacks the support of public opinion for such enforcement in the interests of the community. Instances had been quoted by the Food Adulteration Committee, of local bodies having instituted no prosecutions at all and others in whose case only six percent or less of the total number of offenders under the Act were prosecuted. In this connection, the instances in Madras were mentioned. In the provinces of Madras, all the executive powers under the Food Adulteration Act were transferred, under the provision of the Madras Public Health Act 1939, to local health officers. Further, the Provincial Government has issued instructions that every case of adulteration should be prosecuted. In that province, the vendors of all samples certified by the public health analyst as

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[9] These figures are relating to food adulteration are quoted from the Part I and II of the Report of Food Adulteration Committee of the Central Advisory Board of Health (1939 and 1943) quoted in Bhore Committee Report, 1946, volume 1, p.59.

adultered are invariably prosecuted, except in cases of accidental adulterations. In such cases vendors were let off with a warning and another sample was taken from the same vendor at a later date to ensure that the first instance was a real case of accidental adulteration.

4. The fines imposed by the courts, in many cases, were so light that they had no deterrent effect on the offenders. Imprisonment, if it can be awarded for repeat of offences under the Act, will have a welcome effect. In certain provinces however, there exists no provision for imprisonment for offences under the act.

5. Delays in the disposal by courts of cases under the act - sometimes as long as a year and a half - are said to have hampered the working of the Act in certain provinces[10].

The Committee report elaborated the role of provincial governments in controlling the production and sale of goods to the public. The Provincial Local Self Government Acts contain provisions enabling the local authority to control, from the hygiene point of view, the production and distribution of food and articles of drink such as aerated waters, when they are meant for human consumption. Such control extends to markets, slaughterhouses, bakeries, sweet shops and eating establishments, dairies and the collection, transport and distribution of milk and milk products and the sale of meat, fish and other articles of diet. No person can establish a market or a slaughterhouse or carry on the other trades mentioned above in the area of local authority without obtaining a license from it. In granting the license, that authority can lay down conditions, as it deems necessary to ensure effective observance of health standards. At least in certain provinces, local bodies also possess the power to seize and destroy articles of food unfit for human consumption if they are perishable and, if not, to do so under the orders of a magistrate.

The report further says that in respect of vast majority of the local authorities, the control exercised was so unsatisfactory that the conditions under which food production and sale to the public were taking place constitute a grave menace to the health of the people. In many cases, the sanitary conditions of markets and slaughterhouses maintained

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10 *Ibid.*, p.59-60

by the local bodies themselves fall far below minimum standards of hygienic requirements.

The report also gave a picture of how the storage and distribution of food were maintained at that time. Referring to lack of transport facilities of milk produced in rural areas, the report says all perishable articles of food such as milk, fish and fruit require the development of refrigeration facilities for storage and transport for its proper utilization. It also recommends provisions for pest control.

In total, the report asks the government to enact legislation for control of food adulteration in the whole country. The report suggests that government of India should appoint a standing committee for food standards and to prepare instruction for food analysts and laying down analytical techniques through out the country to ensure uniformity. In 1946, when the *Bhore Committee Report* was submitted, the government formed a temporary standing committee for food standards. In its summary, the report asked the government to apply the principles of Agricultural Produce and Grading and Marketing Act to food as well as agricultural products. However, most of the recommendations were neglected or discarded silently by the government in the changing political and economic situations.

3.3.2 Sokhey Committee Report

The Sub-Committee on National Health of the National Planning Committee under the Chairman ship of Colonel S.S. Sokhey, submitted its report in 1948. Sokhey Committee also recognizes the importance of preventing food adulteration and ensuring food quality to protect the health of the people. The Committee talked about adulteration in the context of food security. The Committee points out the need to assure safe and sufficient food for the people. The committee finds that 75% or more incidences of physical disabilities other than those due to infectious diseases can be prevented by provision of suitable food adequate both in quality and quantity. The committee emphasizes the need for supply of quality and sufficient food for the people (GOI, 1948).

3.3.3 Mudhaliar Committee Report

To survey the progress made in the field of health after the submission of Bhore Committee Report and to provide the guidelines for the National Health Policy, the Government of India appointed the health Survey and Planning Committee (known as Mudhaliar Committee in 1962). After surveying the progress made in the health sector, the Committee made its recommendations for the future development and expansion of the health sector in India. The Committee also looked into the working of PFA Act and gave suggestions for better enforcement of it. A Central Committee of Food Standards was framed first before the Enactment of PFA Act. The PFA Act was framed on consultation with the Central Committee of Food Standards, a main organ of the Act.

Mudhaliar Committee recommended that the administration of the Act by state governments needed to be tightened up and the Act enforced more rigorously. Committee also says that the Act needed certain amendments to enable its strict enforcement, the services of food inspectors under the local bodies should be provincialized, a maximum period for the disposal of prosecutions should be fixed and zonal committees should be established to advice the government on better methods of enforcement of the Act in the zones concerned. That separate wing should be set up in the Directorate of Health Services to administer the act efficiently. Comment on the working of the Act, the Committee felt that stricter enforcement of the Act was immediately called for and appropriate steps, administrative and executive should be taken in the matter at an early date (GOI, 1962).[11]

3.3.4 Prevention of Food Adulteration Measures in Five Year Plans

The Five Year Plans are introduced in the country for overall socio economic development. The plans have been directed towards the broad objective of achieving a socialistic pattern of society. Similarly, strengthening of the infrastructure of agriculture and industry and rising of the mass of people above poverty line are adjuncts of the policies (Banerji, 1985).

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[11] Chapter IV, p.193.

Ensuring safe food being part of state policy, in the first, sixth, seventh and nineth year plans reports talked about the harm unsafe food causes and the need for proper enforcement of the Prevention of Food Adulteration Act. The *first Five Year Plan,*(1950-55) started in 1950, which came before the coming of the PFA Act, recommended the need for a central Act to prevent food adulteration. The plan report says "the wide spread malpractices which affect the purity of food articles available in the market is a problem which should be attended to with rigour and a sense of urgency. The noxious substances, which are often used as adulterants, are doing insidious harm to the health of the people and the evil appears to be growing. That must be tackled on the footing of a principal priority both by administration armed with adequate powers and the organized force of public opinion and social action" (GOI, 1951).[12]

The Sixth Five Year Plan (1980-1984), points out the shortcomings in the enforcement of the PFA Act. The plan identifies the weak administrative machinery and the lack of inadequate number of trained inspectors and laboratory facilities for analysis. The municipalities were doing the work of the Act. In some states, there were separate departments for food and drug administration and they were working very well. In some other states, there was a separate food wing under the Directorate of Health Services. Under the Central sponsored Scheme, the states were assisted for strengthening their combined Food and Drug Testing Laboratories and training of Analysts and Food Inspectors. The scheme continued in the states throughout the plan period. The plan recommends taking stringent measures for implementation of the PFA Act. And this was facilitated by expanded testing facilities and inspectorate staff was provided under the States/Union Territory's Plans. The central Laboratories also would be adequately strengthened. The plan further entrusted the Central Government as the Authority for laying down the standards for various items of food in consultation with the central Committee for Food Standards headed by the Director General of Health Services (GOI, 1980).[13]

The *Seventh Five Year Plan* (1985-1989), looked at prevention of food adulteration in detail. It gave a number of measures to be taken in the coming years for

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12 p.56

13 p.373

the improvement of food quality. This plan also identifies that there were some shortcomings in the existing PFA Act. These are:

1) Inadequacies in post harvest handling and storage facilities, including unhygienic and in-sanitary environment and food handling practices.
2) Lack of quality control in process
3) Large distribution of unpacked food in bulk and retail sale.
4) Infrastructural deficiencies such as of qualified and trained food inspectors, inadequacy of well-equipped laboratories, absence of advisory and extension services.
5) Inadequate programming and planning quality control activities.
6) Inadequate monitoring information system and community involvement.

The Plan advised the following measures to be taken in the plan period are:

a) Augmentation of existing Infrastructural food control services at the central level for proper coordination, monitoring and evaluation;

b) Establishment of an inspection and investigation unit and laboratory that will strengthen the activities of the States. This will also curb interstate adulteration and help in checking quality of imported foods in different zones.

c) Strengthening of central Food Laboratories, which function as referral laboratories under the provisions of the PFA Act and also undertake research and standardization work:

d) Augmentation of the state government's efforts for strengthening the existing food laboratories and for creating spot testing facilities;

e) Motivating State Governments to create consumer awareness through cooperation with voluntary organizations by means of audio-visual aids etc; and

f) Helping the state governments to make available library facilities to technical personnel working under the programme.

The programmes in the seventh plan report thrust on monitoring, evaluation and surveillance through better coordination and guidance (GOI, 1985).[14]

The *Nineth Five Year Plan* (1995-2000) emphasized the efforts to be made by the state and central government for quality checks. The plan report reads as "Prevention of Food Adulteration Act aimed at ensuring that consumers get pure and wholesome food of good quality and protecting them from the trade malpractices and frauds in the sale of food products. The Act is implemented by the central and state governments. During the nineth plan period, efforts will be made to augment food quality control at the central and state levels" (GOI, 1995)[15] As the food control is in the concurrent list, the plan report clearly stated the joint responsibility of state and central government to ensure the safety of food in the state.

From the seventh five year plan period, (1985 – 1989) when the structural reforms were initiated a shift in policy with regard to food safety can be seen. This shift can be seen in the backdrop of the enactment of the Consumer Protection Act in 1986 to strengthen the concept of consumer. There was a real change from the broader idea of health of the society to a single consumer's right for quality food. When it comes to the nineth plan, (1995 – 2000) the post liberalization period, protecting the consumer right became the main aim for preventing adulteration and ensuring quality food.

The Five Year Plans contain the guidance for the effective implementation of the PFA Act, but how far these goals are achieved had not been detailed in any plan reports. Some of the measures are adopted partially, but the government neglects majority of the measures.

3.3.5 National Health Policy

National Health policies are created based on the concept of "People's health in people's hands." It aims to democratize the health services and design the health system by the people themselves and not by administers (Banerji, 1985). National Health Policy 2002 under the heading "Policy Prescriptions" gives the guidelines for the enforcement of quality standards for food and drugs (Section 4.22). The policy envisages that the food

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14 p.70.

15 p.183.

and drug administration will be progressively strengthened, in terms of both laboratory facilities and technical expertise. It also says that the standards of food items need to be upgraded and manufacturing facilities and domestic handling of food manufacturing units should be progressively tightened up with modern technology to save them from closure. The policy envisages that, ultimate food standards will be close, if standards are not equivalent to 'Codex' specifications.[16]

3.4 Prevention of Food Adulteration Act 1954

The PFA Act 1954 replaced all the laws regarding food adulteration that existed before 1954. The objective of the act is (i) to ensure quality food to the consumers; (ii) protect the consumers from fraud and deception; and (iii) encourage fair trade practices. The standards for food products and other specifications are laid down under PFA Rules. It was a piece of consumer legislation aims at making provisions for the prevention of adulteration of food. This law protects the consumer against impure, unsafe and fraudulently labeled foods. The object of the Act was reaffirmed by the Joint committee of PFA Amendment Bill in 1974. The Joint Committee observed that:

> Adulteration of food articles is rampant in the country and has become a grave menace to the health and well-being of the community. It makes a heavy dent in the already low nutritional status and the benefits of public health programmes that spend large sum of money are largely undermined. Keeping in view the gravity of the problem and the growing danger which it faces to the health of the nation, it has became necessary to impose the Act of 1954 so as to plug loopholes and provide for more stringent and effective measures with a view to curb the menace. The social evil of fraudulently selling adulterated foodstuff not only affects the health of the citizens, but also tends to demoralize the health of the nation and grievously obstructs her moral and economic progress (Rath, 1985).

The provisions of PFA apply equally to all food products whether imported or manufactured locally. The law addresses various aspects of food formulation, food processing and distribution such as food additives, preservatives, pesticide residues, packaging and labeling and regulation of sales. PFA Act also gives warranty to the vendor and empowers the central government to prescribe and amend the procedures for

[16] http://www.mhfw.in, last accessed on 06 May 2007.

implementing the provisions for the Act. The Act has been amended four times, in 1964, 1971, 1976 and 1986.

The law is enforced by the Director General of Health services, Ministry of Health and Family Welfare and Government of India. It focuses primarily on the establishment of regulatory standards for primary food products, which constitute the bulk of the Indian Diet. The PFA Act is not always able to keep pace with advances in the food-processing sector because of various social and administrative issues. PFA Rules sometimes appear to be drafted in a manner to establish minimum product quality specifications, such as prescribing recipes for how food products should be manufactured. In case there are scientific reasons to amend the standards, the concerned parties can appeal to have the PFA Rules amended. Under PFA, the Central Committee of Food Standards chaired by the Director General of Health Services, is the final decision making entity of PFA Rules. The appeal process is cumbersome and time consuming. All products, imported or domestic must adhere to the rules specified in the regulation, including the labeling and marking requirements (Sardana, 2005).

The Act contains four parts with 25 headings, subheadings, sections, subsections, clauses and explanations. All substantiate rules and food standards are dealt under Food Adulteration Rules[17], 1955. The PFA Rules contain all supporting procedures of the Act. It includes the procedures to be followed in support of every section of the Act. The definitions and standards of quality, public analysts and food inspectors, sealing, fastening and dispatch of samples, colouring matter, packing and labeling of foods, prohibitions and regulations of sales, conditions for sale and license, preservatives, poisonous metals, crop contaminants and naturally occurring toxic substances etc. are comprehended in the Rules.

3.5 Definitions

Food laws and regulations are present in varying degrees in each country, yet their mere existence does not protect us from unsafe foods. As a 53 years old law, the PFA Act had many drawbacks. But most of its loopholes are improved by many amendments. Many of

[17] Every Act is passed by the Parliament and endorsed by the President. The Rules of the Act consist of all substantiate procedures setting by implementing Ministries. The Rules made the implementation procedures transparent and easy.

those amendments were context specific and appropriate to the period making its implementation more effective. The preliminary part of the Act gives all definitions of related words. Most of the definitions in the Act are quite ambiguous, contradictory and a lot of loopholes that allows the culprits to escape from the law exist. Some of them are mentioned below:

3.5.1 Food

The act defines food [section 2 (v)] as any article used as drink for human consumption "other than drugs and water" and includes:

a) any article which ordinary enters into, or is used in the preparation of human food;

b) any flavouring matter or condiments, and

c) any other article government may, having regard to its use, nature, substance, or quality, declare, by notification as food.

Then the definition of food, which does not include water, has no meaning. Without water, food cannot be prepared at all. If the water, which is used for cooking is contaminated in the first place and adequate provisions in the act cannot check this contamination, one fails to see how this law can be effective in ensuring food safety. The definition that says food does not include water cannot have a correct meaning. The definition of food creates ambiguity in its interpretation.

3.5.2 Adulterant: Section 2 (i)

The Act says adulterant means any material, which is or could be employed for the purposes of adulteration. This section defines adulterant in an open-ended manner. Under this definition, any substance could be an adulterant. Under the Act, the finding of any material in a food processing plant is or could be in violation of the Act. It is up to the manufacturer to prove that it is not an adulterant. Since any chemical, could be in concentration, be a good adulterant, this provision would be capable of causing endless mischief and unpredictable litigation (Mahindru, 2000).

The dictionary meaning of the word adulteration is to make inferior, impure, and not genuine by adding harmful, less valuable or prohibited substance. Then the

interpretation can be that, which does not cause harm to human health is not adulteration. Therefore the water added to milk does not cause any harm to human health. Then the action does not constitute adulteration. Adulteration matters only when it causes injury to health. We can interpret that other wise it is permissible. We can add water in milk or oil in ghee etc.

3.5. 3 Contamination: Section 2(e)

If the article of food had been prepared, packed or in part under in-sanitary conditions whereby it has became contaminated or injurious to health then the food item is considered as "contaminated." The difference between contamination and adulteration is not clearly mentioned in the Act and are dealt together under one heading adulteration. Contamination can occur with or without being intentional. But the adulteration can happen only with knowledge and it is intentional to make the product inferior in quality and to maximise the profit from the product. Intentionally committing crimes should be punished severely.

3.5.4 Insect Infected: Section 2(f)

An article of food is adultered if it is insect infected or otherwise unfit for human consumption. The term 'insect infected' itself is not properly constructed. There are many food articles insect infested but fit for human consumption. The term insect infected is defined by the Delhi High Court in 1988. It is "a group of insects or atleast a large number of insects". It says that mere presence of an insect or no living insect visible to the naked eye does not signify that the article of food is insect infected (Mahindru, 2000).

Many food insect infestation cases are not identifiable in many articles as it occurs in the process of production. For example the worms inside the mangoes and brinjals can be seen only when we cut it. The producers are responsible than the traders in this case.

3.5.5 Misbranded: Section 2(ix)

Misbranding is false representation or false claim. In misbranding, the foreign element is not necessary, which is done for the purpose of hiding or concealing any damage to the article or to give an appearance of greater value to that article, which in fact it does not

have. Misbranding according to the Act is in relation to the contents of package and not in relation to the container of the article, from the package itself.

Misbranding includes imitation, substitution, or resemblance that is likely to deceive the customer into believing that it is some other article of food and food that is not plainly and conspicuously labeled to indicate its true character. It is also considered misbranding if falsely stated to be the product of some other place or country and if it is sold by the name of another article of food and if false claims are made upon the label (Mahindru, 2000 and Rath,1985).

It is possible to confuse between adulteration and misbranding. If the article is coloured or flavoured to conceal its inferior quality, it is misbranding. Whether the mixing of talc with lentil powder is adulteration or misbranding needed to be explained. If it sells as lentil powder, it is misbranding. The action of mixing of talc with that food article amounts to adulteration. It will come under both the provisions.

In the market we can see many articles, its brand name gives us different meaning. For example, the extract of many vegetable or pulses selling with adding the word milk after its name. But it is not milk added and does not contain any factors of milk. But the name gives the message of milk content. For example, "*Soya Milk*," it is misbranding.[18]As per a food inspector in Delhi, the word milk added with its name connotes misbranding.

3.5.6 Primary Food: Section 2 (xii a)

Primary food means any article of food, being a produce of agriculture or horticulture in its natural form. Section 10 (2) says the food inspector is not permitted to take any sample of primary food, if it is not intended for sale as such food. This clause gives another definition to primary food; it is those articles not intended for sale. The law stipulates that any article kept in a place, not for sale cannot be lifted by the food inspector. The food articles kept in hotels or bakeries to make cake or curry can be contaminated, but since these come under the definition of primary foods; they cannot be lifted for sampling. In such cases where primary products that are contaminated and

[18] Researcher's conversation with Food Inspector, PFA Directorate, New Delhi

meant to be used as an ingredient for the manufacture of a processed food, the law provides a loophole for the manufacturer since he can cite the clause in the law that a primary product not meant for sale cannot be lifted for sampling.

3.6 Administration of the Act

The two main organs under the Act are:

1. *The Central committee for food standards*: it is an advisory committee to advice the central and state governments in matters of administration of the Act.
2. *The central food laboratory*: it is constituted to organize and analyze the work and reports of local laboratories.

The adulteration cases goes through three different stages; sampling, analysis and prosecution. These stages are executed through the administrative machineries. The administrative machineries under the Act are Food inspector, Public analyst, Director General of Food Laboratories, Health Authorities, Local Authorities, Courts.

The 'adulteration of food and food stuffs and other goods' come under item Number 18 of List III of Concurrent list (Seventh schedule) and both the state as well as the central government has equal responsibility to ensure the safety of food and to prevent adulteration of food. The PFA Act and Rules are central legislature but the responsibility of implementation has been entrusted to the State governments and union territories. Many state governments and Union Territories have created their own organizations for the implementation of the Act and Rules framed there under. In Delhi a separate Directorate of Prevention of Food Adulteration is entrusted with the responsibility of implementation of the provisions of PFA Act and rules.

The Food Inspector and Public analyst are the main organs for the truthful and unbiased implementation of the PFA Act. The Act empowers the food inspector to lift the samples under the supervision of the Sub Divisional Magistrate (SDM) who has been given the powers of Local Health Authority (LHA) under the PFA Act.

3.6.1 Central Committee for Food Standards (CCFS)

Section 3 of the PFA Act provides for constituting a committee to give consultative and technical assistance to the central government and the state governments on the administration of the Act. The CCFSconsists of:

1. The Director General, Health Services (DGHS), ex-officio, shall be the chairman; the Director General of Food Laboratories, also ex-officio; and two experts nominated by the central government.
2. One representative each of the Department of Food and Agriculture, Central Ministries of Commerce, Defense, Industry and Supply and Railways, nominated by the central Government; one nominated representative from each state, two to represent all Union territories; one each for agricultural, commercial and industrial interests, one to represent the medical profession nominated by Indian Council for Medical Research (ICMR) and one from Indian Standards Institution, now Bureau of Indian Standards.
3. Five representatives to present the consumer interest, one of whom shall be from the hotel industry.

All members are to be nominated by the Central Government, except one from ICMR, which is an autonomous body. CCFS is another division under the Ministry of Health whose primary function is to work both as a secretariat for the CCFS and as a principal staff of the Assistant Director General (PFA).

Before the enactment of PFA Act, there was no such provision in other food laws prevailing in various states. This has brought uniformity in food standards throughout the country with the result that if any article of food is found below standard, it shall be an offence, in any part of India, or part of a state within India. Thus an accused cannot make the defense that he brought the article from another state or he shall sell the article where it was not below standard (Mahindru, 2000).

Along with the Central Committee, several technical sub committees, each dealing with a special subject of specialization is used for formulating specific recommendations. The number of these sub committees was increased as per the need

and presently there are nine sub-committees working for CCFS (Chitale, 2000). The CCFS recommends minimum standards for food products and under PFA, is the final decision making entity on PFA rules (Dheram, 2006).

Article 47 of the Constitution says it is the duty of the state to raise the nutrition and standard of living and to improve pubic health. Article 47 reads as "The state shall regard the raising of the level of nutrition and the standard of living of the people and the improvement of public health as among its primary duties ....." (Bakshi,1998). The CCFS and CFL (s) have been established in consonance with this article to raise the level of nutrition in the country.

In some countries, the food standards and food laws lay out the minimum product quality specifications, thus giving manufacturers the flexibility to modify and improve their products. In India, when a product is introduced or modified, it has to go through a lengthy clearance process. The approval procedure is a long process stage by stage, in which approval has to be gained from the PFA sub committee, Ministries of Health and Law. The CCFS does not have its own counter checks on data presented or submitted by the manufacturers along with their applications for inclusion or approval their new product or products under the PFA Act and Rules. The approval or rejection of the proposal depends upon the persuasion skills of the representative of the manufacturer (Mahindru, 2000).

CCFS is the central food authority of India. Mahindru (2000) identifies some drawbacks for the proper working of CCFS. The CCFS used to meet once a year or three times during the period of two years. It is near impossible to keep a check on the proper management of the food control system in a country like India with a committee that meets only a couple of times a year. He suggests a permanent well-settled national agency with a single responsible individual at its head. The central Committee lacks the decisiveness and quickness needed to resolve contemporary food safety problems and also lacks the focus and political weight needed to get funding and public attention. The CCFS should have a permanent central staff to provide a leadership in food safety, to manage the Central Food Laboratories, formulate regulations and standards, and

undertake the harmonization of standards and methods required by international standards like Codex and WTO agreements.

Chitale (2006) points out the slow working of CCFS. He says, between 1955 to almost up to 2000, the changes in the PFA Rules were too slow. It used to take nearly three to five years for an additive to get approved by PFA for use in food. The reason for this very slow work was due to the low priority given by the Ministry of Health and Family welfare to the meetings of sub-committees and CCFS. Infrequency in the meeting of CCFS is the main reason for the unbelievable delay in granting approvals. Chitale said this situation is changed after India became a signatory in WTO Agreements[19]. The decision-making became fast to some extent.

3.6.2 Central Food Laboratories (CFL)

The Central Food Laboratories act as the reference laboratories, above Public Analyst of every district. These labs have been established under PFA Act to serve the appellate labs. There are four Central Food Laboratories in India. Two of this labs, the Food Research and Standardization Labs, Gaziabad and the Central Food Lab, Kolkota, are under the administrative control of the Director General of Health Services. The Other two labs, the Central Food lab Pune and the Food Central Lab, Mysore are under the control of the Maharashtra, and the Council of Scientific and Industrial Research, respectively (Mehta &George, 2005). In addition to this, 81 state laboratories engaged in examining the samples besides several other accredited examination labs.[20] One third of them are under the control of local bodies. Some labs under Export Inspection Council and Bureau of Indian standards are also operating.

Each state is under specified jurisdiction of the Central Laboratories. CFL carry the following functions:

1. Analysis of samples of food sent by any officer or authority authorized by the Central Government for the purpose and submission of the certificate of analysis to the authority concerned;
2. Investigations for the purpose of fixation of standard of any article of food;

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19 India became a signatory of WTO agreements in 1995.

20 http://www.fao.org, last accessed on 9 June2007.

3. Investigation, in collaboration with the laboratories of public analysis in the various states and such other laboratories and institutions which the Central Government may approve in this behalf for the purpose of standardizing methods of analysis.

Based on the analytical results, individuals are acquitted of adulteration charges or will be sent to prison. Their credibility is vital to the effectiveness of the overall food control enforcement process. CFL, the scientific authority on food safety over the public analyst can verify the results done by the public analyst. Hence CFL many a time, work as an appellate body above the public analyst. The Act under section 13(3) and (5) deems the report of the CFL to supersede the report given by Public Analyst and it is considered to be final and conclusive evidence. The acquitted cannot appeal above the CFL as there is no authority above the referral laboratory. The parameter on which the Public analyst declares the sample adultered is sometimes different from those used by CFL. This also creates inefficiency in dealing with cases of adulteration. This makes the situation complex and uncertain. The very fact that the parameters used by both the authorities are different leads to a situation where The CFL does not provide the degree of consistency to the state analyst that is implied in the PFA Act. Hence it will be better if CFLs will work on methods of analysis. Except the Mysore CFL, the other CFLs are, as a whole, poorly housed, poorly equipped and weakly staffed and not in consonance with international standards (Mahindru, 2000).

3.7 Enforcement

In every state, there is a Commissioner of Food safety to look after the affairs of the state. He is the supreme authority in the state. In every district, there is a Director, Joint Directors, a Local Health Authorities, food inspectors and food analysts. The food inspector and food Analyst mainly do the execution part. The Joint Director and Local Health Authorities are the supervising authorities.

In every municipality and corporations, the Chief Medical Officer in the District Health Department is acting as the Director of the PFA Administration. The specially designated officer called Local Health Authority (LHA) functions above the food inspector. This Local Health Authority is also in-charge of health administration of such

area. In the rural areas, medical officers of the Primary Health Center (PHC) are functioning as local health authorities. The food inspectors are the key personnel in the hierarchy for the implementation of the Act.

3.7.1 Food Inspector

Food inspector is appointed by the central or state governments for a prescribed local area to implement the Act.

Powers: The Food inspector is entrusted with the task of lifting samples of food articles for testing for likely adulteration from his area of operation. He will then send the sample for analysis to the public analyst of the local area within which such samples are taken. He can then with the previous approval of the Local Health Authority having jurisdiction in the local area concerned or with previous approval of the Food (Health) Authority can prohibit the sale of any article of food in the interests of Public Health.

Food Inspector can enter and inspect any place, where food articles are stored or manufactured for sale or any adulterant is manufactured or kept and take samples of such articles of food for analysis. He has the power to break open the packages of food articles and door of any place where food articles are stored. He has the power to take legal possession of any books of accounts or any other documents useful for the investigation. When he takes the samples it is mandated to pay the manufacturer or the vendor concerned, its cost calculated at the rate at which the article is usually sold to the public.

Duties of the food inspector are specified in Rule nine in The Prevention of Food Adulteration Rules 1955. He needs to inspect as frequently as may be prescribed by the Food (Health) Authority or the local authority all establishments licensed for the manufacture, storage or sale of an article of food within the area assisted to him. He has to satisfy himself that licenses are being observed. He has to investigate any complaint, which may be made to him in writing in respect of any contravention of the provisions of the Act or rules.

The food inspector has to maintain a record of all inspections made and action taken by him in the performance of his duties, including taking of samples and seizure of stocks, and to submit copies of such record to the health officer or Food (Health)

Authority. He can stop any vehicle suspected to contain any food intended for sale or delivery for human consumption. He is also authorized by the health officer, having jurisdiction in the local area concerned or the Food (Health) Authority, to detain imported packages, which he has reasons to suspect contain any food item, the import or sale of which is prohibited.

Limitations: The food inspector needs previous approval of the local (health) authority to prohibit the sale of any adultered food. He shall not take the samples of any primary food. Under this provision, for example, he cannot take the samples of butter or oil in a bakery which he suspect is adulterated and will be used in the manufacture of food as the concerned manufacturer can cite the clause in the law that it is a primary food item kept in his bakery and was not meant for sale.

Procedure to be followed: It is dealt under section 11. When a food inspector takes a sample food for analysis, he shall give notice in writing then and there that it is his intention to have it so analysed to the person from whom it has been taken. He must divide the samples into three parts and one must be send to public analysts and the rest must be kept with the public (health) authority. He needs to pack, seal and dispatch the samples to the food analyst.

Section 19 of the PFA Rules asks the food Inspector to add the preservative as prescribed from time to time to the sample for maintaining suitable conditions for analysis. Not only the food inspector, any person whether a consumer or any other officer have to add the preservative when he takes the samples for the purpose of analysis. Otherwise the sample may change its real form in the normal temperature. The nature and quantity of the preservative added shall be clearly noted on the label affixed on the container.

Under this Act the food inspector is given wide discretionary powers. As mentioned in the above paragraphs he needs previous approval from Local (health) authority in many matters, but there is no clear elaboration on the matters he will require such prior permission. There is no adequate check on the food inspector. Unlike other government officials who have fixed job charts and supervision, the food inspector is relatively autonomous, which increases the chances of him/her being a corrupt officer.

There are numerous cases of graft and corruption by food inspectors. The local health authority, many a time also has no direct check on his/her acts. Park opined that food inspectors find food adulteration a fertile ground for making money (Park, 2000). In Delhi, it was observed that there is an Anti Corruption Cell in the state directorate. In paper at least any person or vendor has the right to complain to the Anti- corruption cell, but how far these systems are working properly in checking corruption is questionable.

The food inspectors who were interviewed in the Delhi region complained vociferously about the working of the PFA Act. They complained about over burden at work and lack of assistance. In addition to lifting samples they have to attend to court procedures. They also complained that they are often misused by powerful people and used free of cost to check the quality of food served in their parties. A food inspector cited an instance when he had to lift a sample in a Prime Minister's party.

Under section 10(7) they need witness when they confiscate records from the food vendor. In most of the cases drivers or assistants if any accompanying the food inspector acts as witnesses. While the vendors should be compensated for the items lifted from them, if food inspectors are not reimbursed that amount on time, the vigor and interest with which food inspector discharges his duty gets affected.[21]

The other side of this picture is that the food inspectors are making difficulty to food vendors by affecting their sale for a whole day, not paying the money for the samples they are taken, not returning the documents even after months etc. The food vendors in Chandi Chowk area are remembering many corruption incidents with food inspectors. The vendors have to give them bribe for unnecessary harassments. Vendors do not believe in anti-corruption cell where they can give complaints.[22]

3.7.2 Public Analyst

Public analyst is a key person for the implementation of the PFA Act. He is the officer who analyses the food samples sent by the food inspector or any concerned authority under his direct supervision. The public analyst sends the report of the result of analysis to the concerned Local Health Authority. On the basis of his analytical results, a sample

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21 Researcher's conversation with Food Inspectors in PFA Directorate in New Delhi.

22 Researcher's conversation with Food Vendors in Chandni Chowk area, New delhi

can be declared adultered unambiguously. A greater responsibility lies with the Public Analyst as, on the basis of his report a conclusion is drawn, as to whether the prosecution should be launched. He is a key witness once the prosecution process starts.

Under Section 13(2), the report of Public Analyst is also expected as corroborated, in case the defense chooses to challenge the report. To ensure justice and fairness, the section itself stipulates that the public analyst shall have no interest in the manufacture, import and sale of any article of food. If it is found so, he shall be disqualified for holding the post.

If the sample is found genuine, intimation is sent to the person from whom the sample was lifted. In case the sample was found adultered, the food inspector investigates the case. Prosecution is launched in the special designated court for the purpose and intimation is sent for this action to the vendor. The vendor can approach the court within a period of ten days for sending the other counter part to the Central Food Laboratory if he feels the report sent by the Public Analyst was not correct. An ordinary person, being a purchaser can also ask the public analyst to test the samples by paying the prescribed fees. If that sample is found adulterated, the fee will be refunded.

A Task force report submitted in 1995 has observed that different procedures for analysis are followed in different parts of the country. This is technically undesirable and legally unsound. Therefore the taskforce prescribe a uniform method of analysis for a particular type of food through out the country. In the absence of uniform methods of analysis adulterers can get away by citing conflicting results from different government laboratories (Mahindru, 2000).

3.8 Standards

There are specific standards prescribed for different food items in the Prevention of Food Adulteration Rules, 1955. For every food item there is a prescribed standard in the Act. Definitions and specific quality standards for certain food products such as processed cheese, ice cream, spice mixes, milk and milk products, infant foods, vegetable oils and margarine, fruits and vegetable products and basic food items like wheat, rice and pulses are laid down in appendix B of Prevention of Food Adulteration Rules 1955. Permissible list of food additives and maximum limit of contaminants are laid down under separate

rules. Total standards under PFA are on commodity standards, food additives, non-nutritive sweeteners and food additives are also compulsory under Bureau of Indian Standards Certification (BIS) (Sardana, 2006).[23]

The definitions and standards of quality of food products are detailed in Rule five Appendix B of the Food Adulteration Rules 1955. It contains all foods items including beverages, starchy foods, spices and condiments, sweetening agents, coffee, tea, edibles fat, milk and milk products, salt, fruit products, edible oils, cereals, sweets and confectionary, food colours, packaged drinking water etc. When there is no particular product standard for a specified final product in PFA Rules, the standards of the ingredients must be used as the parameter to measure its standard.

In India, there is two system standards exist. The Ministry of Food and Consumer Affairs is the main government agency dealing with product standards for consumption of domestic market. Other ministries and systems also have its own system of framing and notifying product standards. Like PFA standards, Fruits Products standards etc. State governments also have their own systems of adoption of standards, notably in the area of weights and measures. Under Ministry of Food and Consumer Affairs, the Bureau of Indian Standards (BIS) is the main standards setting body in the country for all domestic requirements. It sets voluntary standards that can be acquired to indicate the quality of the product by the use of "ISI" mark. BIS is an enquiry point in the country under the WTO agreement on Technical Barriers to Trade (TBT). For exporting products, Marine Export Product Development Authority (MEPDA) and Agriculture Produce Export Development Authority (APEDA) set up standards of safety and quality. These agencies are actively involved in the implementation of policies relating to product standards. Government has also created Export Promotion Council (EIC) under Export Quality Control Inspection Act, 1963, to ensure the sound development of export trade through quality control and inspection. This council is expected to notify commodities, establish standards of commodities, specify type of quality control and prohibit export if the product is not confirming the quality (Mehta and George, 2005). This two standard system affects the

[23] Under notification no 44 (RE-2000) 1997-2002 dated November 24, 2000 requires all manufacturers and exporters whose products are sold in India are required to register with the bureau of Indian Standards (BIS).

overall working of the PFA Act in setting. Sardana argues that this differnciation in food safety standards is a shameful admission that Indian manufacturers cannot offer the same safe food to common man in India (Sardana, 2006).

3.9 Labeling Requirement for Food Products

Part VII of the PFA Rules and Standards and Weights and Measures (Packaged Commodity) Rules, 1977 lay down the labeling requirements for all packaged foods. In Agricultural Marketing (Agmark) Act, Fruits Products Order, 1955, ISI mark by Bureau of Indian Standards, the Edible Oil Packaging (Regulation) Order 1988, Atomic Energy (Control of Irradiation of Food) Rules, 1996, The Vegetable Oil Products Regulation Order, 1988 are also laid down procedures for labeling for different food products. The label should provide information related to name, trade name or description contained in the package, name of the ingredient used in the product in descending order of their composition by weight and volume, name and complete address of manufacturer, packer, importer, or vendor and country of origin of the imported food, net weight, number, or volume of contents, distinctive batch, lot, or code number, month and year the product was manufactured or packed, month and year the product is best consumed and maximum retail price.

Where applicable, the product label should also contain information like, the purpose of irradiation and license number, in case of irradiated food, extraneous addition of colouring matter, non vegetarian food (any food which contains whole or part of any animal origin as an ingredient, not including milk or milk products), must have a symbol of a brown colourfilled circle inside a square with a brown outline to be prominently displayed on the package, contrasting against the background of the principal display panel, in close proximity to the name and brand name of the food. Vegetarian food must have a symbol of green colour filled circle inside a square with a green outline to be prominently displayed on the package, contrasting against the background on the principal display panel, in close proximity to name or brand name of the food. There are many such specifications in the Act. For example for artificial sweeteners, infant foods, condensed milk, milk powder, blended vegetable oil etc. labels must be printed in English or Hindi.

PFA gave regulations on packing and container requirement for certain commodities like baby food, weaning food, biscuits, bread, coffee, tea, butter, vegetable oils, milk powder, wheat and rice flour. Use of materials such as polyvinyl chloride is not allowed in packing in most cities, due to environmental concerns over waste disposal.

Appendix two of Rule five of the PFA Rules also prohibits certain kinds of labeling. Sometimes companies use labeling to mislead public about the nature, origin, composition and properties on the labels. Hence the Act prohibits medicinal or health claims and pictorial devices meant to create such confusion.

3.10 Licensing

Section 50 of the PFA Rules reads that 'no person shall manufacture, sell or stock, distribute or exhibit for sale any article of food, including prepared food or ready to serve food except under a license'. The state government or the local authority appoints the licensing authority. The products that come under fruits products order, 1955, Solvent Extracted Oil, De-oiled meal and Edible Flour (Control) order 1967, Meat Food Products order, 1973 are exempted from taking license under the PFA Act. For separate manufacturing units separate license is needed. Before giving the license, the licensing authority shall be satisfied that the unit complies with all the necessary provisions of the Act. The manufacturing units must take necessary steps to ensure safety that include proper storage facilities and proper waste disposal system. The unit should ensure that employees working in the food-processing unit are not suffering from any contagious diseases.

3.11 Penalties

After confirming that the food articles are adultered, the local health authority with the report of the public analyst, initiate prosecution in a court of law. The Metropolitan Magistrate or Judicial Magistrate of the first class must precede the case. There are different kinds of penalties prescribed for different kinds of adulterations. Adulteration is considered as a criminal offence. The term of imprisonment and fine varies according to the severity of the offence. If the adulteration causes death the penalty can be life imprisonment. Fine varies from 500 to 5000 rupees.

If the vendor attempts to destroy the sample kept with him it is also considered as a criminal offense. The vendor cannot prevent the food inspector from exercising his powers conferred under the Act.

If a company commits the offence, the company has to nominate a person as authorized person to deal with the case and from then on he will be considered as the person who is responsible for the offence.

The vendor is not deemed to have done the offence if he has purchased the articles from another licensed manufacturer that articles are found to be adultered with in the warranty period. The ignorance of the misbranded or adultered articles found with him will not save the vendor from the liability of the offence.

With consultation of the Central Committee for Food Standards, the Central Government can make some rules on important matters like licensing, defining standards, controlling sale, production and distribution, restriction on labeling and packing, defining methods of analysis etc. Matters like defining the duties of food (health) authority, directing fees are dealt with by the State Government.

The Act provides under section 24, the state government has powers to make separate rules for state administration, after consultation with the Central Committee of Food Standards. It is subject to the condition of previous publication. Section 23 empowers the Central Government to make rules. Hence, the power of the state under section 23 is not in contrary to the powers of the Central government. As per Section 24, in different states, there are different state rules for governing food adulteration. Each State Government and Union Territory has created its own organization for implementation of the Act and Rules framed there under. The Governments of Delhi and West Bengal made PFA rules in 1956; Andhra Pradesh, Kerala and Rajasthan in 1957; Bihar, Himachal Pradesh and Punjab in 1958; Orissa in 1959; Assam, Karnataka in 1960;Gujarat and Tamilnadu in 1961; Madhya Pradesh in 1962; Pondicherry in 1970 and Uttar Pradesh in 1976. The states have taken two to twenty two years to make the rules. This itself reflects the lack of interest in this important area of functioning (Mahindru, 2000).

In table – 2 gives details of number of samples to the number of cases pending in the courts. The table reveals that number of convictions under the PFA has been very low during the last 10 years. More than 62,282 cases are pending in different courts of India during 1992-2002. The number of samples taking is a steady process and it is going on in a certain percentage for the whole years. The percentage of adulteration varies from 8.1 to 11. 8. In the year 2002, out of 10025 samples found adulterated only 10 % is convicted and 62282 cases are pending in the court. This shows the sluggishness of legal system in our country.

Table – 2, Working of the Prevention of Food Adulteration Act 1954, 1992-2002

Year	No.of Samples Examined	No.of samples found adulterated	No.of prosecutions launched	No.of convictions	No.of cases acquitted	No.of cases pending in the court of law
1992	111591	11853	6104	1170	2003	47266
1993	99278	8562	4978	1049	2080	47080
1994	107360	10370	7755	2038	2284	53320
1995	103638	9424	6909	1726	1587	44658
1996	106229	11221	7873	1576	1934	61019
1997	95110	9315	5909	1612	2101	55124
1998	96479	7834	4520	990	1725	48261
1999	88929	8197	5114	1214	1721	50015
2000	82701	8877	4532	789	1584	35899
2001	93335	11008	6752	1284	1459	53664
2002	85588	10025	7281	1014	1316	62282

Source: Health Information of India, 2005

3.12 Regulations on Factors Affecting Food in Various Stages from Production to Preparation in the PFA Act

As mentioned in Chapter Two, foods get contaminated as it undergoes processing at different stages and at different places. PFA Act tries to regulate food quality by checking it at different stages of production and distribution. Under PFA Rules, there are provisions for controlling preservatives, poisonous metals, crop contaminants and naturally occurring toxic substances, flavouring agents, food additives, insecticides and pesticides, and irradiation of food items. The Rules put restrictions on sale and use of a

number of different food articles specified that could cause any kind of harm to human health.

3.12.1 Colouring

Rule 23 to 31 of the PFA Rules prohibits the use and addition of certain kind of colouring matter in food. If there is any unrelated or extraneous colouring matter added, it should be specified on the label attached. The Rule gives the list of natural colours which can be used in food. Use of inorganic colouring matters and pigments is prohibited. Synthetic colours can be used only in specified food items like ice-cream, milk lollies, flavoured milk, ice-cream mix powder, biscuits, non-alcoholic carbonated beverages, processed fruits etc. These synthetic colours shall be pure and free from any harmful impurities. The Rule also gives the maximum limit of permitted colours.

3.12.2 Preservatives

Preservative is defined in the PFA Rule as 'a substance which when added to food, is capable of inhibiting, retarding or arresting the process of fermentation, acidification or other decomposition of food. Preservatives are divided into different classes as class I, class II preservatives. The Class I preservatives are salt, sugar, spices, honey, vinegar etc. The class II preservatives include acid or acid based preservative materials. The list also mentions the food items in which class II preservatives can be used.

3.12.3 Poisonous Metals

The Act gives the list of foods and the given limits the poisonous chemicals in that particular food in Parts per million by weight. The listed food articles cannot contain excess amount of poisonous metals specified in the list. The food articles in the list vary from beverages to infant milk and many processed foods. The poisonous metals specified are Lead, Copper, Arsenic, Tin, Zinc, Cadmium, Mercury, Chromium and Nickel and excess amount of these metals having serious health implications.

3.12.4 Crop Contaminants and Naturally Occurring Toxic Substances

A crop contaminant is defined in the PFA Rules as any substance not intentionally added to food, but which gets added to articles of food in the process of their production (including operation carried out in crop husbandry and veterinary medicine),

manufacture, processing, preparation, treatment packing, packaging, transport or holding of articles of such food as a result of environmental contamination. Aflatoxin is considered as a crop contaminant and the Rules specified the limit of it.

Naturally occurring toxic substances specified in the Rules are Agaric acid, Hydrocyanic acid, Hypericine and Saffrole. These are occurring naturally in food articles in any stage from production to preparation. The maximum limit of these substances is specified in Rule 57B.

3.12.5 Anti-oxidants, Emulsifying and Stabilizing and Anti-caking Agents

An anti-oxidant is a substance which when added to food retards or prevents toxic contamination or deterioration of food and does not include natural substances like sugar, cereal, oils, flours, herbs and spices. The anti-oxidants that can be used in food items are lecithin, ascorbic acid and tocopherol. These are the antioxidants that have no adverse health effects. Rule 59 give a list of the anti-oxidants that can be added to edible oils and fats except ghee and butter.

Emulsifying and stabilizing agents are substances which, when added to food are capable of facilitating a uniform spreading of oils and fats in water-like media or vice versa. The rule prohibits the use of emulsifying and stabilizing agents that are not specified in the rule.

3.12.6 Flavouring Agents and Related Substances

PFA Rules restricts the use of flavouring agents in any food items other than specified in the Rules. Flavouring agents include flavour substances; flavour extracts or flavour preparations, which are capable of giving flavouring properties. The PFA Rule 63 gives three types of flavouring agents. They are

1. Natural flavours and natural flavouring substances
2. Nature identical flavouring substances
3. Artificial flavouring substances

Rule 63 A gives the list of flavouring agents are prohibited in any article of food. The Rule prescribes the flavouring agents may contain permitted antioxidants, emulsifying

and stabilizing agents and food preservatives. The extraneous addition of flavouring agents is to be mentioned on the label in capital letters.

3.12.7 Food Additive Regulations

The PFA Rules specified carryover principle applies to the presence of additives such as colours, flavouring agents, anti-oxidants, anti-caking agents, emulsifying and stabilizing agents and preservatives in food.

PFA Act also prohibits the sale of fresh fruits and vegetables coated with waxes (both edible and non-edible), mineral oils and colours.

3.12.8 Insecticides and Pesticides

The PFA Rules include a list of food items in which pesticide residues can be found and it prescribes the respective tolerance levels for each food item. 71 pesticides are listed in Part XIV of PFA Rules foe which Maximum Residue Limits (MRL) notified. 181 pesticides registered for regular use in India. For an additional 50 pesticides, MRLs are finalized and draft notifications has issued under PFA Rules. There are 27 pesticides that do not require MRLs. For the remaining 33 pesticides, MRLs have not yet been established. The WHO standard, Codex Maximum Residue Limits is accepted for imported foodstuffs.

3.12.9 Irradiation of Food

Food irradiation is a food safety technology designed to eliminate disease-causing germs from foods. Treating food with ionizing radiation can kill bacteria and parasites that would otherwise cause foodborne disease. The effects of irradiation on the food and on animals and people eating irradiated food have been studied extensively. These studies show clearly that when irradiation is used as approved on foods, disease-causing germs are reduced or eliminated, the food does not become radioactive, dangerous substances do not appear in the foods, and the nutritional value of the food is essentially unchanged.[24]

Food irradiation is permitted as a processing method in India and PFA Rules gives specifications on the dose and process of irradiation methods. Irradiation works by

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[24] http://www.medicinenet.com. last accessed on June 12, 2007

splitting chemical bonds in molecules with high energy beams to form ions and free radicals.[25] The Food and Drug Administration, U.S.A. agrees with many findings of the studies that irradiated food do not demonstrate any adverse health effects.[26] PFA Rules define irradiation as any physical procedure involving the intentional exposure of food to ionizing radiations and irradiated food means articles of food subjected to radiation by Gamma rays, X-rays and sub-atomic particles. The food irradiation plants need approval and license from Atomic Energy (Control and Irradiation of Food) Rules, 1991 and comply with the standards prescribed in Rule 73 to 78.

3.13 Criticisms and Remedies

The PFA Act was apparently influenced by the conditions of the times in which it was created. The economy then was characterized by food shortages that created opportunities to profit from adulteration. The accent in the Act was, therefore on prevention, through threat of prosecution, states E S Venkataramiah, former Chief Justice of India, in his Preface to the report of the task force on food laws, January 1996 (Mahindru, 2000).

The Supreme Court in a judgment dated 8th February 2004 held that the state food or health authority has no power to prohibit the manufacture, sale, distribution of any article not used as food. Such a power can only arise as a result of wider policy decisions and emanates from parliamentary legislation. Hence the Supreme Court scraped the notification of the Tamilnadu government banning sale and distribution of chewing tobacco, pan masala and gutka under the clause (iv) Section 7 of the PFA Act 1954.[27] This shows handicap of the health authorities in regulating articles other than food items under the PFA Act. In a similar case, when Government of Kerala, banned Coco-cola in shops of Kerala for health reasons and pesticide residue issues, the High Court quashed that order in favour of colas. The Court order was based on the provision that the power

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25 Potential health hazards of food irradiation, U.S. Congressional Hearings Into Food Irradiation in House Committee on Energy and Commerce Subcommittee on Health and the Environment on June 19, 1987. http:// www ccnr.us.in

26 ibid. http://www.ccnr.US.in FDA Federal Register 51, April 18, 1986, p 13 385

27 see www.tnhealth .org last visited on 9/6/07

to put total banning of a food product is lies with the Central Government, not with the state.[28] This shows the handicap of state authority.

In September 1998, 47 people died and more than 1400 were admitted in hospital in the National Capital of Delhi, after taking adulterated mustard oil. The consumer activists and even the government felt that the PFA Act enacted four decades ago should be amended. The loose worded PFA provisions were ineffective and traders got away with adulteration using the many loopholes in the law.[29]

Park (2000) considers that the general public, traders and food inspectors are all responsible for perpetuating the evil of food adulteration. The Act prescribes many provisions for food quality control and many measures for ensuring safe food. There are qualified, high-ranking, local licensing authorities with legal control over food distribution and food vendors. There are guidelines on hygiene and norms prescribed for food manufacturers and small vendors. But there is little observance of these norms due to paucity and lack of proper inspection by Food Health Authorities. The numbers of unauthorized manufacturers and vendors are increasing in many areas.

One of the main defects Mahindru (2000) points out in the PFA Act, is that it is targeted at food in commerce, i.e. processed food, not home made food. Most of the people in India are dependent on home cooked food especially in rural areas. As of now it is impossible to check the cases of contamination of home cooked food, which he saw as a major source of adulteration and contamination. Contamination of home cooked food is mostly due to the contamination and adulteration in the ingredients used in the preparation of home cooked food. The PFA Rules gives standard specifications for all food items including rice, wheat, Atta, Maida, salt etc that we are making. But the problem is how far these standards are maintained by vendors and checked properly by food inspectors. Proper monitoring of the regulatory mechanisms can go a long way in checking contamination of home cooked food too by ensuring that its ingredients are not adulterated.

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28 in many areas of India, coca-cola was banned on the issue of pesticide residue is found with it. In chools and other educationsl institutions are the main places the cola was banned by many state governments of Karnataks, M. P., Gujarat, Rajastan. Kerala was the Only state put the total ban.

29 http://www.Indian Express.org , September 7, 1998 access on 24/4/07

In urban areas, besides home cooked, a large percentage subsists on street food, or on food from local eateries. It is the largest food sector in India and is largely unorganized, independent and small producer sector and serves the poor and lower middle class. The health concerns of poor and lower middle class should also be addressed by the regulatory mechanisms without it ending up as harassment for the small vendors. The rich people utilize better restaurants and eat packaged and processed food and food of better quality (Mahindru,2000).

Another important drawback pointed out by Dheram is that the disadvantage, our industries are facing in market due to the PFA regulation. With the reduction of trade barriers due to WTO agreements, several products are being imported into the local market from different countries. A number of these products are of better quality and variety because of the use of additives and preservatives proven to be safe in the international markets. Indian industry however cannot use some of these additives, as the PFA would not permit the use of these. A number of the PFA Rules go to the extent of defining the permissible quantities of additives and preservatives rather than prescribing the minimum safety levels, as practiced internationally. This puts Indian food manufacturers at a disadvantage when competing locally or internationally in the market (Dheram, 2006). The Act is geared more towards punishing offenders than towards helping business to understand and comply with regulations. . Mere taking samples for testing cannot ensure overall food safety. The manufacturing units should be given proper guidance to avoid adulteration and contamination problems in storage and transportation. This should start from the agricultural farm to ensure overall food safety.

Sudhozae (2003) feels that the large number of rules and regulations and their multiplicity and consequent overlapping between the enforcing agencies is a hindrance in the development of food industry. Dheram also argues that The PFA Act's over-regulatory and policing nature has been a cause of severe confusion to the industry. It worked as one of the factor in hindering the development of the food industry. These rules are enforcement cum prosecution based, resulting not only in corruption, but also in harassment of the manufacturers. The victims are generally small scale and tiny manufacturing units running with limited capacities, managed and supervised, and

marketed by them. Both representatives of the food industry and food processors feel that it is not solving their problems.

The main reason of improper working of the Act lies in the bottlenecks related to monitoring and implementation of the Act. The authorities should check adulteration at the manufacturing stage rather than concentrating on catching adulteration of the final products.

The Local health Inspector, Food Analysts and food inspectors are not in adequate number to handle all the food related problems in the sector (Dharam, 2006). The Prime Minister's Council on Agro Food Industries 2002 considers that in a country like India, where the food industry comprised of lakhs of people, it is difficult to look at every activity of theirs. There are only 4000 food inspectors, and to look after all affairs of food industry, there need of at least 20000 (GOI, 2002). To confound matters food inspectors rarely have scientific background the main concern most of the time being a obsessive attention legal technicalities (Mehta & George, 2005).

Given the very limited funds available to inspectors for purchasing food samples for testing, the slow disposal of court cases, it is apparent to food sellers that the law is short on credibility (Gupta, 2005). The food inspectors in PFA Directorate also pointed out inadequate funding for purchasing samples and lack of adequate assistants as mains problems they face in their duty.[30]

The overall feasibility of the Act is also questionable since, like every other legal instrument, in this Act also there are many loopholes for the offenders to escape from their liabilities. The lack of successful administration made the Act to deviate from its objective. Many of the terms defined in the Act create ambiguity and lack transparency. For many of the food articles, standards are not prescribed (Rath, 1985). When the adulteration cases come before the court, in most of the trials, Magistrates have a predetermined punishing attitude and thus several decisions have been reversed either at sessions or in the High Court (Mahindru, 2000).

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[30] Researcher's Conversation with food inspectors, PFA Directorate, New Delhi.

Monica Das Gupta gives some drawbacks of the Act from the Public health point of view. She said the government is not showing any interest in updating and framing the public health acts. In her words "Since colonial era, the Public Health Acts, which constitute the legislative frame work of public health provision, have not been updated and rationalized." The author feels the PFA Act is one of the few pieces of public health legislation, which is still widely known to be in force. The Act has several serious deficiencies that prevent from effectively protecting food safety, and focuses almost exclusively on food adulteration. In the Act, there is large volume of detailed regulation, but only a few paragraphs pertain to food hygiene.

The PFA Act was not updated to take care of the phenomenal changes in food technology, food habits and food consumption to suit the needs of different classes of consumers. It was not in conformity with international norms and standards in every sense.

It is this background of severe leveled against the PFA Act from different quarters, from food industry to public health analysts that a need for a new law was felt. The drafting of a new law became almost mandatory following the new developments in food industry after the introduction of privatization and liberalilization policies.

CHAPTER IV

CHAPTER 4

Food Safety and Standards Act 2006

4.1 Background

The food regulations play a very important role in every country to ensure the health of the people and thus consuming safe food. The increasing number of food borne diseases at the national and international level, many innovations in the field of food technology, increasing awareness of the people through various channels like media and other information systems like NGO's pressurised the governments in most of the countries to make changes in their existing food regulations (Vapnek and Spreij, 2005). The harmonization of food safety and standards at the international level by various agencies like World Health Organisation (WHO) and Food and Agricultural Organization's (FAO) Codex Alimentarius Commission (CAC) rules, World Trade Organization's (WTO) Sanitary and Phyto Sanitary (SPS) Agreement and Technical Barriers to Trade (TBT) Agreement also worked as trigger for change in national food laws in tune with these global standards. Most of the developing countries already had global standards in consonance with these agreements. The increasing competition from the developed countries in the international market is also a supporting factor for reformulating the developing country's food safety standards. This chapter examines the provisions of Food Safety and Standards Act 2006 (FSSA) and its relation with the international food safety standards.

4.2 International Food Safety Standards and Agreements

When the importance of world trade and awareness of health effects of unsafe food increases among the people, countries began to give importance to quality standards in import and export of food and thus to protect their people from food-borne pathogens. Miyagishima and Kaferstein (1998) point out that food safety standards and codes of hygiene practice have been applied internationally as a tool to protect consumer health. The consciousness of quality of citizens transferred to nations and then to whole world. The neo classical argument in economics states that, producers will produce various kinds of quality foods and consumers will choose the precise quality combinations that

maximise their satisfaction (Deodhar, 2005). Maximum satisfaction is the ultimate aim and all other factors contribute to it.

Deodhar says external regulations are necessary to face the market failure by contamination or food poisoning. Even the low level of pesticide residues and toxins can be dangerous to human health. Many new production and processing methods also raises many health and environmental hazards. National regulations and technical specifications alone cannot solve the problem of food quality. When the importance of global food trade increases, the international food safety standards are working as a quality measurement mechanism in the import and export of food. The global standards are working as a guideline for designing national food safety regulations. It will decrease the unsafe food issues atleast in member countries. Export rejection on the basis of quality problems are a common feature in international trade. In countries like Europe and the US, the food safety standards are strictly followed and all exports to these countries have to meet these standards (Ghodke and Pandhya 2005).[1] The adoption of global standards on food safety and quality will solve much of these problems. These international standards help to improve public health and effective food safety systems in member countries. The various international agencies involved in setting food standards are discussed below.

4.4 Codex Alimentarius Commission (CAC) Standards

During the second half of the 19th century saw the first general food laws adopted and basic food control systems put in place to monitor compliance. When chemicals were used to disguise the true colour or nature of food, the concept of "adulteration" was extended to include the use of hazardous chemicals in food. Canning[2] was invented in early 1800s. In the mid 1800s, first general food laws are adopted and enforcement agencies were established. In the Austro-Hungarian Empire between 1897 and 1911, a collection of standards and product descriptions for a wide variety of foods was

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1 There are many cases of Indian products are rejected by many developed countries. The latest example was the rejection of red chilly powder mixed with Sudan dye, a red colour powder by many countries (Pilkhane, 2005).

2 Canning is a method of preserving food by first sealing in it in air-tight jars or cans, then heating it into a temperature that destroys contaminating microorganisms.

developed as the *Codex Alimentarius Austriacus*. The present-day Codex Alimentarius draws its name from the Austrian code.[3]

In 1903, International Dairy Federation develops international standards for milk and milk products. In 1945 FAO is founded with responsibilities covering nutrition and other international standards. In 1961, FAO decides to establish a Codex Alimentarius Commission. In 1963 the Codex Alimentarius Commission was established with a mandate to establish food standards. Codex Alimentarius is a collection of standards, codes of practice, guidelines and other recommendations. Codex standards usually relate to product characteristics and may deal with all government-regulated characteristics appropriate to the commodity, or only one characteristic. Maximum Residue Limits (MRLs) for residues of pesticides or veterinary drugs in foods are examples of standards dealing with only one characteristic. There are Codex standards for food additives and contaminants and toxins in foods that contain both general and commodity-specific provisions.

Codex is the principal international agency entrusted with the harmonisation of food standards. The objective of Codex standards is to protect the health of the consumers, to ensure fair practice in food trade and to promote the coordination of all food standards work undertaken by national governments.[4] The activities of codex are bi-dimensional. First, standards are being established on general subjects, like the standards on food additives, pesticide residues, food hygiene, analyses and sampling, food labeling and general principles. Secondly, commodities are being defined and the composition, purity, pollutants and food additives are agreed on fats, oils, and fishery products, processed fruits and vegetables, meat and meat products, processed meat products, cocoa products and chocolate, sugars, and food for special dietary use (Khanna and Saxena, 2003, Leonard, 1978).

The codex rules are internationally adopted food standards covering all the principal food trading internationally, whether processed, semi processed or raw. It had also established standards for MRL of pesticides in foods and animal feeds, residue levels

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3 http://www.fao.org/docrep/008/y7867e/y7867e03.htm#bm03, last accessed on 15 June 2007.

4 http://www.codexalimentarius.net, last accessed on 12 June 2007.

for veterinary drugs in foods of animal origin and acceptable levels for food additives and contaminants. There are two types of codex committees to draft food standards and related texts. One is Commodity Committees and other is General Subject Committees. Commodity Committees are known as 'vertical' committees because they develop standards that apply to aspects of specific food. This committee's subject matters range from fresh fruits and vegetables to processed meat and poultry products. Currently there are eleven such committees, which are active.

4.3.1 Commodity Committees

1. Committee on Cereals, Pulses and Legumes
2. Committee on Cocoa products and Chocolate
3. Committee on Fats and Oils
4. Committee on Fish and fishery Products
5. Committee on Fresh Fruits and Vegetables
6. Committee on Meat and Hygiene
7. Committee on Milk and Milk Products
8. Committee on Natural Mineral Waters
9. Committee on Processed Fruits and Vegetables
10. Committee on Sugars
11. Committee on Vegetable Proteins

General Subject Committees deal with 'horizontal' subjects such as food hygiene, labeling, additives and contaminants etc. cutting across different types and classes of foods. These committees develop concepts and principles applicable to foods in general or applicable to specific foods or group of foods, reviewing provisions in the Codex committee standards and developing recommendations pertaining to consumer health and safety. There are nine General Subject Committees.

4.3.2 General Subject Committees

1. Committee on Food Additives and Contaminants

2. Committee on Food Hygiene
3. Committee on Food Labeling
4. Committee on General Principles
5. Committee on Import/Export Inspection and Certification Systems
6. Committee on Methods of Analysis and Sampling
7. Committee on Nutrition and Foods for Special Dietary Use
8. Committee on Pesticide Residues
9. Committee on Residues of Veterinary Drugs in Food [5]

Apart from these committees there are Ad hoc Task Forces also to deal with specific problems and issues. The Adhoc Task Force functions in the same manner as Codex Committees except that they are dissolved after the specific work is completed or the time limit allocated for the work has expired. There are an increasing number of countries harmonizing their national laws with the Codex standards for facilitating international trade and to pace with the desire of consumers all over the world to have access to safe and nutritious foods.

4.4 World Trade Organization's Sanitary and Phyto Sanitary (SPS) and Technical Barriers to Trade (TBT) Agreements

The WTO was established in 1995 with the conclusion of the Uruguay Round of multilateral trade negotiations. The WTO has created international trade agreements, ministerial decisions and declarations to rule international commerce. Both the SPS and TBT Agreements came out as result of the Uruguay Round of multilateral trade negotiations of WTO in December 1993 (WTO, 1995).

The SPS agreement stipulates how governments can apply food safety, animal and plant health measures within the WTO framework. The SPS agreements allow countries to restrain trade for legitimate reasons, including health and also require that such measures should not unnecessarily restrict trade. The SPS agreement deals with the specific risks to health and contains specific rules for countries that want to restrict trade

[5] http://www.fao.org/es/esn/codex, last accessed on 13 June 2007.

to ensure food safety and the protection of human life from plant or animal borne diseases. However, these measures should be subject to a scientific basis to justify trade measures aimed at justifying a health risk. If available scientific evidence is not sufficient, article 5.7 of the SPS agreement permits adoption of provisional measures (WHO/WTO, 2002).

There are different quality and safety norms for the same products in different countries. Considering these disparities in food trade, safety and quality issues, the need for a global mechanism and framework to address these problems was felt. If there is no such mechanism, single nations can impose higher standards and ultimately it will act as a non-tariff barrier to food trade against the concept of smooth, predictable and free trade flows. The SPS agreement has directly dealt with food standards and the TBT agreement is more concerned with labeling and packaging of food products.

4.4..1 SPS Agreement

The SPS Agreement is linked to the Uruguay Round Negotiations of WTO on the Agreement on Agriculture. In part VIII, Article 14 of the Agreement on Agriculture asks the member nations to agree to give effect to the Agreement on the Application of Sanitary and phyto-sanitary Measures. In seeking to reduce agricultural tariffs and subsidies, some members were concerned that countries might turn to the use of non-tariff barriers to protect domestic agricultural sectors; it could be tempting to use human, animal or plant health as an excuse to restrict trade. Such measures could negate many of the benefits from reducing tariffs and subsidies. This led to the negotiation of the Agreement on the application of such measures, known as sanitary and phytosanitary measures (WHO/WTO, 2002).

The agreement on the application of SPS measures outlines the rights and responsibilities of WTO members desire to apply measures to protect human and animal life and health (sanitary measures) and plant life and health (phyto-sanitary measures). Its objective is two fold. It aims to (i) recognize the sovereign right of members to determine the level of health protection they deem appropriate; and (ii) ensure that a sanitary and phytosanitary requirement does not represent an unnecessary, arbitrary, and scientifically unjustifiable or disguised restriction on international trade. In order to achieve its

objective, the SPS agreement encourages members to use international standards, guidelines and recommendations that are scientifically justified (WTO, 1995).

The SPS agreement clearly gives governments the right to restrict trade to achieve health objectives, but the measures applied must be based on scientific evidence. The SPS Agreement formally recognizes the food safety standards, guidelines and recommendations established by the FAO/WHO Codex Alimentarius Commission (Codex). The other recognized standard setting bodies by SPS are the International Office of Epizootic (IOE) and the International Plant Protection Convention (IPPC).[6] The member state's legislations on food safety are presumed to be consistent with the provisions of the agreement. The agreement reads "the members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of this agreement".[7] It allows the countries to set their own standards. But it also says regulations must be based on science. They should be applied only to the extent necessary to protect human, animal or plant life or health. And they should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail. SPS measures are defined as any measures applied to;

- Protect human or animal life from risks arising from additives, contaminants, toxins or disease causing organisms in their food, beverages and food stuffs;
- Protect human life from plant or animal carried diseases;
- Protect animal or plant life from pests, diseases or disease causing organisms;
- Prevent or limit their damage to a country from other countries through the entry, establishment or spread of pests (Jaiswal, 2003, WHO/WTO, 2002).

The SPS agreement confirms the right of nations to establish and use these measures to protect consumers, livestock, wildlife and plants, including important food crops. They must not constitute a disguised restriction on trade or be more restrictive to trade than is necessary for consumer protection. If the measure does not fit in the definition in the above, it is likely to be a TBT measure. While there is no overlap in coverage between

6 These are the international standard setting bodies under WTO.

7 Article 2, clause 1, SPS Agreement, http://www.wto.org, last accessed on 20 June 2007.

the two agreements, some times the same government regulations contain both the SPS and TBT measures. The distinction is purely legal. In practice, technical regulations being developed by governments do not always treat safety and quality issues separately. For example, a regulation on labeling might address both safety issues and information about content. Such a requirement would have to be notified under both Agreements. The 'safety' element would fall under the SPS Agreement and the 'content' element would fall under the TBT Agreement (WHO/WTO, 2002).

The SPS agreement allows countries to use different standards and different methods of inspecting products. So the question arises is that how can an exporter make sure that the domestic products are acceptable in an importing country. If an exporting country can demonstrate that the measures it applies to its exports achieve the same level of health protection as in the importing country, then the importing country is expected to accept the exporting country's standards and methods. The basic aim of the SPS Agreement is to maintain the sovereign right of any government to provide the level of health protection it deems appropriate, but to ensure that these sovereign rights are not misused for protectionist purposes and do not result in unnecessary barriers to international trade (Vapnek and Spreij, 2005).

The fundamental requirement of the SPS Agreement is that member countries have to be able to demonstrate, on the basis of scientific evidence, that there is definitely a risk to health, which justifies trade measures. Members have a basic obligation to ensure that SPS measures are applied only to the extent necessary to protect human, animal and plant life or health and are not maintained without sufficient scientific evidence except in certain circumstances.[8]

4.4.2 Technical Barriers to Trade Agreement (TBT)

The TBT Agreement seeks to ensure that technical regulations and standards, including packaging, marking and labeling requirements as well as testing and certification procedures do not create unnecessary obstacles to trade. The product specifications such as size, shape, weight and packaging material requirement including labeling and safety

[8] Article 2 and 5 of the Agreement deals with Scientific justification (WTO, 1995), http://www.wto.org, last accessed on 20 June 2007.

handling are standardized through this agreement. This covers all technical standards not covered by the SPS Agreement, and applies to all food products, including agricultural products. This agreement is also designed to protect exporters from unpredictable use of regulatory barriers by authorities in importing countries those who always look for a means to extend a measure of protection to domestic producers. Unlike the SPS Agreements, the TBT Agreement does not recommend the use of a specific international standard setting body. In practice, if a standard setting is fixed by the standards, guidelines, and recommendations of Codex in developing its national food related measures, these are supposed to comply with the TBT Agreement. To foster harmonisation, the TBT Agreement encourages member states to use international standards where appropriate, but does not require states to change their protection as a result. The TBT agreement emphasis on facilitation of trade and the SPS agreement gives importance to ensuring protection to human, animal and plant life or health care and scientific evidence and not used as a pretext for erecting technical barriers for the defense of domestic markets. The SPS measures deal only with the food and agricultural sector, while TBT measures refer to all products, food as well as non-food products (WTO/WHO, 2002, Vapnek and Spreij, 2005).

Many developing and under developed countries are the members of the WTO. Both TBT and SPS Agreements include special and differential treatment provisions to address the needs of these countries; even though limited technical, human and financial resources continue to obstruct many of these countries's ability to achieve their health and food safety objectives. While the countries have legislative and regulatory frameworks on sanitary and phyto-sanitary issues, many provisions are outdated and are not harmonized with SPS and TBT Agreements. More importantly, many countries face very weak constraints on their capacity to implement and enforce sanitary measures and technical regulations. Due to lack of infrastructure (regulatory and standardized bodies, accredited laboratories or other testing facilities to conduct risk analysis), many nations are unable to provide necessary scientific and technical justification for the sanitary measures they apply to food imports. In the case of India, the country lacks the necessary infrastructure to test and prove the arguments of the imported as well as domestic products. When one country has no adequate machinery and personnel, it is not in a

position to challenge and set necessary barriers on products. For many developing countries, lack of financial, human and institutional resources has been a major impediment to the full implementation of the provisions in the SPS agreements (Vapnek and Spreij, 2005, Jaiswal, 2003).

Although SPS and TBT agreements aim at fairer and rule based international food trade, there are some discriminatory provisions favouring developed countries. These have strategic implication for food trade. The concept of equivalence or the mutual acceptance of food system between the countries and the issue of transparency are the main issues affecting trade. The products exported have to go through a series of tests (Jaiswal, 2003). In an interview with a consultant, WTO Cell in Ministry of Health, he feels that the protectionist attitude of some countries especially the US and UK is negative in nature. There is no consideration for equalization of the products. The aspect of "I recognize yours and you recognize mine is not there."[9] According to him, the Indian product 'Chavanprash' is one of the best examples. The US government has not yet given the approval for import of Chavanprash to their country on the pretext that it contains heavy metal content. But at the same time there are so many products in the market causing bad effect on health. For example, in the US market, the liquors and cigarettes are available with the label it is injurious to health. This is the case in India also. It is doubtful that even with an "injurious to health" label, they can allow Indian Chavanprash into their domestic market. Many Indians in the US considers this product as an Indian traditional health diet. On the other hand, there is a flip side of the story also. Like Chavanprash, there are many similar products in other countries, and they also make voice for their traditional products and it will affect all import export system. But the main thing to keep in consideration is the food law that may not be negative in nature. [10]

Inspite of all the measures taken, Jaiswal (2003) argues that the benefit of liberalization in the processed food sector could be undermined, by the protectionist use

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9 Mutual recognition is considered as an important element in the international trade. But many countries are not recognizing it as a essential component. It follows the same principle of equivalence. If the exporting member objectively demonstrates to the importing member that its measures to achieve the importing members appropriate level of sanitary and phyto sanitary protection, the importing member is obliged to accept these measures.

10 Researcher's conversation with the consultant in WTO Cell, Ministry of Health, Nirman Bhavan, New Delhi.

of sanitary and phyto-sanitary measures by some countries. India needs to evolve a two-way approach; to improve quality standards and initiate domestic reforms in the food sector, and to have a strategy in place to renegotiate discriminatory provisions at WTO forums in association with other developed countries. Indian Food is capturing markets in many parts of the globe. For example in the UK and US, Indian foods are in high demand and many people prefer to have it. The food culture should not suffer by these regulations. The new Food Safety and Standards Act 2006 in India should enable and facilitate the raising of standards and competitiveness of Indian products.

However, laws, regulations and standards developed at the international level cannot be 'imported' as their effectiveness depends on their suitability in specific national contexts. Each country requires policies and legislation tailored to its needs, based on an in-depth analysis of the circumstances in the country, including its existing legislative and regulatory frame work for food, policy objectives, institutional capacities and social ecological, political and social conditions. At the national level, widespread consultation among governmental and non-governmental institutions, central and local authorities, community groups and private sector actors will inform the drafting of a sound and workable nationally adapted regulatory framework based on international norms (Echolas, 2001).

4.5 International Agreements and India

India is a signatory to WTO and an active member of Codex Alimentarius Commission and other international treaties governing food trade. According to the constitution, India is a sovereign nation and can frame its own regulations to govern its economy and also protect and address its legitimate interests and concerns as well. Most of India's agriculture and food regulations are inline with international guidelines but may not be the same as other countries.[11] It is because of the fact many countries are setting their national standards according to their regional conditions as per the SPS measures. It is the main factor affecting global trade.

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[11] Canadian Embassy Report on Food Safety, 2005, http://www.canada. fsreport/cer.in.com, last accessed on 2 February 2007.

India has a national Codex Committee, which have representations from government and consumer organizations. This expert body recommends mandatory national food standards under PFA Act.[12] In PFA Act, the scientific panels and their working are as per Codex guidelines. Many of the food standards are in consonance with Codex standards. Only the regional foods are the exception, because they have no specified standards in Codex.

In the international dynamics of food safety, many countries are looking at Indian products as unhygienic and unhealthy containing many ingredients causing ill health. The consultant in the WTO Cell, Ministry of Health, opinioned that "partly we are also responsible for this attitude, the picture that other countries are getting from media; the vendors selling products sitting in the roadside covered with dust and filth are shown on many television channels. The psychological setup of foreigners makes them fear the unhygienic food situation in India." They are looking at Indian products with this prejudice in mind that Indian products are barely keeping safety standards.[13] This worked as barrier for trade and to adopt strict procedures.

4.6 Food Safety and Standards Act, 2006

The PFA Act had many drawbacks in its implementation, enforcement and monitoring. It was more of bureaucratic and punitive in nature. Krishnair (2006) opined that the crucial aspect of justice is happiness, health and humanism of the people and their peaceful progress. As a manmade institution, the shortcomings of the PFA Act needed to be eliminated by another legislation that has a vision of progressive transformation from the old one. But that transformation must be with the vision of people oriented, progressive and imaginative. The Food Safety and Standards Act should be analysed using the above parameters of justice and efficiency. The President of India signed the FSSA 2006 on August 24th 2006. It is in force by central government notification in the government gazette. Different provisions will come into force separately and the Rules of this Act are under process by the government.

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12 http: //www.fao.org, last accessed on 19 February 07.

13 Researcher's conversation with a consultant, WTO Cell, Ministry of Health, New Delhi.

Along with the PFA Act, there were many orders like Fruits Products Order 1955, Meat Food Products Order 1978, Edible Oil Packaging Regulation Order1998, etc to control the food sector in India. All these are made by the central government in the area of food trade, to monitor trade practices, and quality of the food available to the citizens. There are many mandatory regulations and voluntary standards also. The concerned products had to comply with these standards when they come to market. Different ministries like Ministry of Agriculture and Ministry of Health, Ministry of Consumer Affairs etc administered these orders. For example, The Fruits Products Order was handled by Ministry of Food Processing Industries, Agricultural Produce (Grading and marketing) act under Ministry of Agriculture etc. The notifications issued from time to time by various agencies overlapped the authority of each other. The FSSA combined many of these rules and PFA Act under one integrated food law. This will help to avoid the multiplicity of regulations and complexities in administration in food business. It provides a single window administration in the food sector. Similarly all authorities set to have refined and standardized the food regulation process by avoiding duplication of efforts, conflicting actions and gaps in coverage.[14] Enactment of this Act resulted in the repealing of Prevention of Food Adulteration Act and seven other related orders in the food sector and modification of seven other laws. The main idea of this legislation is to abolish the multiplicity of food laws and other associated laws. The regulations and orders that are likely to be repealed are:

- Prevention of Food Adulteration Act, 1954: As discussed in chapter 3, this act aims at preventing food adulteration. This came into force in 1954 issued under Essential Commodities Act. The new food Act gives a more comprehensive approach to prevention of food adulteration by integration of all laws.
- Fruits Products Order, 1955 (FPO): this order promulgated under section 3 of the Essential Commodities Act 1955, aimed at regulating the production, distribution and quality of fruit and vegetable products manufactured in India. It also applies to sweetened aerated water, vinegar and synthetic syrups. The FPO was

[14] Many authors like Vivek (2005), PHD Chamber of Commerce and Industries, (2005), Dheram (2006), FICCI working paper, (2007), Chitale (2006) are pointing out these good effects of the FSSA.

implemented by Ministry of Food Processing Industries through the Directorate of Fruits and Vegetable Preservation at Delhi. In case of variation in the product standards between the fruits order and PFA Rule, the PFA Rule has to apply. It made mandatory for all manufacturers of fruits and vegetable products to register and obtain license under this order and periodic inspections were carried out. Now, under the new Act, the license is obtained from Central Food Authority.

- Milk and Milk Products Order, 1992: This order also issued under Essential Commodities Act to regulate the production, supply and distribution of milk and milk products through out the country and it is administered by the Department of Animal Husbandry and Diary under the Ministry of Agriculture. It specifies the sanitary requirements for the entities involved in the production, distribution and supply of milk products. This order aims at maintaining an increased supply of liquid milk for a desired quality to the general public and to ensure the observance of sanitary requirements of Diaries, machinery and premises, and quality control standards of milk and milk products

- Meat Food Products Order, 1973: This order also issued under Essential Commodities Act to cover the sale of raw and processed meat. This was implemented through the Ministry of Agriculture. It provided for sanitary and other standards, limits of heavy metals, preservatives and insecticides residue for meat food products and addresses the good hygienic conditions of slaughter houses and manufacture of meat products.

- Vegetable Oil Products (Regulation) Order. 1998: This order aimed at control the manufacturing stage of vegetable oil products. Under this order, the units which are equipped with processing facilities for the manufacture of vegetable oil products namely, refined solvent extracted oil, vanaspati, margarine, bakery shortening, fat spread, blended oils and also equipped with laboratory testing facilities to check the quality of the products in accordance with the standards of quality of the products prescribed under the Order were eligible for grant of registration. The new Act does not treat vegetable oil as a separate category and thus there is no need of this legislation.

- Edible Oils Packaging (Regulation) Order, 1998: This order is to ensure the availability of safe and quality edible oils in the packed form at predetermined prices to the consumers and to make packaging of edible oils, sold in retail, compulsory unless specifically exempted by the concerned state government. This order ask the packers to register, set their own analytical facilities, confirm the standards of the order, show the relevant particulars on the pack and confirm the standards under Weights and Measures (Packed Commodities) Rules, 1977.
- Solvent Extracted Oil, De oiled Meal, and edible Flour (Control) Order, 1967: This order is basically a quality control order to ensure that the solvent extracted oils in particular are not made available to the consumers for consumption before the same have been refined in confirmation with the quality standards specified in the order for the purpose. The Order governs the manufacture, quality and movement of the solvent extracted oils, protects the consumer through quality assurance, eliminates the possibility of diversion of the oils, prohibits any solvent not confirming the quality standards and asks for particulars declared on the label affixed to the container.
- Infant Milk Substitutes, Feeding Bottles and Infant foods (Regulation and Production, Supply and Distribution) Act 1992 and
- Any other orders issued under the Essential Commodities Act, 1955 relating to food.

The laws that would see modification are:

- Standards of Weights and Measures Act, 1976
- Packaged Commodity Rules, 1977
- Export (Quality Control and Inspection) Act, 1963
- Environment Protection Act, 1986
- Environment Protection Rules, 1989
- Bureau of Indian Standards Act, 1986

- Agricultural Produce (Grading and Marketing) Act, 1937
- Customs Act, 1973
- Foreign Trade (Development and Regulation) Act, 1992 and
- Several Other Acts and orders of the state governments and union territories regarding food.

The discussion for a new law redressing many of the drawbacks of the PFA Act was under consideration of Ministry of food Processing industries early as 2002. A Task force under the chairmanship of late Chief Justice of India, E. S. Venkataramaiah, under Ministry of Health in 1995, a subject group on food and agro industries appointed by Prime minister's council on trade and industry 2002 and the Standing committee of Parliament on Agriculture in its 12th Report submitted in April 2005 had emphasized the need for a single regulatory body to deal with food related matters and an integrated food law (MFPI, 2005).

The Standing Committee on Agriculture in 2005 says multiplicity of food laws and standards setting and enforcement agencies pervades different sectors of food, which creates confusion in the mind of consumers, traders, investors and manufacturers. Provisions regarding admissibility and levels of food additives and contaminants, food colours, preservatives etc. and the requirements of labeling have varied standards under these laws. The standards are often rigid and non-responsive to scientific advancements and enforced by multiplicity of inspectors under various laws. More over, the food laboratories and other resources under various authorities are not effective in setting food standards and their enforcement. The Committee supported the need of a new food law for regulating the quality of food and growth of food processing industries. The Prime Minister's Council on Trade and industry in 1998 and Joint Parliamentary Committee (JPC) on Pesticide Residues in 2004 also recommended for a comprehensive legislation.

The way to the Food Safety and Standards Act started in 2002 when a group of Ministers constituted 'to propose legislative and other changes for preparing a modern integrated food law and related regulations.' In May 2002 the Federation Indian Chamber of Commerce and Industries (FICCI) drafted a model of integrated food bill and Ministry,

of Food Processing Industries supported it.[15] In February 2005, Ministry of Food Processing Industries presents the First draft of the Bill for public comments. After the first and second round of comments and redrafting in August, 2005 Bill presented to Parliament. Parliament refers the Bill to Agricultural Standing Committee for further debate amongst MPs and other stakeholders. Agriculture Standing Committee constituted a committee under Dr. Masalkar to decide on the implementing authority. The committee entrusts Ministry of Health and Family Welfare to be the implementing Authority of the Act. The Agricultural Standing Committee conducted a series of meetings with different stakeholders between September and December 2005. In 2006 April, the final draft along with the comments of the Agricultural Standing Committee was presented before Parliament. In August 2006 the Parliament passed the Bill. In January 2007 the President endorsed the Food Safety and Standards Act 2006 and Ministry of Health and Family Welfare, the implementing Authority commences the process of Implementation.

The Act included all salient provisions of the PFA Act and improved many ambiguous definitions in the PFA Act. It simplified many terms and reduced the complexity in interpretation. The Act is based on international legislations like SPS and TBT Agreements and WHO/FAO Codex Alimentarius commission guidelines. International standards have been used extensively as a reference point to define categories, acceptable residue limits in food. Many new innovations like Genetically Modified foods, organic foods and food safety management system are included under the purview of the Act. The Act proposes establishment of a new regulatory authority called the Food Safety and Standards Authority for reorganization of scientific support to the food chain through the establishment of an independent risk assessment body.

4.7 Implementing Authority of the Act

Regarding the implementation of the Act, there was a controversy between the Ministry of Food Processing and Ministry of Health. The government has entrusted the job to the Health Ministry as per the recommendation made by the Standing Committee on Agriculture, 2006. The Standing Committee report reads as " Since the analysis of food

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15 A Working paper on food safety Law by Federation of Indian Chamber of Commerce and Industries (FICCI). http://www.ficci.documents accessed on May 2007.

article is crucial for food safety and health of the consumers, the Committee recommended that the Food Safety and Standards Act should be administered by the Ministry of Health as they have a lot of experience in the field with fully equipped labs for testing of food samples" (MFPI, 2006). The food processing industry was not in agreement with the decision of the government. Since the law was drafted by the Ministry of Food Processing and gave more importance to the food processing industry, they want the power of implementation also with them. The representatives of food processors association also supported the position of Ministry of Food Processing Industries on the fact that it would help the growth of the food processing industry.

At the same time the personnel in the Ministry of Health, WTO cell in Ministry of Health and many NGO's are in support of Health Ministry. They said Food safety is definitely a matter of health and health ministry has to deal with the implementation of the Act.[16] The commercialization and improvement of food-processing sector are important area for Ministry of Food Processing. At the same time, Ministry of Health considers public health as the main concern and safe food is an essential component of it. They also argue that when there is a clash between the two ministries, the public is going to suffer. If the Ministry of Food Processing Industry handles it, it will deteriorate the importance of public health and the vision of the food law will clash with the perspectives of Ministry of Food Processing. Prabhudatta and Kumar (2006) argue that the law is created with the aim of development of the food-processing sector. Food processing industry set to attract massive investments into the growing segment and yet this nodal ministry is kept out of a key function.

The office bearers of Food Processors Association and the Ministry of Food Processing criticized the Health Ministry that "if the ministry is not capable of handling its own issues, how come it want to control the fast developing food processing sector?" Food processors assert that ministry of health does not have the infrastructure or technical expertise regarding food products, food processing, technology or standards. They also pointed out that as a separate ministry has come up to deal with the food processing; that is Ministry of Food Processing Industries, and since health ministry is also burdened with

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16 Researcher's conversation with personnel in Ministry of Health, consultant in WTO cell in Ministry of Health and NGO's

too many responsibility which they are at a loss to handle like TB, Malaria etc., It will be appropriate if Ministry of Food processing handle the implementation of the law (Kaul, 2006).

Considering these controversies, the Cabinet constituted a Group of Ministers under the Chairmanship of Shri Sharad Pawar[17] to study the Act and make recommendations to decide which ministry will be the best one to do the implementation. The Group of Ministers had given the power to the Prime Minister to decide. The Prime Minister, instead of taking a decision, asked Dr R A Mashalkar, Director General, CSIR,[18] to advice who should have the controlling power. Dr Mashalkar agreed with the opinion of the Standing Committee on Agriculture, 2006 that proposed Health Ministry to be the nodal agency to implement the law (Prabhudatta and Kumar, 2006). Finally, in January 2007 the government decided that the Health Ministry will implement the Act.

A Standing Committee on Agriculture was constituted on 5th August 2005 named 'Standing Committee on Agriculture' to examine Food Safety and Standards Bill, 2005 after its introduction in the Parliament. By hearing the views of representatives of different Ministries, Associations and NGOs the Committee submitted its report on 10th February 2006. The Committee had given 26 suggestions and out of which 21 was accepted and included in the Food Safety and Standards Act 2006. When the Act was brought before the Parliament, many Members expressed their views in the Parliament during discussion. Most of the members are happy with the fact that many standing Committee recommendations are included in the Act. The members felt that those recommendations not taken into consideration should be also added in the Act. Many of them expressed their worry about the impact of this Act on the unorganized sector.

4.8 Objective of the Act

The objective of the Act is stated in its preamble as "Act to consolidate the laws relating to food and to establish the food safety and standards authority of India 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

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17 Shri Sarad Pawar is Presently Agriculture Minister at the Government of India.

18 Council for Scientific and Industrial Research.

consumption." Then the Act has four objectives; (i) to consolidate the laws relating to food, (ii) to establish the food safety and standards authority for laying down science based standards, (iii) to regulate manufacture, storage, distribution and sale and import of articles of food to ensure availability of safe and wholesome food for human consumption, (iv) pool infrastructure, manpower, testing facilities for better standards fixation and enforcement through their proper reorganization.[19]

The main objective of the Act is to ensure availability of safe food for human consumption and other objectives are to consolidate the food laws and establish the Food Safety and Standards Authority of India. There is confusion among some writers about the main objective of the Act, whether establishing Food Safety and Standards Authority is the prime aim or whether it was to ensure safe food (Baisya, 2005). But the main aim of any food law is to ensure the manufacture and distribution of safe food apart from all other things.

The Standing Committee on Agriculture in its report (2005) identifies eight main objectives of the Act.

1. Single reference point for all matters relating to food safety relating to food safety and standards and regulations
2. Lay food standards based on science, transparency and consultation
3. Effectively regulate manufacture, storage, distribution and sale of food to ensure consumer safety and promote global trade
4. Integrated response to strategic issues like novel and genetically modified foods and international trade
5. Shift from mere regulatory regime to self compliance through food safety management systems
6. Rationalize and strengthen existing enforcement mechanism

[19] Information note distributed by MFPI, August Kranti Marg, New Delhi.

7. Provision for graded penalties depending on the gravity of offence and accordingly, civil penalties for minor offences and criminal action for serious violates
8. Pool infrastructure, manpower, testing facilities for better standard fixation and enforcement through their proper re-deployment (MPFI, 2005).

The Act has 12 chapters containing 102 clauses and two schedules.

4.9 Definitions in the Act

Chapter one of the FSSA has given all definitions of the related words that need clarification to make interpretation easier. The Act defines *adulterant* under section 3(1) (a) as any material that is or could be employed for making the food unsafe or sub branded, misbranded or containing extraneous matter. Adulteration is an act with intention to make the food article unsafe for human consumption. The intention is the main component of the act of adulteration.

4.9.1 Extraneous matter : Section 3(1)(i) defines extraneous matter as any matter contained in any articles of food which may be carried from raw material, packaging materials or process systems used for its manufacture or which is added to it, but such matter does not render such articles of food unsafe. Then the definition of adulteration and extraneous matter are contrasting with each other. Extraneous matter makes the articles of food adulterated. Then adulterated food and unsafe food are different. The meanings are ambiguous. For instance, under this same definition what will happen if an Ant enters inside a bottle of honey after processing? Whether it makes the honey unsafe or not is in question under this definition (Baisya, 2005).

4.9.2 Adulteration and Contamination: The Act gives the distinction between adulteration and contamination. Adulteration is an intentional act and contamination is not intentional and can happen in situations beyond individual control. Section 3 (g) defines contaminant as substance, whether or not added to food, but which is present in such food as a result of production (including operations carried out in crop husbandry, animal husbandry or veterinary medicine), manufacture, processing, preparation, treatment, packing, transport or holding of such food or as a result of environmental

contamination. This definition of contamination provides the clear distinction from what is meant by adulteration. But Codex guidelines define contaminant as "Any substance not intentionally added to food, but which is present in such food as a result of the production..." The omission of the phrase 'not intentionally' from the definition in the Act could result in cases where yeast added to bread might be called a contaminant (Madhavan and Sanyal, 2006). Baisya (2005) argues that when water is added to milk whether it is contaminated, adulterated or a product having extraneous matter remains contentious. It falls under more than one category and whether it is unsafe or injurious to health needs to be interpreted.

An adulterant is one, which makes food unsafe. Under section 3(1)(zz) unsafe food means an article of food whose nature, substance or quality is so affected as to render it injurious to health. Just defining unsafe under one definition and injurious to health under another definition makes more confusion among interpreters. The Act says contaminants do not include insect fragments, rodent hairs and other extraneous matter. It is a surprising as to why these things are not considered as contaminants. The law considers these things as taken for granted in the processes of production preparation and processing.

4.9.3 Food

Section 3 (1)(j) gives the definition of food. Food is any substance, whether processed, partially processed or unprocessed, which is intended for human consumption including primary food, GM or engineered foods or food containing such ingredients, infant food, packaged drinking water, alcoholic drink, chewing gum and any substance including water used in the food during its manufacture, preparation or treatment. Under the PFA Act, the definition of food does not include water and it raised ambiguity in interpretation. Another fact we can see from this definition of food includes packaged drinking water and any substance used in the manufacture, preparation or treatment of food. The pesticide residue case of Colas[20] reflects the importance of the issue of pesticide residues and there fore the Act takes into consideration the pesticide limits and

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[20] In 2003, a NGO named Centre for Science and Environment announced the findings of its study on the levels of pesticides residues present in bottled drinking water sold in the country. The data revealed a high content of five different pesticides in these samples, being many times more than what has been internationally approves as a safe limit for these contaminants. The investigation included in all 30 different brands sold in Delhi and Mumbai (Aiyer, 2003).

periodic checks for that. The pesticide residue in Colas was a very controversial issue in recent time. It is evident that the Act has taken into cognizance some of the recent litigations by civil society organizations and public activists against some corporates on the harmful contents of food. (Vivek, 2005)

The definition of food does include any animal feed, live animals unless they are prepared or processed for placing on the market for consumption, plants prior to harvesting, drugs and medical products, cosmetics, narcotic or psychotropic substances. The residues and contaminants are also not food.

4.9.4 Misbranded and substandard Food

The Act gives separate definitions for misbranded and substandard food items. Misbranded is misleading and imitation of other food items and substandard are those items which do not meet the specified standards but not so as to render the article of food unsafe. Under PFA Act there is no such distinction as misbranded or substandard. Everything is dealt within one definition.

The FSSA gives a lot of emphasis on the scientific evidence in the cases of establishing risk in food. T he words like risk assessment, risk management, risk analysis, risk communication etc are defined in the Act. The Codex and SPS agreement gives very much emphasis on science based standards. We can see this as an attempt to go in line with international regulations on food safety where any claims on risk into human, plant and animal health due to any food-item has to be established on the basis of scientific tests.

The Act also mentions certain terms like 'Food Safety Management System' whose definition calls for the adoption of Good Manufacturing Practices, Good Hygienic Practices and Hazard Analysis Critical Control Point. This definition needs further clarification as to what is meant by this Good manufacturing Practices, Good Hygienic Practices and Hazard Analysis Critical Control Point.

4.10 Administration

4.10.1 Food Safety and Standards Authority

The Act has a three-tier structure. An apex body called Food Safety and Standards Authority (Food Authority), a Central Advisory Committee with various scientific panels and Scientific Committees. With these three, the Act is expected to lay more emphasis on science based and participatory decisions and adopting contemporary approach in both standard setting and implementation.[21]

One of the main features of this Act is the creation of Food Authority to lay down science-based standards of articles of food to regulate their manufacture, storage, distribution, sale and import. A scientific committee, several scientific panels and central advisory committee will assist in specifying the standards to Food Safety and Standards Authority. The Authority shall consist of a Chair person and other 22 members from different ministries like agriculture, commerce, consumer affairs, food processing, health, legislative affairs and small scale industries and representatives from industries, consumer organizations, farmers union, retailer's union and experts in food technology etc. One of the other specialties of Food Authority is that out of its 22 members out of which one third shall be women. In the context of 33% women representation issue, this is a welcomed step.

Composition of Food Authority

Chairperson	1
Members from Central Government Ministries	7
Members from Union territory/states	5
Representatives from food industry	2
Representatives from consumer organizations	2
Food technologist or scientist	3
Farmer's organization	2

[21] The Food Safety and Standards Authority is not set up till date.

Retailer's Organisation	1
Total	23

Source: FSSA 2006

In the discussion on the Act, before passing it in the Lok sabha, Ramdass M, Member of Parliament, pointed out the need of a representative from Ministry of Agro-processing to be included in the Food Authority. Bhikram Kashari Rao Member of Parliament, pointed out that Food Authority and Committee is dominated by the bureaucrats, who can just go and create troubles for the small retailer. There are seven Joint Secretaries representing different ministries in Food Authority.[22]

4.10.2 Duties and Functions of Food Authority

a) *Setting-up of Food Standards* : The Food Authority is responsible for setting standards and guidelines in relation to articles of food and specifying an appropriate system for enforcing various standards notified under the Act. The food authority also set the maximum permissible limits for use of food additives, crop contaminants, pesticide residues, residues of veterinary drugs, heavy metals, processing aids, myco-toxins, antibiotics and pharmacological active substances and irradiation of food.

b) *Accreditation of Certifying Agencies* : The food Authority have the responsibility for designing mechanisms and guidelines for accreditation of certification bodies engaged in the certification of food business. Similarly the responsibility for the guidelines for accreditation of laboratories, the method of sampling and analysis for enforcement agencies also is with the food authority.

c) *Quality Control of the Domestic Market and Export* : the Food Authority shall set up the procedure and the enforcement of quality control and inspection in relation to commodities intended for export. The authority is also monitor the procedure for entry and approval of any article of food imported to India.

The Food Authority regulates and monitors the processing distribution, sale and import of food to ensure its safety. It has the power to specify the limits, guidelines, procedure, methods of sampling etc. In detail, the authority is the regulatory body in all

[22] Parliament Debates on Food Safety and Standards Bill, 2005.

food related matters. The Commissioner of Food Safety of each state through designated Officers and food Safety Officers would enforce the standards specified.

Under Section 16(6), 'the food authority shall not disclose third parties confidential information that it receives for which confidential treatment has been requested and has been acceded, except for information which must be made public if circumstances so require, in order to protect public health'. Under this provision, the food authority can keep any information confidential. Coke and Pepsi hid the ingredients of soft drinks from the Rajasthan High Court and Union Carbide hid behind Trade Secrets to not disclose the nature of the gas leak in Bhopal. Their right to keep it confidential is protected under this clause (Shiva, 2005). Vandana Shiva argues that food and health are too important to be sacrificed to corporate confidentiality. The Right to Information must be basis of any food safety law (Shiva, 2005). The right to information is affected with this clause and trade secrets of Coke and Pepsi are saved by this provision.

The Food Authority shall establish a Central Advisory committee to ensure close co-operation between the Food Authority, the enforcement agencies and organizations operating in the field. It also has a Chairperson and representatives of different sections of food industry and stakeholders. The Committee advises the Food Authority on the performance of its duties and in particular drawing up of a proposal for the food authority's work programme, identifying potential risks, prioritization of work, pooling of knowledge etc.

There is a clash in the function of Food authority and Central Advisory Committee. Being a part of food authority, the central advisory cannot work as a independent advisory committee. It advises food authority on identifying potential risks and pooling of knowledge. Identification of potential risks is also a function of food authority. If food authority need only advice, not the reliable data by surveying or any other method to support advises, there is no dual functioning.

Under section 13, the Food Safety and Standards Authority shall establish scientific panels and scientific committee. Scientific panels consist of independent scientific experts and Food Authority can establish as many scientific panels. The food authority depending on the requirements may reconstitute the scientific panels from time

to time. Scientific committees are constituted to provide scientific opinions to the Food Authority and to ensure consistency of the scientific opinion procedure. The scientific committee also has to adopt the working procedures and harmonizing of working methods of the scientific panel.

The scientific panels and scientific committees constitute as per the Codex Alimentarius Commission guidelines. In Codex also, there are different general and sub committees on different subjects. Like that, in FSSA also there shall be scientific panels on different subjects. The scientific panels can be on different subjects like :

1. Food additives, flavourings, processing aids and materials in contact with food
2. Pesticides and antibiotics residues,
3. Genetically modified organisms and foods
4. Functional foods, nutraceuticals, dietetic products and other similar products
5. Biological hazards
6. Contaminants in food chain
7. Labeling and
8. Method of sampling and analysis

4.11 General Principles of Food Safety

The Act prescribed under Section 18, the general principles to be followed for the administration of the Act for the Central government, State government, Food Authority and other agencies. The first principle is based on the World Trade Organization's food safety agreement named SPS Agreement. The section reads as "endeavor to achieve an appropriate level of protection of human life and health and the protection of consumer's interests, including fair practices in all kind of food trade with reference to food safety standards and practices." The appropriate level of protection of human life and health is the important element in the Agreement and its main aim is that all countries maintain

measures to ensure that food is safe for consumers, and to prevent spreading of pests or diseases among animals and plants (Mehta and George, 2005).

Section 18(g) of the Act says if any food which fails to comply with food safety requirements is part of a batch, lot or consignment of food of the same class or description, it shall be presumed as the whole batch, lot or consignment fails to comply with that requirement and the whole batch is considered as unsafe. If any part of the food article in a batch is unsafe and does not proved as safe then the whole batch or lot is to be replaced. It is presumed that if a part of a food article is unsafe, the whole is also unsafe.

The general principles of food safety also include the guidelines for food authority for framing the regulations and food standards. Under section 18 (2)(a), Act says Food authority must take into consideration of the "prevalent practices and conditions in the country" including agricultural practices and handling, storage and transport conditions in framing the regulations and framing of the standards. This clause is formed as per Article six of SPS agreement, which emphasized the prevalent practices existing in the country are taken into consideration while framing the regulations. The Article six reads, "The member countries shall ensure that their sanitary and phytosanitary characteristics of the area from which the product originated and to which the product is destined.

One of the main principles of food safety is determine the food standards on the basis of risk analysis. The components of risk analysis are discussed below:

4.11.1 Risk Management, Risk Assessment and Risk Communication

Section 18 (5)(b) and (c) says Food Authority shall determine the food standards on the basis of risk analysis except that is inappropriate to the circumstances of the nature and undertake risk assessment based on the available scientific evidence and in an independent, objective and transparent manner. The risk analysis is identified as an important element in food safety by FSSA. It gives much importance to the stages of risk analysis. As Chadha (2006) pointed, the key of the Act is science based risk assessment. He argues that the Food Authority and the Central Advisory Committee will also be guided by risk assessment while providing the level and use of food additives or prescribing the maximum level of contaminants. Hence it can be presumed that the

specification for safety would be prescribed keeping in view the safety levels suggested by experts.

The WHO Codex food safety guidelines supported the risk analysis as a key discipline for further reducing food–borne illness and strengthening Food safety systems. Now the risk assessment, risk management and risk communication are incorporated into specific discipline is known as food safety risk analysis. Risk analysis is a powerful tool for carrying out science-based analysis and for reaching sound, consistent solutions to the food safety problems. This approach is preferred as the way to assess possible links between hazards in the food chain and actual risks to human health (WHO 2006). WHO says risk analysis is one of the important elements in achieving food safety. Without scientific assessment of the risks involved in unsafe food, complete food safety is not achievable. Risk assessment is considered to be the 'science based' component of risk analysis, while risk management is the component in which scientific information and other factors, such as economic, social, cultural and ethical considerations are integrated and weighted in choosing the preferred risk management options. In fact, risk assessment may also involve judgments and choices that are entirely scientific and risk managers need a sound understanding of scientific approaches used by the risk assessors.

The interactions and overlaps of scientific and non-scientific values at various stages in risk analysis will help to identify the health risks related with food. Risk analysis is used to develop an estimate of the risks to human health and safety to identify and implement appropriate measures to control the risks and to communicate with stakeholders about the risks and measures applied. It can be used to support and improve the development standards, as well as to address food safety issues that result from emerging hazards or breakdowns in food control systems.

The Food and Agricultural Organization (FAO) and World Health Organisation (WHO), two important organs of the United Nations have played a leading role in the development of food safety risk analysis. In 1991, the joint FAO/WHO Conference on Food Standards, Chemicals in Food, and Food Trade recommended that the Codex Alimentarius Commission (CAC) incorporate risk assessment principles into its decision making process. The CAC adopted in 2003 the working principles for risk analysis for

application in the framework of the Codex Alimentarius developed by the Codex Committee on General Principles. As part of their work, they made a systematic framework for applying principles and guidelines for food safety risk analysis. Many countries incorporated much of this international work in their national legislation.

The WTO, SPS agreement also permits countries to take legitimate measures to protect the life and health of consumers provided such measures can justified scientifically and do not unnecessarily impede trade. Article 5 of the SPS agreement directs countries to ensure that their sanitary and phyto measures are based on as assessment of the risk to the human, animal and plant life or health taking into account of risk assessment techniques developed by relevant international organizations and bodies.

As we all know most of the processing practices in the country are traditional ways of drying and pickling and are done in traditional methods like drying in the sun and in the kitchen. 99% of the products are meant for Indian market also. Indian food systems are based on indigenous science, cultural diversity and economic livelihood in local food provisioning (Shiva, 2005). Then the scientific methods of risk management and assessment are difficult to implement.

4.11.2 Provisions Relating to Import

Section 25 of the Act gives the provisions relating to import of food items. It prohibits the import of any unsafe or misbranded or sub-branded food or food containing extraneous matter. The import of food items needs a license also. The provisions regarding the issue of import license and the import of food items shall be dealt with the provisions of Foreign Trade (Development and Regulation) Act 1992. Diseases like bird flu and BSE[23] are coming to India by import of food items and not originated in India. The act puts strict regulations on import and import license.

4.11.3 Special Responsibilities for Ensuring Food Safety

The Act gives certain responsibilities and liabilities to be followed by the food business operator, manufacturers, distributors and sellers. Under section 26, the food business operators are not to sell, distribute, and manufacture any article of food that is unsafe,

[23] These are the diseases transferred from outside countries through imported products. Bird flue is related with poultry and Bovine Spongiform Encepalopathy (BSE) is related with meat.

misbranded or substandard or contains any extraneous matter. The Act emphasizes that this is for the interest of public health and prohibits employing any person suffering from infectious/contagious diseases. This is with specific emphasis on public health to prohibit the exchange of any diseases through food and food making persons. The seller must ensure that the food item he is selling is safe and not going to affect the health of the consumers in any way.

The Act puts responsibility on the food business operators for ensuring that no food, that is unsafe, shall be placed in the market for human consumption. The food business operator must ensure that the food kept inside his shop is safe in every sense. The Act further repeating as on section 18, that where any food which is unsafe is part of a batch, lot or consignment of food of the same class or description, it shall be presumed that all the food in the batch, lot or consignment is also unsafe, unless following a detailed assessment with in a specified time, it is found that there is no evidence that the rest of the batch, lot or consignment is unsafe. This clause we can see with international standards (Vivek, 2005) that one part of the batch or its part is adultered or contaminated the whole batch is treated as unsafe food. The Act upholds this practice in India as well.

Apart from the responsibilities, the Act prescribes certain liabilities for manufacturer, packers, wholesalers, distributors and sellers under section 27 of the Act. If the food does not meet the requirement, rules and regulations of the Act, it is the liability of the manufacturer or packer.

Food Recall Procedures: The Act specifies the food recalling procedure under section 26(5). If the food does not conform to the safety procedures, the competent authorities have the power to impose restrictions on placing it in the market or to require its withdrawal from the market for the reasons recorded. Section 28 of the Act also deals with the food recall procedures from the part of the food business operator. If a food operator has the reason to believe that food is not in compliance with the provisions of the Act, he shall initiate the procedures to withdraw the food items from the market and he is having the responsibility to inform the authorities about that. The food recalling procedure is one of the main elements in the Food Safety and Standards Act 2006. If the

authority or the food vendor himself feels that the food is unsafe, it must withdraw from the market to protect the health of the public.

4.12 Enforcement

The Act shall be enforced through administrative machinery composing food authority, State Food Safety Authorities, Commissioner of Food Safety, designated officer and food safety officer appointed by the Food Authority. The Act empowers the Food Safety and Standards Authority and State Food Safety Authorities to monitor and regulate the food business operators. In FSSA, the state government has the power to create the state rules.

In every state, there shall be a Commissioner of Food Safety appointed by the State government and he shall be the monitoring person of the Act in respective states. He serves the function of prohibiting the manufacture, storage, distribution or sale of any unsafe food, carry out the survey of food manufacturing or processing units, conduct training programmes for the office personnel, ensure efficient and uniform implementation of the standards, sanction the prosecution for offences and such other duties prescribed by the State Government and Food Authority.

The Commissioner of Food Safety, Designated Officer and Food Safety Officer are the enforcing authorities of the Act in different states. The food safety officer is appointed by the Commissioner of Food Safety. Food safety officer's powers and duties are more or less the same as the Food Inspector in PFA Act. The food safety officer needs the approval of the Designated Officer for exercising his powers and authority.

4.12.1 Designated Officer

The Commissioner of Food Safety of each state appoints a Designated Officer, not below the level of Sub Divisional Officer, for a specific district whose duties include issuing or canceling licenses, prohibiting sale of food articles that violate specified standards, receiving reports of samples of food articles from food safety officers and getting them analysed. The State Commissioner, on the recommendation of the Designated Officer, decides whether a case of violation would be referred to court of ordinary jurisdiction or to a special court.

4.12.2 Food Safety Officer

The Food Safety Officer also is appointed by the Commissioner of Food Safety. There will a Food Safety Officer for every local area. The power of Food Safety Officer is very vast and he is the authority who enforces the Act in its full sense. His powers and duties are of same nature as of Food Inspector in PFA Act.

Powers of the Food Safety Officer: The food safety officer has the power to take samples of any food articles, which appear in contravention of the act and give it for analysis of the contents of that article. He can enter and inspect any place where food articles are manufactured, stored, exposed or exhibited for sale and where any adulterant is manufactured or kept and take samples of such analysis.

He can ask the food business operator to keep one sample in safe custody for future laboratory use. If it is found unfit for human consumption after testing, the food safety officer has the power to destroy the food item, after giving notice in writing to the food business operator.

Liabilities of Food Safety Officer: The Food safety Officer need prior permission from the designated officer or which he is subordinate for all his major actions like seizing of books of account or other documents. He shall call one or more persons to be present there as witness when he is taking custody of books of account and documents. The conversation with the food inspector in the Directorate of Prevention of Food Adulteration reveals that in most of the time the person assisting him is acting as the witness in most of the time and they tries hard to find the witnesses in that time. He must pay the cost to the articles he is taking from the food business operator as usually sold to the public.

Responsibilities of Food Safety Officer: He is responsible for the making the samples into three parts and sent one to the food analyst for analysis. He has to follow the same responsibilities as to the food inspector in PFA Act.

4.12.3 Food Analysis Laboratories

There are four main food laboratories in the country for analyzing food samples under the Act. In every district, there are local food laboratories. The notification of the food

laboratory is given by the Food Authority. The main authority in the Food Laboratory is the Food Analyst. Upon his report the court action is started. If the food vendor or manufacturer is not satisfied with the report of local food analyst; he can send it to the main laboratory. The infrastructure of the laboratories is not perfect to do the analysis of the imported products and prove their claims. Baisya points out that the facilities of our public health laboratories were always questioned by the industry in the past. Thus it is no wonder that we come to know about pesticide residue in food and beverage and contaminated food etc from independent laboratories and NGOs like Center for Science and Environment in Delhi (Baisya, 2005).

4.12.4 Licensing and Registration

Under Section 31, it is mandatory for all food business operators who manufactures or sells any article of food shall be carry the food business with a license. The important thing is that the food business operator does not have to seek license for capacity of installation, expansion of the scale of production of his production line. The license is for quality control, safety and hygiene and adherence of standards. Upon inspection of the premises, and being satisfied about the level of compliance to the standards, the Food Authority has to issue the license to the firm within the period of 30 days. The Act states " No person shall manufacture, sell, stock, distribute or exhibit for sale of any article of food including ready to eat food, irradiated food except under a license by the State Commissioner of Food Safety or its authorized officers" (section 31).

It further states "one license may be issued by the licensing authority for one or more articles of food and also for different establishments or premises in the same area. However, if the articles of food are manufactured, stored, sold, or exhibited for sale at different premises situated in more than one area, separate applications shall be made and separate licenses shall be issued in respect of such premises not falling within the same area." The Act prescribed even if the same food article, with same food vendor is selling or manufacturing at different places, there needs separate applications. Each shop in every area needs license to undertake business. After the expiry of the period of license, it needs to be renewed by giving applications again.

The petty manufacturers, retailers, hawkers or temporary stall holders shall register with the municipality or the Panchayat in the area. This provision will create many problems in implementation. The registration will happen only if they satisfy the prescribed conditions. It appears that any one selling food items requires a license which will include a grocer, a retailers, pan-bidi shops, small vendors even in rural India. Their numbers will be in millions. (Baisya, 2005)

In India, we have food business operators in two different sectors. One is organized sector consists of large manufacturers and the other is unorganized; small manufacturers or petty manufacturers and the second group is the large sector in the country. Over 85% of the food processing industry operates under small-scale sector (Kaul, 2006). If the law is prescribing high safety standards to get the license, it will affect their livelihood. Many of them cannot come up with such high standards. Writers like Vandana Shiva (2005) and Sharma (2005) argue that there should be different standards to be set at different level. When Vandana Shiva argues for standards at local and urban level as in the European Union, Sharma argues for different standards for small, medium and big food vendors. The Food Processors Association has so many problems with this provision. The secretary and president of All India Food Processors Association (AIFPA) said in an interview the government regarding this section does not hear many of their suggestions with regard to this provision.[24]

The Act provides for the serving of improvement notices on the food business operator whenever a general survey is carried out to find the effectiveness of the administration of the Act. If any deficiency is discovered, the improvement notices are served to them when the Designated Officer has reasonable ground to believe that the food business operator is failed to comply with any regulations in the Act (Section 32). This makes a shift from the trend of implementation through policing to education and self-regulation (Chadha, 2006). If food business operator fails to comply with an improvement notice his license may be suspended by the Designated Officer. Madhavan and Sanyal (2006) argue that the power to suspend the license with local officer offers scope for harassment and corruption. This power of designated officer will lead to

[24] Researcher's conversation with the Chief Editor, All India Food Processors Association Bulletin.

unnecessary harassment to the vendors in the local level and vendors find giving bribe is a way to keep out from the harassment. Then the corruption cases also will increase.

4.12.5 Traceability

The Act makes it mandatory for every distributor to be able to trace any food article to its manufacturer and every seller to its distributor. It is called traceability. So they can recall food items if they were found to have violated food safety standards (section 27). The aspect of traceability is enforced very effectively in many developed countries where there are large scale production and large farms and a important step to take cognizance of international standard. In a very vast area, there will be one product and it is easy to find out from where the product came. But in India the many farmers own only tiny piece of land it will be difficult to find from whose farm the product is made. It is similar in co-operative sector also to identify the traceability. For example in milk producing sector, the cooperative sector collects one or two liters of milk from every farmer. For most of the cooperative sector, the machinery to check the contamination and adulteration are not adequate in many areas. The traceability is difficult with the small quantity of collection and lack of proper machinery.

Traceability is one main point of discontent raised by the Halwai manufacturers Association. The Secretary of the Association gave an example of non-liability of the manufacturer. When a manufacturer is buying 'Maida' from a miller, there is 15.4 per cent moisture content. But the law allows only 14 per cent moisture.[25] It is not the fault of the manufacturer but of the miller. But when the sample is lifting from the manufacturer, law considers it as fault of manufacturer. Like these situations to put the onus on the manufacturer, the Association is against these positions of the law.

4.13 Food Standards

The Act prohibits the use of food additives, processing aid, contaminants, heavy metals, insecticides, pesticides, veterinary drug residues, antibiotic residues, or solvent residues unless they are in accordance with specified regulations. Certain food items such as irradiated food, genetically modified food, organic food, health supplements and

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[25] PFA Rules Annexure B 18.02.02 deals with the Maida, a mix of wheat flour and grondnut flour. The standard specified is that it cannot contain moisture not more than 14 percent.

proprietary food cannot be manufactured, processed or sold without adhering to specific regulations.

4.14 Food Safety Appellate Tribunal

The establishment of food safety appellate tribunal will make the dealings under the Act faster than PFA Act. The tribunal will expeditiously dispose off disputes. This is a good measure as under the old law the problem of backlog of pending cases in ordinary courts made the PFA Act ineffective in many respects.

In order to judge cases related to breach of specified regulations, the state government has the power to appoint an Adjudicating Officer, not below the rank of Additional District Magistrate. Any person not satisfied by the decision of an Adjudicating Officer has the right to appeal to the Food Safety Appellate Tribunal (or to the State Commissioner until the Tribunal is constituted). The tribunal enjoys the same powers as a civil Court and decides the penalty in case of non-compliance with the provisions of the Act.

The Central government and the state governments have power to establish one or more appellate tribunals. Government can also establish special courts for this purpose. The time limit prescribed for the trial of offence is one year. The maximum extended period is three years. This time limit makes the procedures faster than ordinary courts in food related cases. The appeal form the appellate tribunal goes to the High Court of the state.

4.15 Penalties

The penalties and fines are different for different kinds of offences. These penalties should act as a deterrent for food business operator and force them to comply with the standards specified in the food safety and hygiene. The penalties are prescribed for rendering food injurious to health, selling food complying without the food safety requirements, selling food not of the nature or substance or quality demanded, falsely describing or presenting food and in case of death or injury to the consumer by selling or manufacture of food article.

There are graded penalties for repeat of offences where the punishment depends on severity of the violation. Offences such as manufacturing, selling, storing or importing sub-branded or misbranded food incur a fine and more serious offences with imprisonment. Offences such as manufacturing, distributing, selling or importing unsafe food, which results in injury, could incur a prison sentence. The penalty for manufacturing or selling sub-branded food extends to rupees five lakhs, while for misbranded food it extends to rupees three lakhs. The sentence could extend to life imprisonment in case the violation causes death. The Act also made provision for compensation in case of injury or death of the consumer. Petty manufacturers who himself manufacture or sell any article of food, hawkers, vendors to temporary stall holders should be fined up to rupees 25 thousand if they violate the specified standards. This is lowest amount of fine and prescribed the relaxed amount only these kinds of food vendors. The amount of fines in the Act varies from rupees 25 thousand to ten lakhs for different offences.

The Act does not distinguish between small and large-scale industry as far as penalties are prescribed. This is one of the main criticisms many authors points out about the penalty clause. The Director of an NGO in South Delhi, criticizes the Act saying that it needs clear differentiation between small scale and large scale industries in the Act in every provisions like licensing, safety procedures and penalty. The penalty provisions should mention different amounts for small and large-scale manufacturers. Otherwise it will lead to the closure of business of many small businessmen by paying the huge amount and recovery procedures.[26]

4.16 Regulations on Factors Affecting Food in Various Stages from Production to Preparation in the Act

Chapter IV of the Act deals with the General Provisions as to the articles of food. In this chapter , the sections 19 to 24 gives the guidelines for protecting food stuffs from factors affecting food safety in different stages from production to preparation. Use of food additives or processing aid, contaminants, naturally occurring toxic substances, heavy metals, pesticides and anti-biotic residues, microbiological counts, genetically modified

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[26] Researcher's conversation with the Director, of a food related NGO in Delhi

foods, organic foods, functional foods, Proprietary foods etc. are given definitions and details of their specifications. But the specified limits and list of food items etc are not given in the Act. The forth coming Rules of the FSSA have had specifications on these subjects.

The Act prohibits the use of any food additive or processing aid which is not in accordance with the provisions of the Act. The processing aid is defined in the Act as any substance or material, used in the processing of raw materials that serve any technological purpose during treatment or processing and may result in the non-intentional but unavoidable presence of residues or derivatives in the final product. It does include any utensils, apparatus and food ingredient.

As the technology is advanced too much there are many processing methods are prevalent in the market. There are different varieties of food additives. Processing aids can any variety of food additives, but its residues will be there in the final product. The Act prohibits the use of contaminants, naturally occurring toxic substances and heavy metals that are not specified in the Act.

The Act also prohibits the insecticides or pesticide residue, veterinary drugs, antibiotic residues, solvent residues, pharmacological active substances and microbiological counts in excess of tolerance limits as may be specified. Insecticides cannot be used directly into any food articles except registered fumigants.

Section 20(2) (I) of the Act defines Pesticide Residue as any specified substance in food resulting from the use of a pesticide and includes any derivates of a pesticide, such as conversation products, metabolites reaction products and impurities considered to be of toxicological significance and also includes such residues coming into food from environment. The Act prohibits the use of specified pesticides. In India, we do not have proper mechanism to identify these pesticide residues in many kinds of food items by technological or any other methods (Sharma 2005, Sardana, 2005).

The Act also prohibits under section 22, the sale, manufacture, distribution or import of any kind of genetically modified articles of food, irradiated food, organic foods, foods for special dietary uses, functional foods, nutraceuticles, health supplements, proprietary foods etc. Foods for special dietary uses or functional foods or nutraceuticals

or health supplements is defined in the Act as 'food which are specially processed or formulated to satisfy particular dietary requirements needed for particular physical or physiological condition or specific diseases and disorders. The composition of these foodstuffs is different significantly from the ordinary foods of compatible nature. These kinds of foods contain the ingredients of plants partly or fully in the form of powder, concentrate or extract in water or in combination with water. It can be substances from animal origin. It also includes minerals or vitamins or proteins or metals or their compounds or amino acids or enzymes within permissible limits. They are not common foods, drugs or narcotic drugs.

The Act also gives the explanations for genetically modified foods, organic foods and proprietary foods. Genetically engineered or modified food means food and food ingredients composed of or containing genetically modified or engineered organisms obtained through modern biotechnology. Organic food means food products that have been produced in accordance with specified organic production standards. Proprietary and novel foods are article of food for which standards have not been specified but are not unsafe. Many writers are expressed their concern about the health effects these food items will cause in the future and how far these new technology can adopted in Indian situations. For example, genetically modified brinjal that are high yielding and is immune from pests are found in the Indian market in recent times. In India, Regulatory bodies like Genetic Engineering Approval Committee Bio technology Regulatory committee were considered inadequate to deal with genetically modified products. Many scholars have also pointed out the lack of transparency in the functioning of these bodies while dealing with the cases related to Genetically Modified Products (Nair, 2006). The Act specified that the manufacture, distribute, sell and import of these GM foods, irradiated[27] and organic food etc. is conducted as per government specifications.

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27 Irradiated food is articles of food subjected to radiation by gamma rays, X rays and sub atomic particles as per PFA rules 73-78. It is a method of sterilizing food by killing all micro-organisms with out affecting the quality of food. It is defined as the treatment of fresh or processed foods with ionizing radiation that inactivates biological contaminants (insects, molds, parasites, or bacteria), rendering foods safe to consume and extending their storage lifetime. http;//www.medicinenet.com accessed on 12, June, 2007

4.16.1 Packaging and Labeling of Food

Section 23 of the Act gives the guideline for labeling and packaging on food products. The section reads "No person shall manufacture, distribute, sell or expose for sale or dispatch or deliver to any agent or broker for the purpose of sale, any packaged food products which are not marked and labeled in the manner as may be specified by regulations". The international Codex guidelines will be followed in labeling. The labeling procedure is to give information about the contents of the products and it does not mean to mislead consumers about advantage of the product. If it is not complied with the provisions, it is punishable under the Act. But the purpose of labeling procedures is going to be advantageous only to certain section of the society. It cannot serve the illiterate persons, as only half of the Indians are literate.[28] They will believe what shop owner reads for them whether it is good or bad and it is for his profit or consumer benefit. Another factor is that most of the labels are written in English. English literates are very low in our country and it also affects the information through labeling.

According to consumer activists like Bejon Misra of Consumer Voice, a voluntary organization working in the food area, 80% of the imported food products to our country are violating all of the food laws. The consumers are easily attracted to the colorful packaging, but many of them don't even have the name and address of the manufacturer and expiry date (Bhagat, 2005).

4.17 International Agreements and its Influence on FSSA

The Act states Food Authority shall contribute to the development of international standards of food and SPS standards. The authority shall promote co-ordination of work on food standards undertaken by international governmental and non-governmental organizations. It is the function of the food authority to promote, co-ordinate and issue guidelines for the development of risk assessment methodologies; and monitor and conduct and forward messages on the health and nutritional risks of food to the Central Government, state government and Commissioner of Food Safety. The risk analysis is the main step adopted in FSSA to achieve health and avoid harm from food articles.

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[28] Researcher's conversation with the Secretary, Halwais, Bakers and Restaurants Association New Delhi.

The implementing provisions of the Act must take into consideration fair practices in trade, risk assessment, risk management, and scientific information as general principles of food safety. The risk analysis is one of the main components of food safety as per SPS Agreement and Codex rules. It is the first step to be in consonance with these international standards. Adding of this provision in FSSA points out India's initiative towards making Indian food articles pure and safe without any health risks in accordance with international standards.

Chapter III of the FSSA lays the general principles for food safety. All the general principles are in harmonization with Article 5 of the SPS agreement. The heading of the Article 5 of the SPS agreement is "assessment of risk and determination of the appropriate level of sanitary and phytosanitary protection". The Section 18 (1) (a) also says the same words as the guiding principles of implementing provisions 'endeavor to achieve an appropriate level of protection of human life and health'. The intention of the FSSA is being in harmony with SPS measures in basic health protection. Chapter III of the FSSA emphasizes scientific information in risk assessment, proportionate and no more restrictive trade, and review of measures depending on the nature of risk to life or health and taking appropriate steps as per Article 5 of SPS agreement.

The Act says prescriptions of standards must be taken into account of the prevalent practices and conditions in the country [section 18(2)]. This provision is taken from article six of the WTO SPS agreement. The Article says 'members shall ensure that their sanitary or phyto sanitary measures are adapted to the sanitary or phytosanitary characteristics of the area – whether all of the country, part of a country, or all or parts of several countries from which the product originated or to which product is destined'. The FSSA further stated in clause 2a (ii) of section 18, the provision is for securing objective of international regulations or scientific justification in a different level of protection. It is clearly in tune with SPS agreement Article 6.

The World Trade Organization influence language construction of the Act in many ways. The section 24 (2) read as 'No person shall engage himself in any unfair trade practice for purpose of promoting sale and supply'. The section prohibits the persons from engaging in unfair trade practices. Fair trade practice is one of the main

ethics to be followed in any trade. General Agreement on Trade and Tariff (GATT) of the WTO international agreement prohibits the unfair trade practice in world trade (WTO, 1995). The Act is not only par with international agreements, but has also indebted to most of the words and health measures.

4.18 Criticisms and Remedies

The law is made with the good intention of making the Indian food market qualitative in every sense. The Act have a wider reach in the industry since it replaces many old age laws amalgamated into one unified single Act. This is a big relief to the manufacturers and traders, as they now have to deal with a single agency as opposed to a multilevel diversified group of agencies worked under the 'License Raj' (Pilkhane, 2005). But people from different sections of society question most of its provisions including definitions and clauses. One of the main criticisms of the Act is that it is made in favour of Food processing Industry, to save the large players in the market. The licensing procedures, the safety regulations and penalty clauses are against the interest of the tiny, small and medium food industrialists. The food processors association, parliament debates, NGOs and researchers criticized the FSSA that it is created in favour of big players in the market. They come with the fact that food industry in India is comprised of much small scale and big manufacturing units scattered all over India. It varies from large food manufacturing and processing units to small bakeries. The food industries include all food manufacturers, street food vendors and even pan sellers. The small-scale sellers are large in numbers and they dominate the food industry. The food law needs to cover the overall activities of all these people in this industry in various stages from production to distribution (GOI, 2002).

The effect of the new food law on Indian food industry varies form large sector to small-scale units. The PFA Act has affected the sector mainly by the 'inspector raj' of food inspector, their corruption and various licensing provisions. But when this new law will come to effect they fear that it will go to affect their livelihood by many of its provisions. The General Secretary of Halwais, Bakers and Restaurants Associations said, 'the Act is not pinching us; rather it is a punch on us' (Prabhudatta and Kumar, 2006) The impact of the Act on organized and unorganized sector has differences and the terms are

not clearly defined. The Act asks the tiny, small and medium scale food industries for strict following of the safety procedures. Since these industries do not have the technical expertise to track the regulatory changes, they will find it difficult to identify the procedural and compliance changes brought out by the Act.

In Parliament debate on the Food Safety and Standards Bill, 2005 Veerendra Kumar, M.P. criticized the law very vigoursly by saying that this Act does not ensure food safety. He added that it is made for the safety of multinational companies not for common man of India and by dismantling the Essential Commodities Act, it is dismantling food security, not creating food safety. The discriminative use of the law is going to help the promotion of the big corporations.[29]

There is no reference in the objective of the Act on the most distinctive aspects of the Indian food systems i.e. indigenous science, cultural diversity and economic livelihoods in local food provisions. It is a well known fact that 99% of India's food is processed naturally and is for local consumption only (Pilkhane, 2005).The activists like Vandana Shiva (2005) expressed her concern about the effect of the Act on Indian food culture and traditional food vendors. Indian food laws needed to protect our diverse local food cultures from the disease causing homogenous centralized industrial food culture of the west. Food sovereignty and food freedom is given less importance in the Act.[30] She is of the opinion "PFA Act needs strengthened, nor dismantling. The case in the Supreme Court filed by the Center for Public Interest Litigation shows how Coke and Pepsi are violating the PFA Act. We need strengthening the PFA and not diluting it or dismantling it through a new food law, since they are flooding India with toxics in food and replacing our natural food systems with toxic processed food." Hence PFA Act should not be replaced. It is in effect the legalizing of adulteration of our entire food system with toxic chemicals and industrial processing. Her argument is based on the concern of effects of international products and spreading of diseases through the chemical contents in it. She argued that FSSA is strongly in favour of multinational companies and PFA Act was not so.

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29 Parliament debates on Food Safety and Standards Bill, 2005 on July 26, 2005.

30 Parliament debates on Food Safety and Standards Bill, 2005 on July 26, 2006 commends by Mehtab B, M.P.

Shiva also argues that in India, there are many religious places where food is distributed to the millions of people as free of cost as "Prasad," Annadana, the langers of gurudwaras, the Zakat at the Mosques that feed daily will victimized by this Act. The Act stipulates licensing and registration of all food sectors irrespective of what and how it is working. Thus if the gurudwaras and temples gave food, even if it of free of cost, need registration under the Act. All the Cottage industries in food processing sector made illegal and it will make many problems to the sector.

The representatives of food industry had suggested certain improvements to be made in the Act, when it was under consideration of parliament. They want adequate representation of industry, screening of analytical reports, hearing party concerned before adjudicating the case, and providing details regarding the status of the report of food analyst vis-à-vis the referral laboratory. But only one or two of their proposals are accepted (Chadha, 2006). The suggestions of NGOs and researchers in food related areas also considered only in part.

The FSSA is not talking about the agricultural products safety in any of the contexts. The global standards and food safety programmes in developing countries are giving so much importance to the Concept of food safety from "farm to fork" concept. While the FSSA is dealing about the overall food safety and neglecting agricultural food safety is very contradictory. A Research Associate in a NGO in Delhi in an interview point out that India is not prepared for an integrated law for agricultural products, meat products, fruits products etc. It is a step by step and time consuming process. First it has to start from the agricultural production, then to final product and to market.[31] We cannot jump first to international standards. It is not practical to have it in India. India should look into those aspects which will condition the situations for implementation of such a law. The agriculture of India is mostly depending upon climatic condition and high yielding seeds and pesticides are little effect on Indian agricultural situation. Then the Act should consider this aspects also in framing the food standards.

FSSA has not taken the agricultural products under its purview. Then the pesticide residue issues, metal contaminants in final products cannot be tackled without

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[31] Researcher's conversation with a research associate in an NGO in Delhi.

addressing the agricultural situation. Like wise, the Act is silent about what will be the action if the harm is caused by an imported food. How the importing country is handled is not mentioned in the Act.

By going thorough all provision of FSSA, it is covering all food safety aspects and mentioned scientific ways to protect the health of the people by ensuring safe food. But the Act needs a proper blend so that it serves the vast majority of the consumers and producers alike. The Act needs to add provisions for safeguard the interests of our farmers, manufacturers and consumers in optimum level. The conditions of small scale vendors and manufacturers are taken into consideration while setting up the safety standards and procedures for them.

CHAPTER V

CHAPTER 5

Prevention of Food Adulteration to Food Safety and Standards: The Changing Scenario

5.1 Background

From the beginnings of human civilization, people have been concerned about the quality and safety of food. Rulers made laws and regulations on the safety of food from the very beginning. In 1202, King John of England proclaimed the first English food law, "the Assize of Bread", which prohibited the adulteration of bread with such ingredients as ground peas or beans. Regulation of food in the United States dates from early colonial times. Federal controls over drug supply began with the inspection of imported drugs in 1848.[1] These laws were designed mainly to prevent adulteration and harm that unsafe food causes to the consumer. At that time, the adulteration of food was essentially a feature of urban, industrialized society as opportunities for its practice strengthened and increased (Fisher, 1979). The food law came out as a result of the decline of old regulatory methods of control, intensifying trade competition and increasing concern over public health issues. Economic, legislative and social factors had therefore combined to prevent the adulteration at that time, and to protect the generally unsuspecting and uneducated public. Today the concepts of food law are changing and the awareness and recognition of the importance of food safety for public health is improved in many countries.

The principal intention of the food law is to establish and maintain standards for the composition of foods, to provide information about the products through labeling and packing, to restrain unwarranted and misleading claims and advertisements and control the use of food additives (Fisher, 1979). The idea is to protect the consumer from all harmful effects of food and regulating the food trade within a legal framework. In India, the history of food adulteration legislation started in the beginning of the twentieth century, in the British period when the first Provincial Food Adulteration Act named the Madras Prevention of Adulteration Act 1918 was enacted. After independence, the

[1] http://www.fda.gov/opacom/backgrounders/miles.html, last accessed on 10 February 2007.

Prevention of Food Adulteration Act 1954 came into force unifying all provincial food legislations of the British period. The increased awareness of food safety, greater emphasis on global food safety standards and competition in the food market in the domestic as well as in the international arena, led to the coming of new food legislation in India called the Food Safety and Standards Act in 2006.

The background of the introduction of the Prevention of Food Adulteration Act in 1954 was very different from the current scenario. In British India, famine was common in many parts of India.[2] The policies at that time were addressing the issue of quantity of food and nutrition problems. Quality issues got less preference. When the first Government of India Act was passed in 1919, close to that period in 1918 and 1919, two provincial food adulteration acts were passed; The Madras Prevention of Adulteration Act 1918 and the Bengal Prevention of Adulteration Act 1919. Before 1918, in British India, there was no mention about a central act or provincial acts to prevent food adulteration (Mahindru, 2000). This happened during the period of the Montague–Chelmsford reforms in 1918-1919, which included transfer of several spheres of government to provincial ministers.[3] These Acts entrusted the enforcement of the law against adulteration to local authorities and gave considerable powers of supervision and control to Provincial Governments. In Punjab and Bombay also there were separate Acts. As mentioned in chapter 3, the Bhore Committee report gave a picture of food adulteration legislations and its implementation in British India. The Report pointed out the problems of lack of funds and personnel, limited facilities of taking samples and getting them analysed, failure to prosecute offenders and delays in disposal by the courts (GOI, 1946).[4] All these problems are still working as impediments to the proper working of the PFA Act.

After independence, many new plans and policies were formed aiming at different perspectives with different backgrounds. When the National Planning Committee was established, Indian planners recognized the need for tackling problems such as

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2 From 1880's there was a series of famine in 1804, 1814, 1823,1833,1838, 1866, 1874, 1878, 1900,1943 in different areas in India (Jeffery, (1988).

3 Jeffery, *Ibid.*, p.18. Jeffery has mentioned that Montague-Chelmford reforms include transferring several spheres of government to provincial ministers. These Acts were come as a part of it.

4 Page 59-60.

unemployment, malnutrition, social justice, housing and environmental sanitation. The Five Year Plans have embodied the strategy of the government for dealing with the social and economic problems of the country (Banerji, 1985). In Five Year Plans also there includes measures to improve the situation to prevent food adulteration. The first, sixth, seven and ninth Five Year Plans detailed the need of proper implementation of the PFA Act. For the proper implementation of the Plan reccomendations, a Task Force on food laws under the (Late) Chief Justice E.S. Venkataramaiah was formed. This task force submitted its report in 1996 but with little effect. Subsequently, another task force comprising Mr. Nusli Wadia and Mr. Ratan Tata and Dr. A.C. Muthiah as members was set up. This was a part of the then Prime Minister A.B Vajpayee's Council on Trade and Industry. This task force also submitted its report in November 1998, making wide recommendations to restructure the administrative set up (Mahindru, 2000). In 2002, there was yet another task force report on the Agro-food Industries set up by the Ministry of Food Processing Industries. They all discussed the problems in monitoring and implementation of the PFA Act. Some of these task forces and committees gave suggestions for the setting up of a new Act with a single regulatory body to solve the problems and many other related issues like being in consonance with international food standards and meeting competition of the global food market. This was the background for the new Food Safety and Standards Act 2006 set up. Both the Acts are detailed in chapters 3 and 4. This chapter compares different sections of both the Acts. The second part of this chapter examines the impact of these legislations on different food sectors.

5.2 Prevention of Food Adulteration Act and Food Safety and Standards Act – A Comparison

The Food and Agricultural Organization (FAO) has given guidelines for a new model food law (Vapnek and Spreji, 2005). This model food law says that the coordination between the international and national food policies gives better protection to human, animal and plant life and health, as well as the environment, without creating unnecessary barriers on trade. Food regulations need to provide solutions to ease the burden of disease, ill health and food related damage in the world. Each country has its own international obligations, policies, legislative traditions, institutional structures and

budgetary and resource constraints. But the food industry, government, consumers and all stakeholders who are affected by these legislations, should have only one common agenda i.e. to provide quality food at an optimum price (Chitale, 2006).

Political and administrative approaches may vary from country to country depending on political traditions and cultural patterns. India has a different food culture from other countries. It has connections with religion and the local food culture varies from place to place. The social, economic and political factors prevalent in India, the combination of people, the character of population, the situation of poverty, and all factors are relevant in it. Vandana Shiva, in the context of unified food laws says, 'it needs pluralism to protect food, livelihoods and food cultures' (Shiva, 2005). She says, that in Europe, there are three different laws governed at different levels for different food systems based on different production processes that produce different foods. Similarly India also needs different laws operating at the *Panchayat* level, and different urban level laws for different sectors of processing. By contesting her position, the editor of the leading food industry magazine 'Food Processing Industry' said, it is not possible to have different yardsticks for different players. For organic food and Genetically Modified food, different parameters of food safety are needed. There are different production patterns and have different effects on food safety.[5] But the 'three level law' concept is very difficult to implement and it will create more confusion for different ministries handling different food items.

The names of both the Acts itself have different connotations. One talks about prevention and the other about safety standards. Prevention is a repercussion of safety[6]. For ensuring safety, we need to prevent all kinds of adulteration and contamination. The concept of prevention of food adulteration is considered as an old concept in the post liberalization era.[7] It has lost its meaning. Now it is replaced by the term 'food safety and

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5 Dhingra,V,R Editor of magazine 'Processed Food Industry', gives his discontent in the same page where Shiva's article is published. *Processed Food Industry* August 2005 Vol8(10) p20.

6 Researcher's conversation with Food Inspector, PFA Directorate New Delhi.

7 India liberalized its economic restrictions from 1991. The inclusion of WTO in 1995 made this process easier.

standards'.[8] Prevention is considered as a way to ensure safety. In public health, prevention is a very important step. But prevention is an outdated concept in relation to global food standards. It is substituted with the word 'safety'. Prevention is only a step for achieving safety. For overall safety, prevention is not enough. Safety regulations and standards give us information as to what must be the safety standards to be observed in food, what elements food needs to contain and what is the importance of being in tune with it. It gives the positive aspects of food. The changing trends in giving importance to quality than quantity are very visible by the very name of the new Act. The title 'Food Safety and Standards Act' commits to the setting of science-based standards (Yadav, 2006). In global trade, the information about weight and contents has less importance and it is replaced with calorie and protein. With the quality thrust of the new urban elite, who are concentrating on a healthy diet; calorie, iron and protein content in food are gaining more importance. More than that, the two phrases, prevention of adulteration and safety standards, show the changes in different intentions and ideas, globally, but not the differences in meaning.

In a globalized era, people are more aware of the health and nutrition element of every food item and this awareness has a tremendous impact on the diet and food culture of the people. They are more interested in taking safe food and avoiding anything that causes harm to the health. Health culture has become a phenomenon worldwide, more famous than any particular nation's culture. This led to the setting of uniform standards by international specialized agencies and later on these standards were accepted and implemented at the domestic level of every country's policy. When it comes to food trade, the regulations of export and import strictly need to be in tune with global standards. The Ministry of Food Processing Industries and industry organizations like thr Associated Chambers of Commerce and Industry (ASSOCHAM), Federation of Indian Chamber of Commerce and Industries (FICCI) and the PHD Chamber of Commerce and Industries (PHDCCI) have organized many discussions to formulate the industry view before passing the Food Safety and Standards Act 2006 (Baisya, 2005). All of them agree on the fact that the name, prevention of food adulteration must be changed into food

[8] Researcher's conversation with Assistant Director, Ministry of Food Processing Industries, New Delhi.

safety and standards. But the contents of the new Act, aspects like, what are the changes it included and what needs to be modified, are controversial in most opinions and discussions.

While introducing the Food Safety and Standards Bill, 2005, the Minister of State of the Ministry of Food Processing Industries said that the FSSA is a major initiative in the direction of removing the "inspector raj" and is in favour of the interests of the consumers. After 1954, no law was enacted in the food sector. This is the reason why all the laws have been incorporated in to a single Act to set up a regulatory sector.[9]

5.3 Main Differences between PFA and FSSA

There are many differences and similarities between the two Acts. One of the main changes is the integration of all the food laws under one head that is "Food Safety and Standards Act." The PFA Act, which was made in 1954, was also made with the same intention to unify all food laws existing in different provinces of India at that time. Different provincial food laws existed in different provinces of the country like the Madras Prevention of Food Adulteration Act 1918, Bengal Food Adulteration Act 1919 and the Bombay Prevention of Adulteration Act 1925. After independence, all these provincial laws were unified into a single Act; the Prevention of Food Adulteration Act, 1954. But after some years, many other regulations were created to deal with specific food items like milk, meat and fruits.

The PFA Act worked as the umbrella Act and remains the major Act among all these food related rules and regulations (Mahindru, 2000). But the law is not amended in accordance with the improvement in the food industry with many new products; imported as well as domestic and with the development of new technologies and ingredients used in the food sector. The specific food related laws and the PFA Act began to clash with each other in many stages. For example, the meat slaughterhouses had to get clearances from both PFA Act and Meat Products Order for a license.

The FSSA integrated all these regulations and the PFA Act into one single Act to avoid all confusions and double standards for food products and to meet all developments

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[9] Parliament Debates on Food Safety and Standards Bill, 2005, on July 26, 2006

in the food sector. Many people working in this field of food law and food industry have welcomed the integrated aspect of the FSSA (Kaul, 2006 and Dheram, 2006). In an interview with the Assistant Director of the Ministry of Food Processing Industries, he opines that this change would create an ease in administration and avoid complications in matters.[10]

The name, objectives, definitions and concepts, enforcement authorities, licensing, penalties are different in both the PFA and the FSSA. The Food Safety and Standards Act is a detailed document with 101 sections and it emphasizes on responsibility with manufacturers, food recall procedures, control on genetically modified and functional foods, dietary supplements, health foods, emergency control, risk analysis and communication and food safety and good manufacturing practices and process control namely Hazard Analysis and Critical Control Point (HACCP). It has many positive implications like unification of all food regulations, attention to many neglected areas, many new technologies addressed, water is included in the definition of food, a paradigm shift to risk analysis etc. The Health Ministry will continue as its implementing authority etc. From the public health point of view, nowadays many new products are coming into the Indian food markets with different claims and new innovations. The health hazards these new products can cause need to be checked with a legislation that has an innovative ability will tackle all fraudulent and unhealthy claims. In that sense, the new Act will help to prevent and check the products that are unsafe. On the other hand, provisions of the FSSA are going in favour of the food industry at the cost of health. The objective is shifted in terms of industry as a major part and health is given the second priority.

The need for integration of the legislations comes first from the part of food processors. The variety of food products in India and the difficulty in getting a market both internationally as well as nationally for these products has made the Ministry of Food Processing Industries and its pressure groups to think of a uniform food law with international food standards. The FSSA is drafted by the Ministry of Food Processing. The food processing industry is considered as a very fast developing area with a 20,000

[10] Researcher's conversation with Assistant Director, MHFW, Nirman Bhavan, New Delhi

crore business (Gupta and Garg, 2005). The PFA Act is considered as over regulatory and it has made difficult, the marketing for these processed foods (Dheram, 2006). It was implemented by the Health Ministry. This has affected the priorities of Food Processors. The FSSA is introduced to solve all the problems that the food industry faces. But on the other hand, the fact is that only two to six percent of agricultural products are going to the processed industry. The rest is sold in loose form in retail markets. Very little percentage is going as raw materials. In effect it is a law applicable for only 6% of food products. Another factor is that in our country, a very low amount is spent by an Indian consumer on processed food products. The statistics show that out of one rupee spent in 2004- 2005 by the average rural Indian, 55 paisa was spent of food. Out of that 55 paisa, only 5 paisa is spending on beverages, refreshments and processed food. In case of urban Indian person, out of 43 paisa, only 6 paisa was spent on beverages, refreshments and processed food (GOI, 2006). This reveals that the Act is meant for a very small section of the food sector which holds only 11 percent of food items in the total food consumption.

The PFA Act, which was drafted in the 1950s has had 167 amendments, (GOI, 2002) but it does not include many new innovations in the field of food sector. On the other side of this dispute of old and new law, in an interview, the Food Analyst in the PFA Directorate of Delhi, opined that the PFA Act cannot be considered as an outdated only on the fact it was drafted in 1954. Our Constitution was also drafted in 1950. According to her, no one can say it as outdated only on the fact that it is 57 years old. The PFA is at par with international Codex standards and all PFA standards are created as per international regulations. The FSSA is mainly an integrated law, not created on the reason that the PFA was outdated.[11]

Most of the definitions in the PFA Act are either changed or in depth and designations are changed when it comes to the FSSA. The Central Committee of Food Standards is replaced with Food Safety and Standards Authority. The Food Inspector's designation is changed as Food Safety Officer. But the functions and duties are same as in the PFA Act.

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[11] Researcher's conversation with Food Analyst, PFA Directorate, New Delhi.

The accountability of the two Acts is different in its structure of authorities. In the PFA Act, the Act is directly responsible to the Health Ministry and the government as a part of the government department, for its actions. But the food safety and standards authority under the FSSA is an autonomous authority that has little accountability to the government. The food authority as a self ruling body can create its own laws and regulations for regulating the food industry. The government role is limited in decision making by its representatives' advocacy.

The food inspectors in the Delhi area are of the opinion that law remains the same in every respect, whether it is PFA Act or FSSA. There are only two or three main differences between the PFA and FSSA that are pointed out by them. The increased penalty amount and the Scientific Committee are some main differences. The Scientific Committee or any such organ was not there in the PFA Act. The penalty is increased from maximum amount of Rs.5000 to a very large amount of 10 lakhs.[12]

5.4 Objectives

The Prevention of Food Adulteration Act states its objective as an "Act to make provisions for the prevention of adulteration of food." It gives importance to prevent adulteration cases and thus ensuring safety. The Food Safety and Standards Act, gives a detailed objective - "An Act to consolidate the laws relating food and to establish the Food Safety and Standards Authority of India for laying down science based standards for 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 there with or incidental there to." The main purpose of the Act is to establish the Food Safety and Standards Authority and that will create the rules and regulations for the enforcement of the Act. It gives the details as to what are the stages that the food is going through and gives emphasis to the need of regulating all those stages. The PFA Act emphasizes prevention to ensure overall safety. But at the same time, the FSSA gives a detailed description of the means to ensure safety by taking a number of steps.

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[12] Researcher's conversation with Food Inspectors, PFA Directorate, New Delhi.

Shiva (2005) argues that the integrated food law is prepared with the intention to make contemporary, comprehensive and ensure better consumer safety through food management systems and setting standards based on science, transparency and to meet the dynamic requirement of international trade and Indian food trade and industry. The law is clearly designed to lubricate international trade and the expansion of the global agribusiness. Consumer health, nutrition and food culture are not even mentioned as objectives of the Act. She says that we must reject the FSSA on the ground that it will allow a flood of toxic foods to India and replace our natural food systems with toxic processed food. It is in effect, legalizing adulteration of our entire food system with toxic chemicals and industrial processing. In her view, the PFA Act needs to be strengthened, not substituted by a new one.

Yadav, coordinator of Food Safety Unit from an NGO in Delhi pointed out that the FSSA is wrongly named as a food safety law. It is clear from the language of several clauses that this Act is more interested in safeguarding manufacturer's interests than safeguarding public health. The FSSA deliberately dilutes the already weak regulatory framework to ensure food safety. The science-based standards committed by the FSSA are the need of the food industry to improve their business. Industry has used science as an excuse to avoid being regulated or held accountable. All good safety laws across the world are health based. This law created for the sake of industry and cannot stand for public health. According to him, only a health based law must ensure food safety (Yadav, 2006). He criticized the Act by saying that it is in favour of industries. The general principles of this regulation link the protection of human life and health and protection of consumer interests with trade policies. Once the interests of manufacturers are linked to consumer health and safety, the law becomes a trade promotion law. Also the risk management measures laid out will become subject to financial interests.

Davinder Sharma, Director of a food related NGO in Delhi in an interview, points out that the new Food Safety and Standards Act is based on the European Union safety laws. It is not suitable for Indian conditions. In India, we need two food safety laws, one for the organized sector and another for the informal sector. While the law bothers about labeling etc., what goes inside the food is not tackled. For example, due to trans-fatty

acids in many a multinational company's potato chips, these are extremely harmful. People are getting diseases with this acid element. It is responsible for cholesterol changes, birth defects, heart diseases and cancer. About 2% of increase in trans-fatty-acids can cause increase in heart attack, liver diseases etc.[13]

The criticisms of the PFA Act are based on restrictions on regulations on trade. The PFA Act is implemented by the Health Ministry. Thus the health of the people is giving priority over food trade. However, it had problems with food trade regulations, administration, enforcement and monitoring procedures. The work of food inspectors are the mostly criticized area in the PFA because of unnecessary harassment and corruption. The 'inspector raj' has created many problems, as the food inspector is the main implementing authority of the Act. The report of the food analyst is challenged in many court cases.

5.5 Definitions

Most of the definitions in the PFA are either renewed or added with new meanings in the FSSA. In the PFA Act, there are only 20 definitions. But the FSSA gives 52 definitions in the Act. It varies from advertisements to unsafe food. The distinction between sub-branded and misbranded is specifically defined in the FSSA. In the PFA Act however, it was not there. The intentional and unintentional adulterations are also distinguished in the FSSA.

The scientific evidence based on risk analysis for all the claims of rejection or acceptance of any food item is necessary in international market as per the SPS agreement. Words like risk assessment, risk communication, risk management are given with an in-depth analysis. New terms like food safety management system, genetic engineered foods, organic foods are introduced. But the supporting terms like good manufacturing practices, good hygienic practices, Hazard Analysis Critical Control Point (HACCP) are not defined.

The definitions in the PFA have had many ambiguities and many judgments have been defined, most of the times, with unstable meanings in many cases and by many

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[13] Researcher's conversation with the Davinder Sharma, Director, of an NGO in New Delhi.

interpreters. When cases come before the court, the judgments define the term according to the circumstances of the case.

5.5.1 Food: the definition of food differs in both the Acts. In PFA, water is not included. The FSSA includes water as a food item as it is the main ingredient in any food preparation and treatment. The definition of food in the FSSA covers different areas and different kinds of food. The definition of food in the PFA Act that does not include water creates many ambiguities in interpreting food.

5.5.2 The issue of water using in foods: The All India Food Processors Association in their views submitted to the Standing Committee on Agriculture indicated that the food industry uses water supplied by municipalities or water authorities for various operations including addition into the finished products and hence the food industry should not be penalized for using such water. They suggested that the word 'water' used in the food during manufacture, preparation or treatment should be deleted from the clause. The Standing Committee stated that if the definition of the word 'food' includes water used into the food during its manufacture, the civic institutions that are responsible for supply of water will need to be considered as manufacturers of food as well (MFPI, 2006). The Committee therefore opines that the definition of food should include drinking water or water supplied to consumers by municipal authorities. When the Food Safety Standards Bill, 2005 was discussed in Lok Sabha, Adhir Choudary, Member of Parliament, expressed the view that the onus of the quality of water should not be put on the user because various municipalities supply it.[14]

It is not only the Standing Committee, but most of us are aware that the quality of water differs from place to place all over India. The water sources also vary from rivers to home wells. In a majority of the places, ground water is used as drinking water and for all other purposes. The Standing Committee on Agriculture viewed that certain minimum standards of the quality of drinking water or water used in the preparation of food have to be fixed for the prevention of diseases spreading through contaminated water and for the health of human beings.[15]

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14 Debate in the Parliament on the Food Safety and Standards Bill on July 26, 2006.

15 *Ibid.*

Most of the people interviewed as a part of this study including government officials, NGOs, food processors and consumers are of the view that it is the duty of the government to ensure the safety of water. There are many places where municipality water is not available. In those places, the manufacturer is the person liable for ensuring the quality of water. Many small or medium manufacturers are not in a position to put equipments like 'aqua guard' or any such water purifiers as they cannot afford its cost. But the FSSA asks them to ensure the minimum quality of water they are using. In an interview with the Assistant Director, MFPI, he said that the vendor or the manufacturer has to ensure the minimum quality of water they are using. They cannot cook with the water if they are not sure that it is good. The instance he said was that a man would not go to prepare a tea for him from drainage water. Like wise he cannot use such water for any food preparation in his shop also.[16] The definition of minimum quality varies from the small manufacturers to large ones. The quality of water also changes with person-to-person and place to place.

In an interview with the Secretary, Halwais, Bakers and Restaurants Association, he opined that the problem of portable water in the law should be solved by the government. When the water supplied by the government itself is not pure and not passing the test of the laboratory, how can they demand that water used by the vendors be pure? He said there are many incidents like sewage water coming through public water supply.[17]

For ensuring the quality of water, the government has taken an initiative to privatize water supply in the country. International agencies like the World Bank and Asian Development Bank are promoting the concept of pricing water. Whatever may be the economics of water privatisation and pricing, people in India are not ready to accept it because it is considered as the primary duty of the State to provide drinking water to its people. The supporters argue that models like power privatisation are a success story.[18] However, it has resulted in severe power shortages and rocketing electricity tariffs.

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16 Researcher's Conversation with Assistant Director, Ministry of Food Processing Industries, New Delhi.

17 Researcher's Conversation with the Secretary, Halwais, Bakers and Restaurants Association, New Delhi.

18 www.indiatogether.org/2005/may/psa-wbank.htm accessed on 22nd February 2007

Industrial and urban water supply schemes are privatized and multinational companies are carrying out those projects. The water sector reforms proposed by the international agencies have far reaching consequences than these single projects like water supply in the state of Chhattisgarh (Sheonath project) and the Delhi Degremont project.[19] Due to stiff opposition from the affected people of the Sheonath project area and a concerted effort of NGOs in the country, the Chhattisgarh government agreed to scrap the agreement with the private company.[20] Privatisation affects the rights of people in many ways like denial of taking water from rivers where these companies are making dams for storing water, denial of fishing rights etc. This concept has actively got support from countries like the EU and has asked for the opening of the water services under the General Agreement on Trade in Services (GATS) of the World Trade Organisation (WTO).[21] If this sector is included in the GATS, the government will loose all regulatory rights for implementing projects for a social cause and the multinational companies will control the water sector in the country.

5.6 Administration of the Acts

The administration of both the Acts is different from its diversified perspectives. In the FSSA, the Food Safety and Standards Authority is the sole authority under the Act to look at all affairs of food safety. In the PFA, the administration is with the Central Committee of Food Standards.

In the FSSA, the Food Safety and Standards Authority (Food Authority) is a body entrusted with the task of regulating the manufacture, processing, import, export and distribution of sale of wholesome food in the country. It will work as an authority to look after all the different facets of regulation. It is a demand of the food industry for a long time to have an apex food authority to regulate and to look at the overall development of the industry. The Secretary, All India Food Processors Association was of the view that it is a sincere attempt from the part of the government to have such an authority for the benefit of the industry. But the working of the Authority must be transparent to the public

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19 www.jubileesouth.org/news/EpZZZlkuAkDMZZOUuf.shtml last accessed on 22nd February 2007

20 www.resurgence.org/resurgence/issues/shiva219.htm accessed on 22nd February 2007

21 www.wto.org, last accessed on 22nd February 2007

also. The Food Authority consists of a Chairman and 22 other members from different sections of the food industry. The Act insists that one-third of its members shall be women. Under the PFA Act, there was a central committee of food specialists consisting of the Director General of Health Services, the Director of Food Laboratory and 14 other members who are experts and representatives from different areas of the food industry. The Committee is to advise the Centre and the State on the administration of the Act and it is more of an advisory body. Both authorities the food authority and CCFS are talking about different things in the same context.

When the FSSA talks about the detailed aspects of food safety and regulation, the central committee only acts as an advisory board to the government. The government is the decision-making authority under the PFA Act. The food authority is an autonomous body having powers to decide in food related matters. In the FSSA, advising the government is only a part of the various functions of Food Authority and it has a separate Advisory committee for that purpose. The Technical Director in the Confederation of Indian Industries (CII) in an interview said that the Food Safety and Standards Authority should work independently in its function and technical aspects. There should not be any interference from outside departments.[22]

In the PFA Act, section 3(5) empowers the Central Committee of Food Standards to set up sub-committees to perform the duties of the CCFS delegated to them. These are the scientific committees to look into the Codex standards. In the FSSA also there is the provision for setting of scientific committees. In the FSSA, the food authority can establish scientific panels and scientific committees consisting of scientific experts. In the PFA, the sub-committees are to perform any functions authorized. But the FSSA scientific panel and committee are purely science based as per international norms.

Central Food Laboratories: There are four Central Food Laboratories that are functioning all over the country to do the lab tests under the PFA Act. Different states are allotted to each laboratory for testing and other related work. Shortage of laboratories was a problem faced by the PFA Act. There are only 81 primary laboratories functioning all

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22 Researcher's Conversation with Technical Director Confederation of Indian Industries, New Delhi.

over the country. Under the FSSA, the Food Authority is vested with the power to notify accredited Food Laboratories and research institutions. The existing food laboratories will continue under the FSSA.

In debates on the Food Safety and Standards Bill, 2005 in Rajya Sabha, Ajay Maroo, Member, pointed out that there is an acute shortage of laboratories. In the Lok Sabha, Shilendra Kumar, Member, also emphasized the need of more laboratory facilities. Under Section 43, there should be atleast one fully equipped food lab in each district for proper analysis of the food samples. He said, 'if the ministry wants to improve the agriculture and food structure in our country, then we will have to open a center in each district of our country and also equip such districts with laboratory facilities and availability of technicians. Then only we will able to differentiate between original and fake ones.' Because, today it is difficult to differentiate between what is original and fake.[23]

When the Standing Committee on Agriculture requested the Ministry of Food Processing Industries in October 2005, for details of Food Testing Laboratories functioning at present in the country, state wise and whether they have been equipped with manpower, as implementation of the Act mainly depends on the testing / analysis food samples, the reply of the Ministry revealed that a proper laboratory infrastructure is yet to be established. The committee felt that in the absence of fully equipped laboratories with adequate trained staff, it is not possible to implement the Act effectively. The Committee recommended that immediate steps should be taken to establish at least one fully equipped lab with trained manpower in each district of the country. The standards for analyzing various categories of food may also be laid down (MFPI, 2006).

When the Food Safety and Standards Bill, 2005 was discussed in the Lok Sabha, there were many questions about the funding for the setting up of labs. They also pointed

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[23] Debate in the Parliament on the Food Safety and Standards Bill, 2005 on Wednesday July 6, 2006.

out the lack of funds with state governments. The lack of fund with the state government to provide a laboratory in each and every district; will affect the implementation.[24]

The ministry of food processing industries (MFPI) proposed to set up 100 food testing laboratories across the country and upgrading the existing 327 ones to meet international standards amid concerns that processed food exports from India's are declining due to poor food quality and safety. While the cost of setting up the laboratories by government universities will be fully borne by the ministry, private laboratories will be subsidised 75% of the cost. Based on testing capabilities these laboratories would be classified as national, regional, state and local laboratories. Each laboratory would be set up with a capital expenditure of Rs 10-20 crore, based on its classification.

The Minister of the Food Processing Industries said that with India aiming to grab 1.5% or $150 billion of the global processed food sector pie, it is imperative to assure international buyers good quality. There is a huge gap in the standard of food testing laboratories in the country and the international ones. Though the national level laboratories are at par with the best in the world, the state level laboratories lack the necessary expertise and infrastructure.

Of the 100 planned laboratories, 5 would be national level ones, 5 regional ones, 28 state laboratories and the remaining local laboratories. As per a feasibility report, the national and regional laboratories would be built on a space of 6,000 square feet.[25]

5.7 Enforcement

The enforcement authorities under the PFA Act are the State Commissioner of Food Safety, the Director, Joint Directors, Local Health Authority, food Inspectors, and food analyst. The Health Ministry constituted a separate wing for the PFA to deal with food adulteration matters in every state and in every district. In every district, there is a Director of Health (PFA). Under him there are joint directors, then Local Health Authority and Food Inspectors. The food analysis department is a separate wing in the same directorate, consisting of food analysts and scientists.

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24 Varkala Radhakrishnan, Member of Parliament, on Parliament debate of Food Safety and Standards Bill, 2005 on 22nd May 2006.

25 Financial Express Daily (Delhi), July 24, 2007, p. 12.

In the FSSA, the enforcement is going to be with the food authority and state authorities. They will monitor and verify the food business operators, fulfill the relevant requirements of the law at every stage of the food business. There is a State Commissioner of food safety in every state and a Designated Officer in every district. The Commissioner is the supervising authority of the state activities. The Designated Officer coordinates the district wise activity. The food safety officer works on the orders of the local health authority.

The designations are different in the PFA Act and the FSSA. The district wise authority designation 'Local Health Authority' is changed as Designated Officer and the food inspector is changed to food safety officer. In an interview with the Assistant Director General in Health Ministry in Delhi regarding the changes of designation of food inspector, he answered that there are many sentiments associated with the word Inspector. People have a bad feeling with the word since they associate it with police inspector and are reminded of the word 'command.' That is the main reason behind the change in designation. The Food Safety Officer in the FSSA is appointed by the Commissioner of Food Safety, whereas in the PFA Act, Food Inspector is appointed by state or central government (Section 9(1)).

The food inspector or food safety officer is given very wide powers under the PFA Act and FSSA. He is one of the important links in the hierarchy of enforcement authorities. His main duty is to take samples of any article of food from anywhere that is in contravention to the provisions of the Act. Then divide it into parts and send it to the food analyst. The power of this officer is the same in PFA Act and FSSA.

5.7.1 Working of PFA Act in Delhi

The PFA Act is applicable to Delhi and there is no separate state law for Delhi. Delhi Prevention of Food Adulteration Rules, 2002 is made under the Act. The Directorate of Prevention of Food Adulteration is entrusted with the responsibility of implementing the provisions of the PFA Act and Rules. The Act empowers the food inspector to lift food samples under the supervision of the Sub Divisional Magistrate (SDM) who has been given the powers of the Local Health Authority (LHA). In Delhi, there are nine sub-

divisions and in each sub-division there are three food Inspectors (total 27 in Delhi). The Inspectors report to the Local Health Authority who monitors their work.

5. 7.2 Infrastructure Facilities, Prevalent Structures, Monitoring Mechanisms

Under the PFA Act, the procedure starts when the food inspector search the shops or manufacturing units and lifts the samples. He can take samples as per the instruction of the local health authority or upon getting a complaint from the public.[26] After lifting the sample, he separates it into three parts and sends one to the public analyst. The Food Analyst is responsible for laboratory activities and test reports for the food samples lifted and sent by the Food Inspector. A greater degree of responsibility lies with the Public Analyst as on the basis of his reports, a conclusion is drawn, as to whether the prosecution should be launched. The test report also signifies the nature and degree of adulteration (Sharma, 2006). If it is found against the provisions of the Act, the prosecution starts.

In the PFA Act, the food Inspector has to separate the samples only into three parts. In the FSSA, he has to separate it in to four parts. The fourth sample is for the use of the food business operator to send it to an accredited laboratory and the analysis report of that laboratory should be allowed to be used by him as evidence before the court of law. This provision is added in the Act as per the recommendation of the Representatives of All India Retailers Federation (AIRF) and the Confederation of Indian Industries (CII) in their presentation before the Standing Committee on Agriculture. The Standing Committee also supported this and recommends that food business operator may be entitled to send the fourth sample to be analysed by an accredited laboratory, etc. and the report thereof may be considered as a part of the evidence (MFPI, 2006). The Food Safety Officer must ensure that the fourth sample given to the food business operator is sealed properly and signed to make it tamper proof.

In the PFA Act, there are detailed provisions how to take samples, and what are the processes, procedure to be followed, duties, limitations and qualifications of food inspector and food analyst. In the FSSA, there are no such provisions, even for the

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[26] Researcher's conversation with the Food inspectors in PFA Directorate, New Delhi.

quantity of the samples to be taken by the officers. There should be a fixed procedure for taking samples so everybody gets justice. [27] These procedures are prescribed in the PFA rules. According to the Deputy Director, Ministry of Health, the forthcoming Food Safety and Standards Rules (A document containing supporting provisions of the Act like the PFA Act and PFA Rules) will contain all those provisions and it is still under preparation with Health Ministry.[28]

5.8 Food Standards

Different standards are set for each and every product in the market under the PFA Act. There is an annexure in the Act, where products and their corresponding standards are specified. The list included most of the products in the Indian markets. It varies from preservatives to irradiated food. The scientific standards are given for every product. In the FSSA, the product specifications and standards are pending with the Health Ministry. The existing PFA Standards are considered as the existing standards with the FSSA also.

Most of the standards under the PFA Act are in consonance with Codex standards. But there are certain products that are manufactured only in India like 'rasgulla and bhujiya' etc. which have no corresponding Codex standards.[29] A study of the comparison of FAO/WHO Codex standards and Indian PFA Standards found significant differences in the format of the two standards. Codex standards are more comprehensive and include provisions for hygiene, special hygiene, food additives, contaminants, labeling and method of analysis and sampling. There are differences in permitted additives and limits of contaminants. In the PFA, standards include only quality standards. For harmonizing with Codex, PFA standards need to re-work on many issues like hygiene standards, methods of analysis and sampling, labeling etc. There is a need for re-editing of all Indian Standards in the Codex format for total harmonization with it (Khanna and Saxena, 2003).

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27 By Ajay Maroo Member of Rajya Sabha in his talk on Parliament debate on the Food Safety and Standards Bill in Rajya Sabha on 1st August 2006

28 Researcher's conversation with Deputy Director, Ministry of Health and Family Welfare, New Delhi. He said that there will be supporting Food Safety and Standards Rules which contain the supporting provisions of the FSSA. The rule making is a late process under Health Ministry and is still going after one year of passing of the FSSA.

29 Researcher's conversation with Research Associate, in an environment related NGO in Delhi.

The PFA Act directs the use of preservatives, poisonous metals, crop contaminants and naturally occurring toxic substances, flavoring agents, insecticides and pesticides and irradiated food as per specified regulations. The FSSA also prohibits the use of food additives, processing aid, contaminants, heavy metals, insecticides, pesticides, veterinary drug residue, antibiotic residues or solvent residues, unless they are in accordance with specified regulations. Organic food, health supplements and proprietary food cannot be manufactured, processed or sold without adhering to specific regulations. All these kind of foods need certain certification procedures and licensure. The genetically engineered food, organic food, health supplements are not dealt with in the PFA Act. These food products are the results of modern technology. This is one of the main criticisms, that the PFA Act is an outdated law as it does not include the modern innovations.

The Ministry Of Food Processing Industries in its action plan considers that the existing mechanism of setting and harmonizing food standards is inadequate in the context of the increasing importance of food hygiene and safety and evolution of international standards. This is due to limited infrastructure for generating / analyzing scientific data and food testing. Many laboratories do not have basic facilities to test antibiotic residues, heavy metal contamination and other toxic contaminants in food products. Testing manuals do not describe parameters and procedures adequately. Moreover, limited coordination between the various food testing laboratories have led to insufficient utilization of the food-testing infrastructure available in the country (MFPI, 2005).

The Secretary of the Halwais, bakers and Restaurants Association opines that there is a need for uniform standards for all food products. There are people also to buy low quality products in India, knowingly or unknowingly. The reason for going after these products is that they are getting low quality products by paying less. The new law should enable the sale of these lower standard products with the declaration as a sub-standard product. He suggested that, if the government wants to maintain the quality and

standard of the products, then government should supply these standard ingredients through their own outlets like "Kendriya Bhandar" shops.[30]

The problem for standards, labeling, packaging and traceability is affecting only the small manufacturers. The large units are not going to be affected by the provisions of the FSSA. The Director of Bikanerwala Foods, New Delhi was of the opinion that the present law is not going to affect the manufacturing units like 'Bikanerwala' because, they already have all the facilities for labeling, packaging and meet standards as per regulations for export and local market standards.[31]

5.9 Licensing

The licensing procedure of the PFA is dealt with in the PFA Rules under Section 50. Every food manufacturer, seller and stockist needs a license to conduct the business. The government decides the licensing authority. The license is issued after the fulfillment of the provisions of the Act. In the FSSA, Section 31 of the Act deals with the licensing procedure. The power to issue licenses is given to District and local authorities. Every food manufacturer and food vendor has to take a license under the Act.

Under the PFA Act, the licensing procedure is only to the manufacturer of other specified persons dealing with the food business. The FSSA asks anybody who deals with food selling, to take a license. The food processors and Halwai Association suspect that the licensing procedure will facilitate the re-introduction of the 'license raj' more vigorously than in the PFA Act. There are hundreds of street food vendors and paan walahs in the streets of Delhi. It would be difficult for the authorities to identify them by location and to give licenses based on certain safety conditions. The Ministry of Food Processing has taken a tough stand that these food vendors have to comply with the new law. People from different sectors of food industry have different opinions on this subject. When the Health Ministry is ready to relax the strict conditions and standards for small scale vendors, the Food Processing Ministry is with the strict stand that the food vendors have to invest some money for the up-gradation of the standard. The NGOs and

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30 Researcher's conversation with Secretary, Halwais, Bakers and Restaurants association, New Delhi.

31 Researcher's conversation with Managing Director, Bikaneerwala Foods Limited, Lawrence Road, New Delhi.

experts in the field have different views on the subject. The representatives of the Food Processors Association feel that it will affect the livelihood of the people in all sectors.

In an interview, Food Inspectors in Delhi PFA Directorate say it is difficult to identify a footpath food vendor by his location. If today he is in one place then tomorrow he will not be visible on the same location. The food vendors are bothered about the high concentration of power with the food safety officers under the FSSA and they reasonably doubt that this may be used for harassing them.[32]

5.10 Penalties

The penalties prescribed under the PFA Act are very nominal and any vendor can pay that amount if he is found guilty. It varies from rupees 500 to 5000 and a maximum punishment of life imprisonment. In these days, Rupees 5000 rupees can very easily be paid by any large or medium food vendor. Any food vendor who has 5000 rupees can commit an offence under the PFA Act. It is not going to serve the purpose of deterrent. At the same time, in the FSSA the penalties prescribed are very high. It starts with twenty five thousand to ten lakh rupees. The Food Processor's disagreed with the Act on the penalty clause very strongly. The Food Processors Association and large as well as small manufactures totally disagreed with the penalty clause. While the multinational and large manufacturers may not have problem in paying the large sum of money like ten lakhs as fine; but at the same time, the small and medium manufacturers cannot pay that amount.

The small shopkeepers cannot pay the high amount of penalties. Even the least amount of 25 thousand also affects their business as well as their livelihood and leads to the closure of their business. Food Processors Association suggested that the penalty should be imposed only after three to four stages like first a warning be given, second small fine be imposed or thirdly small period of imprisonment. The huge punishments or fine should be the last step. There should be different punishments for small and big scale manufacturers. In an interview, the Chief Editor of All India Food processors Association criticized the mindset of the court in looking at these cases. They are always in favour of giving penalties and imprisonment to everybody irrespective of their financial

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[32] Researcher's conversation with food inspectors in PFA Directorate and food vendors in Chandni Chowk area, Delhi.

considerations. Secretary, Halwais, Bakers and Restaurants Association, quoted that Mahatma Gandhi gives the correct definition for the prevention of crimes; 'the law should be punishing the crime, not the culprit'.[33] In Parliament, during debates on the Food Safety and Standards Bill, 2005, Chandrabhan Singh, Member, expressed that this high amount of penalty will lead to corruption and loss to the Exchequer and traders will be encouraged to sell the adultered stuff.[34] In effect, the high amount of penalty will work negatively on food safety.

5,11 Food Safety Appellate Tribunal

When the PFA Act was in effect, there was no separate court for the trial of the adulteration cases. There are a large number of pending cases in every part of India. The adjudicating procedures are so slow and it causes difficulty for vendors, consumers and enforcing authorities also. In the FSSA, a special Adjudicating Officer having the powers of a civil court will set up a Food Safety Appellate Tribunal for trial of adulteration cases. The Appellate Tribunal makes the procedures faster and decreases the number of pending cases than early days. The time limit prescribed for the trial of cases i.e. one to three years will make the procedures fast and will avoid pending of cases for a long.

5.12 Influence of International Agreements on PFA Act and FSSA

When the PFA Act was created in 1950's there was no Codex Alimentarius Commission or WTO agreements. The food standards laid down in the PFA Rules were already created in 1955 whereas the Codex standards were formulated in 1961 / 1962. The consonance of the PFA standards with Codex Standards had done with so many amendments in PFA Rule from time to time. As per the Prime Ministers Council for Agro-Food Industries Report, there have been 167 amendments in PFA Rules till 2002 (GOI, 2002). Most of the food standards in PFA Rules are at par with Codex standards. Only particular Indian products are given separate standards.

The participation in standards development work of the Codex is coordinated in India through the Ministry of Health and Family Welfare. The Directorate General of Health

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33 Conversation with the Secretary, Halwais, Bakers and Restaurants Association, New Delhi.

34 Parliament debate on Food safety and Standards Bill, 2005, on July 26, 2006.

Services is working to integrate Codex standards into national food laws as much as possible. India had not participated actively in the Codex work earlier, as the standards were not obligatory and was dependent on the desire of the country with an option of a three-level acceptance being available. Due to the lack of participation in development of these standards, most of these do not reflect Indian conditions, as a result of which Indian exports are not always able to meet the requirements of the overseas countries.

India is one of the executive committee members of the Codex and is the regional representatives for the Asian region. India formulated a national Codex Committee and meetings have been convened to formulate views of government of India on various aspects of standardization of food articles at an international level. Delegations from India participated in a number of meetings of Codex viz. import/export, control of food additives, food labeling, oils and fats, milk and milk products, food hygiene, general principles and nutrition and special dietary food. Under the WHO assisted activities, the government of India has arranged training programmes for analysts/ chemists working in the food labs of the states, union territories, in the field of sophisticated analysis for the presence of heavy metal, aflatoxin, pesticide residues, microbiological analysis of food packaging materials. The WHO has given financial support to carry out surveys in quality of plastic containers used in food packaging and on pesticide residues in food articles (Sardana, 2005).

The FSSA is very much influenced by the guidelines of the international standards and standards setting bodies. It is the function of the Food Authority to contribute to the development of international technical standards for food, sanitary and phyto-sanitary standards as per the SPS agreement and to promote coordination of work of food standards undertaken by international governmental and non-governmental organizations and keep consistency between international technical standards and domestic food standards. The international standard is used in the Act widely to define many categories, acceptable residue limits in food that would be processed, imported, exported and retailed in the country. For example, the definition of organic food has been set by standards specified in the Codex. Other acceptable residual limits defined in the Act for healthy food are also based on the Codex standards. The Food Authority has also

directed through the Act as the designated body that would represent and participate and issue guidelines in Codex meetings and would prepare response to Codex matters.

The PFA Act is not dealing with the matters of promoting or coordinating of international standards and guidelines. A study conducted by a voluntary organization for consumer education called 'Consumer-Voice' examined the difference between PFA Standards and Codex Standards. The study revealed that the format of the PFA and Codex standards are different from each other in certain points. All the Codex formats are followed in PFA standards. The name of the commodity, description, definition and essential quality criteria are similar in both. But the PFA standards do not contain guidelines for hygiene related with handling and processing of food and methods of sampling and analysis. Both are created with different intentions also. The PFA standards are meant for preventing adulteration and Codex is meant to develop international standards for promoting fair trade. The study considers that the harmonization of the PFA with Codex standards needs identity in all respects. Only then the concept of equivalence can be achieved by the country. The conflict of problems of production and regulatory mechanisms are the main hindrance in this regard.

The Codex general standards for the labeling for pre-packaged foods requires certain limitations like a statement of the products in the label, specified name of the product, date and storage instructions. The PFA standards cover most of the Codex guidelines for labeling. There are six different laws providing guidelines for labeling specifications in India other than the PFA Act like the Agmark Law, Fruits Products Order, Bureau of Indian Standards, The Edible Oil and Packaging Order etc. A study conducted by Consumer Voice points out that PFA labeling standards are stricter than Codex standards for products like vegetable oils, butter and fats, permitted additives and food with special dietary use. But PFA rules need to include the specification for labeling of products like vegetarian foods, genetically modified foods, organic foods, novel foods, health supplements, sports and energy drinks, etc. There are many Indian products for which Codex guidelines are not available. This affects the total harmonisation of Codex standards.

5.13 Street Food Vending in India and Food Legislations

A large number of people are eating food outside the home due to working families, long distances between work place and home and escalating time pressures. In most of the cities around the world, in particular in developing countries experiencing rapid urbanization, street food fills an important gap. Increased buying power and long hours spent away from home, make eating out a necessary part of life (Bajaj, Mathur and Sharma, 2002). The FAO defines street food as ready to eat foods and beverages prepared and sold by vendors and hawkers especially in streets and other similar public places (WHO/FAO, 1998). This definition includes a wide variety of foods, drinks, ingredients and methods of selling and processing. The kinds of food available in a particular area will depend on local eating habits and the socio-economic environment. Street food provides nutritious food at low cost, these are tasty and easily available, provide an easy solution to the time starved working women, provide variety and are a source of employment, as they require minimal capital and expertise. These vendors are in large numbers and it provides a means of livelihood and a readily accessible and affordable source of food for millions of people. This industry employs 25% of the work force in many developing countries and most of the people involved are women in countries like India, Indonesia, Nigeria and Peru (Abdussalam and Kaferstein, 1993).

Food safety, however, is a major concern as street foods are often sold and prepared under unhygienic conditions, with limited availability of safe water, sanitary services, refrigeration and facilities for garbage disposal (Abdussalam and Kaferstein, 1993, Bajaj, Mathur and Sharma, 2002). For these reasons, street foods have greater potential for causing serious food poisoning and out breaks of diseases through microbiological contamination, improper use of food additives and the presence of environmental contaminants (Vapnek and Spreij, 2005). Serious health problems arise all over the world due to the consumption of foods contaminated by pathogens or spoilt foods.[35] The high ambient temperature and humidity prevalent in India are conducive to microbial creation and the problem is compounded by the less satisfactory standards of

[35] Raghuramaiah, (2001), Indian food regulations in the Global context, *Indian Food Industry* Vol 20(2) quoted by Bajaj, Mathur & Sharma (2002).

hygiene and sanitation (Aiyer, 2001). Food hawkers in India are generally unaware of food regulations and have no training in food related matters. They also lack supportive services such as water supply of adequate quality and disposal systems, which hamper their ability to provide safe food. If such facilities were provided to food vendors, as is done in countries such as Malaysia and Singapore (Bhowmick, 2005), India might be more successful in ensuring that this sector is able to maintain acceptable standards of hygiene and cleanliness.

In a study of recorded cases of food borne diseases at Hyderabad, Nageswara Rao reported that 19% of the outbreaks were due to the consumption of stale food, 14% were due to 'Biriyani' and 9.5% of the milk based sweets were implicated.[36] Another study conducted in a Food Plaza in Delhi, found, coliform an indicator of faecal contamination, in 41.7 % samples because of gross negligence in food handling and unsanitary practices (Bajaj, Mathur and Sharma, 2002). The study suggests that to restrict street food vending to designated areas such as food plazas or food parks where we should supply assured clean water and waste disposal facilities can diminish the unhealthy situation. The study also points out the need for licenses for strict regulation in this field. Abdussalam and Kaferstein (1993) also suggest the solution for the problem by quoting the Codex General Principles of Food Hygiene (Codex, 1985). It says that by bringing vendors together in designated areas, it is comparatively easy to provide disposal facilities, parking spaces and other services.

The Supreme Court Order on February 6, 2007 says that the street food vending must be based on certain procedures and hygiene practices. Under the Delhi Street Hawkers Scheme, the Municipal Corporation of Delhi is asked by the Supreme Court to find some places to settle the street hawkers and setting of food parks. It is part of finalizing Hawkers Policy in Delhi. The new scheme on urban street food vending says: 'Cooking of any item shall not be permitted at all. But food properly packed may be sold by those hawking site.' But the Halwai Association, food processors and some NGOs like Manushi, are against this Order that they feel some of their members will have to pull out

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[36] Nageswara Rao, R, Sudhakar, P, Bhat, R, V, Gupta (1989) A study of recorded cases of food borne diseases at Hyderabad during 1984-85 *Journal of tropical Medicine and Hygiene,* vol. 92,p. 320-24, quoted by Bajaj, Mathur & Sharma (2002).

from the market and will loose their livelihood. Activist Madhu Kishwar who heads the NGO, Manushi said that the Supreme Court Order is arbitrary and simply shows the disconnection between the people of India and those who govern them. She feels that the freshly cooked meal is nutritious and least contaminated. Having banned that, the court is simply asking the millions of lower income group and middle class people who thrive on street food to eat contaminated, cold and pre-cooked food. She also feels that hygiene checks by inspectors will increase the level of bribery (Times News Network, 2007). These street food vendors are selling cheap food to daily wage and factory workers who are getting very less wages. The food that is cooked in front of the customer and pre-packed food are very different. One cannot ensure that the pre-packaged food is hygienic and non-contaminated.

After banning roadside cooking in Delhi, in another order on March 28th 2007, the Supreme Court suggested that the Municipal Corporation of Delhi can earmark areas for food courts where freshly cooked foods can also be served. Based on the newspaper reports that the ban on road side cooking will change the food habits of Delhi people, the Supreme Court said that the intention of the court was not changing the habits but to ensure proper hygiene practices. The scrutiny of the rationality of the Urban Street Vending Scheme is still in process (Mahapatra and Dhanjay, 2007).A similar interim order was passed by the High Court of Kerala on October 19, 2006, banning street food vending in Kochi, Kerala. The Kerala Hotel and Restaurant Association, Medical Social Work Department, Ernakulam District Government Hospital and Panampilly Nagar MIG Resident Association filed a compliant before the Kerala High Court by pointing out the food safety problems caused by street foods. The Street Food Vendors Association also came before the court and pointed out the need of saving their livelihood issues and related issues (Malayala Manorama, 2006).

The FSSA 2006 stipulates for licensing procedure for all types of food vendors. Under section 31 (2) any petty manufacturer who sells any article of food or petty retailer, hawker, itinerant vendor or temporary stall holder or small business or tiny food business operator shall register themselves with an authority. This licensing procedure

has been criticized by people from all walks of society. The small and the large food business operator cannot be put under the same safety considerations.

In an interview with the Assistant Director, MFPI, he said that the vendors whether they are small or large, they also have to adhere with the regulations and have to bare the cost of minimum hygiene by covering the food item atleast by a clean cloth costing rupees ten. But how can a cloth cover remain clean and hygiene in a dusty road side was not answered by him.[37] They should follow a code of practice for the strict observation of hygiene and the renewal of the license is based upon this. The licensing procedure is a good remedy for unsafe situations and the countries like Malaysia and Thailand are following this to regulate this sector.

5.14 Conclusion

When we look into these two Acts on food safety, there are many differences between them. With all these differences, the intention of both Acts are same, to save the people from food hazards. The change of the PFA Act to FSSA is considered as a need of the time and forces of globalization made lot of compulsions. The changing economic situation of the country made the law makers to think in favour of economic advancement, not so much the difficulties that the law can cause to the common people and vendors. By giving so much importance to the global safety standards and WTO agreements, the law maker's good intention is that our country should not lag behind in the international market. But on the other side, its implementation at the domestic level is a Herculean task for the small scale sector in the market. The in-depth analysis of the FSSA makes us feel that it is not formed with the intention to fulfill the food safety needs of more than hundred million people in this country.

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[37] Researcher's interview with Assistant Director, MFPI, New Delhi.

CHAPTER VI

CHAPTER 6

Conclusions

In a country like India, food adulteration and the consequent health problems are a very serious issue. Many a time, issues related to food are not treated as a public health concern probably because in a country like India, poverty and other related issues are much more prominent concerns as opposed to food safety concerns. But the health of the rural and the urban poor in India, as much as the well-to-do in the society, depends on the provision of safe food.

Food items pass through many processes in their journey from the farm to the table and at any of these stages, there are many likely chances of food adulteration and contamination. The use of pesticides, fertilizers, additives, chemicals, metal contents, food colors and food flavors etc, are some of the likely adulterants, as food passes from the farm to the table. In India, most cases of illness result from the mishandling of food at some stage along the food chain and that, with appropriate management, is preventable.

Ensuring the quality of food supplied through the food industry, identifying its problems, strengths, weaknesses, opportunities and threats is always a challenging task for the government. Legislation is an important tool to prevent this mismanagement.

The objective of this dissertation was to analyse the PFA Act 1954 that has been prevailing in the country for more than a half century; and to examine the new law- the FSSA, in the light of the expansion of the food industry domestically and the expansion of food trade globally, following the liberalization and privatization policies adopted by the government of India. Global trade in food has expanded phenomenally in the recent years. It has brought about new safety concerns as well as new laws to tackle them.

The distribution of unsafe food has increased in the recent past in India. This is evident when one looks at the number of new and pending food adulteration cases in various courts of India. The number of adulteration cases in the year 2001 was 53644. In 2002, it increased to 62282, an alarming increase of 8638 cases.

Under reporting and lack of knowledge of the unhealthy impact of unsafe food and consequent diseases is a serious problem in the country. Reliable data or even

estimates are not available about food related problems like food borne diseases, food toxication, and nature of adulteration and contamination that is happening in the country. In developed countries like the US, many studies are being conducted on the health impacts of food adulteration etc. Similar studies, to a large extent, are not conducted in India attesting to the low priority that we give to the supply of safe food to our people.

Consumers, in particular those of the developed nations, are demanding a greater assurance of safety as well as more information on which to base their choice of food. The introduction of new technologies like genetic engineering is posing a real challenge to food safety. There are new technologies available in agricultural production, and processing of food. For example, new preservation techniques can be harmful for health as it can be beneficial. Traditional definition of safe food has changed with the introduction of risk assessment analysis based on scientific knowledge of food borne illnesses and its causes. The concern for quality of food began to get wider importance when international standards developed and those standards were adopted as a parameter in food trade. Countries began to design their legislations in line with these international standards.

It is in this background of the expansion of food industry in India that the Indian government felt the need to bring in a new legislation to deal with food safety. One should also take note of the other changes that the government has brought in to deal with the food industry like the setting up of an altogether new ministry called the Ministry of Food Processing Industries.

This dissertation argues that the public health impacts that the FSSA, which designed along these new standards of safety, will make, will depend, on a large extent on the way in which it will be implemented. The new law, to some extent, claims that it can lead to better implementation of the Act since with the introduction of this new Act, multiple authorities and multiple laws dealing with food safety, have been done away with.

Is the new law a qualitative improvement over the old one apart the one point mentioned above? We note that the PFA Act 1954 itself was not a faulty legislation, ineffective in dealing with food safety, but that the inefficiency was the result of a lack of

proper implementation due to a dearth of effective institutional mechanisms and the political will to deal with the public health issue arising from food adulteration and contamination. The second factor is in the historical period in which the old law operated. In the planned economy of India, food safety concerns often took a back seat because of the over riding problem of providing food to the burgeoning population and this often obscured problems of food safety. For example, people generally preferred to have contaminated rice from the Public Distribution System than not have it at all.

The dissertation sees the new law as the historical outcome of the process of globalization introduced in the 1990s. We can see this new law as a part of a process by which laws of the developing countries are being streamlined to suit global capital. To what extent does the new food safety law fall within this pattern of law making can be fully ascertained only after it starts getting implemented.

But there are enough number of indications to suggest that there is a paradigm shift in thinking on public health from what is known as a "broader view on food safety" which will include concerns over malnutrition and poverty to a narrow view on quality checks on food adulteration. As is widely acknowledged, law also has a class dimension and this change in the main protagonist and the beneficiary of the food safety law from the Indian hungry masses to the sanitized de-classed "consumer" can turn out to be shift in favor of those who have the purchasing power to buy quality food.

In a developing country like India, food safety concerns of the poor will mean better sewerage facilities, safe drinking water supply and safe food which will put the screw on the profit hungry food companies who add water to milk, stones to rice and colored powder to turmeric etc. While some scholars argue that the same issues can be better dealt with once the implementation of new law is made easier and by way of streamlining the authority and laws of the country, it is clear that most of the public health concerns of the vast majority of the Indian population can be dealt with by the old law itself when it is applied in conjunction with other policies which benefit the poor of the country like more expenditure on health and public utilities like safe water. In the present neo- liberal policy framework, one does not find such concerns addressed hence it

is valid to be skeptical about the beneficial effects of the new law on the mass of rural and urban poor in India.

Having said that, it is also important to point out that the new law has made an effort to deal with public health issues arising from the expansion of food trade and industry in India in the form of spread of bio- technology products, food borne diseases due to increase in global trade etc. One point of appreciation in the law is that it may deal with new issues of food safety arising from global trade in food. The FSSA gives a new outlook to food safety combination of national and international regulations. It is created to point out the need for safety by ensuring scientific risk management. From the public health point of view, the FSSA is better in its scientific backup to prevent food adulteration and contaminated food spread into the food chain through this risk analysis. Risk analysis is considered as the pinpoint of ensuring overall safety of food. Its aim is identification of many risk factors of genetically modified foods, organic foods, infant foods, alcoholic drinks etc. The distinction is made between foods and drugs and appropriate labeling is also stipulated. As per the SPS agreement and Codex standards, the Act includes risk analysis mechanisms and providing scientific backup for all food borne harms. The issue of excessive pesticide residues in cola has brought the concern of science-based regulation in India.

There is a clear shift into the scientific backup for food products by introducing the risk analysis technology i.e, the assessment of acceptable level of unsafety. The issue is of how and for whom, the standards of safety are set. The conceptual shift from prevention to safety and standards is a shift in favour of international trade and not to assure the health of the people. Merely adding new clauses in a law to deal with new technologies many have been appropriate. But to make public health perspective, broader paradigm is needed.

Considering the fact that the FSSA has been framed to replace the PFA, considered as over regulatory and implemented under the licensing and inspector raj industrial climate of the post-independence period and hence nowadays seen as hindering the development of food industry in India, one wonders how far the new law will address the food safety concerns of the common man. One hopes that, since the Health Ministry

will be the implementing authority as against the Ministry of Food and Processing Industries, newly set up and speculated to be the implementing agency, some weightage will be given to the health factor in food issues.

The above said conclusion on the new law has been arrived at after a detailed analysis of the two Acts done using certain parameters such as the definitions, administration, enforcement, food standards, licensing and penalties of the respective Acts. Both the Acts are created with the good intention of protecting the health of the society. But certain provisions of the FSSA, favor the food industry than being concerns over public health. In the light of the above conclusions, certain suggestions are given in the next section to improve the law and its implementation.

Suggestions

By looking into the current state of the PFA, the effective implementation of the new Act itself will be a challenge for the government. Within the limited resources, the government has to ensure the proper working of the Act. The coordination of all related areas by the Food Authority will ensure this aspect. Concerns on infrastructure and manpower requirements should be given more importance.

The Food Authority must effectively coordinate its work of promotion, evaluation and regulation of food related matters in India. The food sector will develop if the food authority is established with professionals having integrity, knowledge and commitment. There must not be any outside interference from any other government bodies to the food authority and there is a need for transparency in its affairs. Scientific experts should be appointed in the authority rather than an increased number of bureaucrats.

Chemicals are one the main source of food borne illnesses along with contaminated food. Food additives, pesticides and veterinary drugs are deliberately used to improve and increase food supply, but these chemicals have long term adverse effects. The assessment of risks associated with these additives, pesticides etc. need extensive information and scientific expertise. In India, proper data on toxicological aspects, is not available when compared to countries like the US, UK or other developed countries. The risk assessment standard should be in accordance with the social conditions of different sections of the population.

Documentation of food borne diseases or cases of contamination and adulteration is not maintained in India. Most of these cases are not reported and the true dimension of the problem is unknown in many areas and hence efforts to secure the resources and support necessary for the identification and implementation of effective solution have failed due to lack of information. Steps should be taken to ensure the availability of extensive information from every part of the country.

Effective control of food-borne diseases must be based on evaluated information about food borne hazards. The food authority must develop strategies to reduce food related risks which require knowledge about the current levels of food borne diseases in various parts of the India. They must also be based on an appreciation of the targets and time frame for improving food safety. This should be an ongoing process, in which new targets are set when old ones are achieved, and progress should be achieved and monitored continuously through targeted surveys.

Innovative strategies and methods are needed for surveying food borne diseases and food contamination. A laboratory based surveillance system should be developed through regional and national laboratory networks. Pooling of knowledge is one of the functions of Central Advisory Committee, it must develop risk based strategies based on surveys and an interdisciplinary approach involving strong collaboration among all sectors dealing with food borne diseases and food safety must be given prime importance.

The success of any institution will depend upon the trained manpower of the organisation. Our food testing laboratories must be strengthened with trained manpower and continuous capacity building should help them to meet the challenges posed by new technology and products. The shortage of equipments and laboratories also remains a critical problem. There should be uniformity in testing procedures and evaluation methodologies all over India. The Food Authority should frame rules to this effect. The potential risks are being developed and validated on the basis of up to date technological advancements. The Food Authority can ask the government to use article 9 of the SPS agreement to facilitate technical assistance from other member countries.

We need many more advanced testing and analysis laboratories for examining imported food products. Investment in such laboratories is absolutely essential, other

wise we will not be able to use the SPS and TBT clauses to guard ourselves against the harmful effects of contaminants in imported products. More technologically advanced laboratories can be set up in association with Universities and in the public private partnership mode.

The Food Authority and the state food authorities are responsible for the enforcement of the FSSA. Like the PFA Act, the FSSA also empowers the state governments to create state rules for implementation of the Act. Capacity building and coordination are the essential role of state governments. However, the state governments do not have trained manpower to deal with the new provisions. The Central Government can provide integrated training to state officials.

As the existing food inspectors will act as the food safety officers, they have to be trained adequately to perform their duties properly. There must be a job chart and proper monitoring of the working of food safety officers and a proper reporting mechanism should be ensured. In India, adulteration issues are happening in every corner of the country. Finding all the cases and bringing them before the court is a massive task for the food authority. The Panchayat and village level committees and NGOs can provide this information easily, if there is an integrated information network throughout the country. The community involvement and awareness of consumer rights should be increased by awareness programmes conducted in Panchayat and village level communities.

The PFA Act was criticized very vigorously on the ground that it failed in proper implementation and enforcement. The FSSA can also suffer from the same malady. Hence strengthening the institutional framework should be top priority in the days to come.

Standards

Lack of clarity and transparency in the implementation of standards has been a major problem. Moreover, economically, there is no incentive for the food producers to comply with a higher standard and quality. The risk assessment standards and strategies have not been specified in the Act. Capacity building and the lack of technology and finance have been found to be important bottlenecks. The implementation and enforcement of international standards at the domestic level is also doubtful.

The Act lays lot of emphasis on scientific enquiry for standards setting. Any standards that are set for food safety have to meet stringent scientific norms, and the tests, experiments and result of the food laboratories and certifying agencies have to be made public to ensure transparency. Effective participation of all stakeholders, especially producers, processors, distributors and research organizations is needed in setting standards.

It is difficult to meet the standards for the final product without fixing standards for the raw materials. For example, water quality all over India is different. Fixing same standards for products born out of water like cola, packaged drinking water, other beverages are technically not feasible. Even so the areas like safety standard threshold for ingredients like aflatoxin or pesticide residues are not specified in the Act. These specific criteria are to be included in the Rules to avoid controversies such as what happened in the case of pesticide residue being found in cola samples recently. The heterogeneity in local conditions also should be taken into consideration for setting uniform safety standards.

Meeting certain processed food standards may be difficult, considering the fact that primary producers are kept out of the ambit of the Act. This leads to a situation wherein the final product needs to meet all norms and also the raw materials need to be checked to see whether or not they confirm to standards. Food is getting affected from its inception stage of agricultural production with pesticides, fertilizers etc. The residues of these elements will therefore, be there in the final product also. The food law should devise some mechanism to address all these issues, using a 'farm to table' perspective towards food safety. Assessing the quality only from the processing stage is not desirable. Practices for the provision of safe food have to begin at the most basic level of food production and distribution by adopting best practices in agriculture production.

Specific food items that are unique products of India such as Basmati rice, cashew nuts, walnuts, groundnuts, tea, infant foods and some spices etc. need identification in the standards specifications. Like products must be identified and steps should be taken to define their standards.

Registration

There is a need to make registration a compulsory requirement for every one in the food trade sector. It should be made mandatory, irrespective whether they belong to the organized or unorganized sector. The Act does not adequately and realistically address the problems of monitoring such operations. The unorganized sector needs to be given a certain period to comply with the safety provisions. They should be awareness programmes conducted before they are brought under the provisions of the law and they should given financial assistance in credit to come up with safety standards. Food parks are a good decision from the part of Supreme court as per its February 6th 2007 decision for this scattered sector to give them proper place and all other facilities like potable water, electricity and other safety needs.

Penalties

The penalties put in the FSSA for erring food business operators are very stringent in terms of fines and imprisonment. The minimum fine should be limited as a minimum fine of Rupees ten thousand and a maximum of Rupees ten lakh. The unorganized sector should be given certain relaxations in terms of penalty and recovery procedures.

Improvements Needed in Food Industry

Food safety and quality should be a pre-condition of food trade. Quality is not only in appearance; but in content also like pesticide residues, microbial contamination etc. and their impact on public health. The effective management of microbiological hazards should be enhanced in every industrial unit through the use of tools such as Microbiological Risk Assessment (MRA) and Hazard Analysis Critical Control Point (HACCP) systems. This should be made mandatory for food manufacturing units.

The Indian food industry does not have trained manpower to handle post-harvest quality management practices and food processing activities. There is an urgent need to train labourers engaged in post-harvest practices and shop-floor workers engaged in food processing activities. Setting-up of farm schools on the industrial technical institutes should be given priority, where essentials of hygiene, food handling and processing

should be taught in certificate courses. Such training should be made mandatory to hire workers on farm or in the processed food sector.

Many of the food products imported into India contain weights measured in ounces and pounds. Labels are many times written in a foreign language, and the products contain additives that are not allowed by the Prevention of Food Adulteration Act applicable to domestic products. Thus, the FSSA needs to be applied with equal force on imported products. And where science permits, domestic food companies should be allowed to use recently developed food additives and preservatives so that they can effectively compete with the imported products. For example, de-colourant for buffalo milk is permitted elsewhere in the world but not in India. Certain important preservatives, like Nisin, essential for tropical climates, are not permitted in India. Allowances for technical advancements should be made in domestic laws from time to time.

The government is moving towards international food safety standards, particularly those set forth by the Codex Alimentarius Commission. As far as the unorganized sector is concerned, it is awareness spreading and advocacy rather than mere rules that may help to ensure safety and quality. The unorganized units should be encouraged to form some sort of area-wise organization and then there should be one confederation of such organizations.

It is also very important to realize that, intentionally or not, the Act will have a pervasive effect on the small retail trade in food in India; in fact effects to that extent are already noticeable. The international standards and safety norms are fashioned in favor of the corporate sector and local products will find it hard to compete with such global products with high safety standards. Global retail sectors are eyeing India's vast food market and it is in their advantage, if safety and standard measures drive the small manufacturers out of the market, since most of the big players manage to either comply with the standards or to buy such accreditations on their products. Since there is an FDI cap on retail trade, many global retailers have already put a foot in the Indian market by way of collaboration with well-known Indian units. At the same time, it is advantageous for the domestic food industry in developed countries, to portray India as a producer of

unsafe food since this will ensure them a virtual monopoly in the food sector in the country.

The international agreements and the complying of those standards for all food items and international hygiene practices by making of new Acts like the FSSA should not affect the livelihood of small players in the food sector. The upgradation of their standards must be done in a phased manner.

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