

ASSESSMENT OF CURRENT SCENARIO OF FOOD LABELLING IN INDIA

FINAL REPORT



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Acronyms

AGMARK – Agriculture Produce (Grading and Marking) Act

BIS – Bureau of Indian Standards

CCDC – Centre for Chronic Disease Control

COMA – Committee on Medical Aspects of Food Policy, UK

DI – Daily Intakes

DI – Daily Reference Indices

EU – European Union

EUFIC- European Food Information Council

FPO – Fruit Products Order

FR _ Federal Register, US

FSA- Food Standards Agency, UK

FSAI – Food standards Agency of Ireland

FSANZ – Food Standards Australia New Zealand

GDA – Guideline Daily Amounts

GM – Genetically Modified

GM Foods – Genetically Modified Foods

HEI – Healthy Eating Index

ICMR – Indian Council of Medical Research

IFIC – International Food Information Council

ISI – Indian Standards Institute

K Cal – Kilo Calories

KJ – Kilo Joules

MFPO – Meat Food Products Order

MMPO- Milk and Milk Products Order

MSG – Monosodium Glutamate

NCC – Nutrient Content Claim

NGO – Non-Governmental Organization

NIN – National Institute of Nutrition

NVIF - Nutritive Value of Indian Foods
OTC - Over the Counter
PDP - Principal Display Panel
PFA - Prevention of Food Adulteration Act
QUID - Quantitative Ingredient Declaration
RDA - Recommended Dietary Allowances
SACN - Scientific Advisory Committee on Nutrition, UK
SSI - Small Scale Industry
TL System - Traffic Light System
UK - United Kingdom
USA - United States of America
USDA - United States Department of Agriculture
USFDA /FDA - Food and Drug Administration, US
WHO - World Health Organization

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Executive Summary

The production, sale and consumption of pre-packaged foods have witnessed a major surge in the recent years in both developed and developing countries. Food labelling is one of the important population-based approaches that can help consumers make healthy food choices by providing the necessary information about the food on the pack. The food label is one of the most important and direct means of communication of product information between buyers and sellers. Ideally food labels can serve many a purpose to varied stake holders. For the policy makers it is a population-based approach to promote healthy eating among people, for the consumer it is a tool to make informed and healthy choices and for the industry it is an effective marketing tool. Food labels can also be viewed as potentially powerful tools of nutrition communication. In the Indian context, where overweight, obesity and the resultant non-communicable diseases are increasing; the effectiveness of food labels in discouraging consumption of unhealthy foods needs to be explored.

Packed foods hitherto sold in any Indian markets were only labelled with the product name, name and address of the manufacturer, amount of product in the package, the ingredients and date of expiration. Recently, nutrient content declaration has been made mandatory on nearly all pre-packaged foods. Consumers also have more nutrition information due to expanded food labelling mandated by the Government.

While there is no doubt that food labels will encourage healthy eating, there is increasing evidence from developed countries (where food labelling is more evolved), indicating that mere display of food labels cannot help the consumers make informed choices. In the Indian context, the situation could be different. The current status of food labelling in India is primitive and in fact its contribution to public health can be substantial only if food labels are made user friendly. Given this background, the present study was conducted with the support of WHO Country Office India with broad objectives of assessing the current scenario of food labelling in India vis-à-vis in other countries.

Apart from reviewing the existing food labelling regulations in India and various developed countries, scientific studies, reports and reviews relating to various aspects of food

labelling (like regulations, consumer studies, consumer attitudes, different methods of labelling etc), published in the last one decade (1998-2008) were retrieved and reviewed.

In addition, a market survey was conducted in Hyderabad to assess the compliance of existing food labelling regulations. In this, a total of 815 pre-packaged foods were examined for their compliance with food labelling regulations. Also, 109 imported foods either directly imported or those having secondary labels were examined.

Further to this, a national-level workshop with various stakeholders was organized at NIN during 24-25th June 2009.

The results of the study after all the above phases indicated that the food labelling regulations in India are on par with those of the developed countries, but there are hardly any studies to examine the extent of compliance. In the Indian context, many studies indicated that food labels are not usually read by consumers while making food choices, this may be either due to low literacy rates or lack of nutrition knowledge and awareness. In such a scenario perhaps there is a need to evolve and experiment symbol-based food labelling in India

Market Survey showed that food packages were 100% compliant in displaying the basic regulatory requirements like name of the food, net weight, languages used etc. The labelling aspects like instructions for use, storage conditions before and after opening and nutrition information per 100 gm/serving were complied on 77% of food labels. Nutrition claims and health claims were indicated on the 10% and 29% of labels respectively.

Further, when labelling information on 109 imported pre-packaged foods were compared with respective categories of 236 Indian pre-packaged foods, it was observed that a significantly ($P<0.05$) higher proportion of Indian foods (79%) gave nutrient declaration per 100 gm/100 ml which is mandatory as per PFA against 68% of imported foods. However, a significantly higher ($P<0.01$) number of imported foods had declared nutrients 'per serving' than Indian foods. About 49% of imported foods indicated nutrition information on 'per 100 gm' as well as 'per serving' basis, which was significantly higher ($P<0.05$) than Indian foods

(33.8%). Mandatory quality symbols (FPO, MFPO) were shown on more Indian products as against imported foods ($P < 0.001$).

Workshop recommendations highlighted the need for awareness creation and guidance to the industry, regulators and consumers. It was also recommended that all food labelling regulations which are currently guided by many Acts and Orders (such as PFA, FPO, MFPO) be unified into comprehensive general standards.

This study reiterates the need for nation-wide studies to understand the consumer knowledge, practices and behaviour related to food labels for formulating strategies to make them user-friendly. It is recommended to develop guidelines for nutrition and health claims based on Codex Guidelines and other international guidelines keeping in view the country needs. It is also time to evolve permitted nutrition and health claims that can be used by the food industry.

1. INTRODUCTION AND BACKGROUND

The issues on food labelling are attracting more public and regulatory attention due to the increasing production and sale of food in pre-packaged form. The food label is one of the most important and direct means of communication of product information between buyers and sellers. It enables the consumers differentiate between individual foods and brands to make informed purchasing choices. A label serves the following three primary functions: (i) it provides basic product information (including common name, list of ingredients, net quantity, shelf life, grade/quality, vegetarian society logo, country of origin, name and address of manufacturer, dealer or importer and food standards agency; (ii) it provides health, safety, nutrition information which includes instructions for safe storage, handling, nutrition information such as quantity of fats, protein, carbohydrate, vitamins & minerals and preservatives, colours, if used any, quantity per serving of stated size of food (in the nutrition facts table) and specific information on products for special dietary use; (iii) it also acts as a vehicle for food marketing promotion and advertising (via label vignettes) promotional information and claims such as 'low fat', 'cholesterol free', 'high source of fibre', 'natural', 'organic', 'no preservatives added' and so on (Jessie, 2005).

Food labels are potentially powerful tools of communication, which are often not considered when traditional channels are discussed (Goldberg 1992) to discourage consumption of unhealthy packed foods. In the Indian context, where prevalence of overweight, obesity and incidence of the resultant non-communicable diseases are assuming epidemic proportions, consumption of unhealthy foods can be discouraged to a large extent by effective food labelling practices, which give ample scope for the consumers to make informed choices.

Not only in developed countries, but also in developing countries like India, increased consumer interest in health resulted in greater availability of foods claiming to contain less energy, sodium and fat and more of dietary fibre, vitamins, and minerals than in the past. Today nutrition labels are being made mandatory on

nearly all packaged foods. Consumers also have more nutrition information due to expanded food labelling mandated by the government because packed foods hitherto sold in any Indian super market were only labelled with the product name, name and address of the manufacturer, amount of product in the package and the ingredients, which are listed in descending order by weight if the food contains more than one ingredient (Gordon and Paul 1996). The nutrition facts on a label of a food product provide information on its total calories and calories from fat. The amount of total fat, saturated fat, cholesterol, sodium, total carbohydrates, dietary fibre, sugar and protein and trans fats, vitamins and minerals per 100gm of the food are listed (Anonymous, 2007; Kathleen and Escott-Stump 2004).

There is now increasing evidence to indicate that mere display of food labels can not help the consumers make informed choices. For instance, a recent study on the perceptions and practices of the Indian households (HHs) related to food safety revealed that as many as 60% of the HHs buy packed food sometime or the other but only 20% check the food labels (NIN 2006). Studies among south Indian women indicated that although women see the labels on packed foods for date of manufacturing and 'best before date', many of them are not aware of quality symbols like ISI, AGMARK and FPO (Sudershan et al., 2008; Subba Rao, et al., 2007). Studies also indicate that literate consumers are more likely to check labels than their illiterate counterparts (FSAI, 2003; Yang et. al. 2000). In the Indian context, where the literacy levels are considerably low, addition of symbols to the routine labelling may be more beneficial. For instance, in developed nations the new traffic light scheme has been designed to provide at-a-glance information on the quantity of fat/saturated fat, sugars and salt content in the food preparations. As per this scheme, separate traffic light like symbols (red indicating high, amber- medium and green - low) are used for fats, sugars and salts on the label, using which the consumers can make their choices. Studies revealed that this kind of labelling is becoming more popular (FSA, 2007). But there are hardly any studies that have tested the effectiveness of using such symbols in the Indian scenario. The current status of food labelling in India that way is very primitive and in fact, the exact

status is also unknown. Therefore, there is an urgent need to examine the current food labelling practices and regulation in India, emerging and re-emerging issues in food labelling in order to come up with approaches to make the food labels easily comprehensible.

Given this background, the present study was conducted with the following objectives:

2. OBJECTIVES

1. To review the current status of food labelling scenario in India vis-a-vis global scenario and prepare a working paper
2. To identify the issues to be considered for making the food labels more user-friendly by organising a workshop with all the stakeholders
3. To assess the labels of various categories of pre-packaged foods in a market survey for examining their compliance with food labelling regulations.

3. METHODOLOGY

The existing food labelling regulations in India and various developed countries like the United States of America (USA), United Kingdom (UK), European Union (EU), Australia and New Zealand were obtained from regular searches on the websites of the governing agencies of the respective countries and published literature.

Scientific studies, reports and reviews relating to various aspects of food labelling (like regulations, consumer studies, consumer attitudes, different methods of labelling etc), published in the last one decade (1998-2008) were collected through a systematic search on the internet on authentic scientific websites like www.google.com, [www.medline.com](http://www.ncbi.nlm.nih.gov), [www.pubmed.com](http://pubmed.ncbi.nlm.nih.gov) and www.sciencedirect.com using key words such as 'food labels', 'food labelling', 'food labelling practices', 'consumer studies + food labelling', 'food labels + consumer

perceptions', 'nutrition labelling', 'mandatory labelling', 'GM Foods + Labelling', 'Organic foods + labelling'.

In addition, a market survey was conducted in Hyderabad to assess the compliance of existing food labelling regulations. For the survey, 815 pre-packaged foods including 109 imported pre-packaged foods from 14 countries, were collected from various supermarkets, hypermarkets as well as small and medium food stores. These products were broadly classified into 15 categories such as ready-to-eat foods, snack foods, confectionary, vegetable products, soups etc. Using a pre-tested proforma the labelling information the above foods was also assessed.

4. RESULTS

4.1. Current Food Labelling Regulations in India

In India, while, Prevention of Food Adulteration Act (PFA) enacted in 1954 and being amended from time to time, has been the major regulation guiding food labelling, there are also certain specifications under various other regulations, which directly or indirectly relate to what labels should contain.

Some general food laws that are currently in vogue in the country include the following:

4.1.1. PFA (1954) Act is a national legislation for food safety, and its basic tenets are to protect the consumer from supply of contaminated and adulterated food. PFA Act has some provisions for labelling of pre-packaged and packaged foods. In PFA, Rules 32 to 43 deal with various aspects of food labelling requirements like what a food label should contain (including name of the food, manufacturer's address, list of ingredients, nutrition information, Net weight of the food etc.), the label size, font size to be used, additives used, symbol indicating whether the food uses vegetarian or animal food ingredients.

PFA's purpose is also to regulate production, manufacture, packaging, storage and sale of food products and to make sure that certain minimum norms of quality are maintained.

Some examples of special labelling provisions

- (i) In case the food contains mono sodium glutamate (MSG), it is mandatory under Rule 42 (s) of PFA that label declares as follows:

[Mono sodium glutamate not recommended for infants below 12 months]

- (ii) With regard to, artificial sweeteners, only saccharin was allowed in aerated waters up to 100ppm. Currently, aspartame and acesulfame are also permitted in small quantities. Rule 47 (ZZZ) mention that, the label should declare artificial sweetener contained in the product as follows.

i) This(Name of the food) contain(Name of the artificial sweetener).
ii) Not recommended for children.
iii) Quantity of sugar added.....
iv) Not for phenylketonurics (in case of Aspartame)

In addition to declaration, every package of food that is permitted to contain artificial sweeteners shall carry the following

CONTAINS ARTIFICIAL SWEETENER AND FOR CALORIE CONSCIOUS

- (iii) Similarly, as regards, **labelling of infant milk substitutes and infant foods**, Rule 37B indicates that every container of infant milk substitute or infant food or any label affixed shall indicate clear, easily readable manner, the words: IMPORTANT NOTICE in caps indicating there under a statement "MOTHERS MILK IS BEST FOR YOUR BABY".

Milk substitute meant for premature baby, born before 37 weeks, low birth wt. Infant(less than 2500gm) labels should indicate following. PREMATURE BABY

(all caps) (BORN BEFORE 37 WEEKS), LOW BIRTH WT. LESS THAN 2500 gm along with product name in central panel.

A statement "TO BE TAKEN UNDER MEDICAL ADVICE" in capital letters. The container infant milk substitute for lactose and sucrose intolerant indicate LACTOSE or SUCROSE PRODUCT and statement "TO BE TAKEN UNDER MEDICAL ADVICE"

4.1.2. Quality Symbols

- (i) **ISI (Indian Standards Institute) Mark:** This is issued by the Bureau of Indian Standards (BIS), formerly known as the Indian Standards Institute (ISI) as per the ISI (Certification Marks) Act in 1952. The Product Certification Scheme of BIS aims at providing Third Party Guarantee of quality, safety and reliability of products to the ultimate customer. Presence of ISI certification mark known as 'Standard Mark' on a product is an assurance of conformity to the specifications. This was established with an objective of quality certification of processed food items based on set standards supported by precise methods of testing. BIS has published standards for different food products like bakery and confectionery items, edible starches and protein rich foods etc. although the certification scheme was voluntary to start with, it assumed mandatory nature subsequently, when ISI mark has been made compulsory under certain Acts and Statutes. The food colour, for instance, cannot be sold under the PFA Act, if it is not ISI marked.

- (ii) **The Agricultural Produce (Grading and Marking) Act (1937),** popularly known as AGMARK, was enacted to protect consumers interests. It provides quality certification for agricultural and other produce. The AGMARK is considered a stamp of quality and purity. Grading and marking, under AGMARK is Voluntary.

4.1.3. Other Regulations that deal with food labelling

- (i) ***The Fruit Products Order (FPO), 1955:*** The FPO has specifications on quality norms for various fruit preparations like juices, jams, jellies etc. As per this Order, every manufacturer MUST comply with the set requirements in regard to packaging and labelling of containers of fruit products.

- (ii) ***Edible Oils Packaging Order, 1988:*** The purpose of the Edible Oils Packaging Order is to ensure standard of quality of edible oils as mentioned in the PFA Act, 1954. As per this Order, the Edible Oils should be packed in a container and marked and labelled in the manner specified in Schedule-A of the Act. The container's label should necessarily have the brand name, name and address of the packer, description of contents, net mass/volume, batch No., month and year of manufacture.

- (iii) ***Meat Food Products Order (MFPO), 1973:*** This order regulates production, quality and distribution of raw and processed meat products. It warrants that labels of the containers of meat food should have the name of the product, date of manufacture, net weight/volume, name and address of the manufacturer. At the same time, unauthorized use of words, pictures etc. showing imitation is prohibited and as in PFA, every package which contains monosodium glutamate (MSG) shall bear the label indicating "THIS PACKAGE CONTAINS MONOSODIUM GLUTAMATE. UNFIT FOR INFANTS BELOW 12 MONTHS." Apart from the above, the label should also list the permitted preservatives and additives used; license number and category; list of poisonous metals, such as lead, copper, arsenic, pesticides, sequestering and buffering agents.

- (iv) ***Milk and Milk Products Order (MMPO), 1992:*** The Milk and Milk Products Order aims to set sanitation and hygiene standards for dairy plants and establish an advisory board to advise the government on production, sale, purchase and distribution of milk and milk products. The labelling provisions

under this act make it mandatory that producers should comply with all packing and labelling requirements recommended under the order.

4.1.4. Recent Inclusions

Compulsory 'Best Before' Date: Government has made it mandatory with effect from July 1999, that all packed food items should necessarily display 'Best Before' Date.

- (i) **Labelling Infant Foods:** The Government of India has passed strict legislation to ensure proper labelling of infant food and infant food substitutes. It has been made mandatory that every container of milk substitute or infant food or any label affixed there to shall indicate in a clear, conspicuous and easily readable manner an IMPORTANT NOTICE which reads, MOTHER'S MILK IS BEST FOR BABIES in capitals.

- (ii) **Statutory Warning on Tobacco Items:** Since habitual chewing of masticatory products like *Pan Masala / Khaini / Gutkha* is known to increase the risk for oral cancer, the Ministry of Health has made it compulsory to print Statutory Warnings 'CHEWING TOBACCO IS HARMFUL' and 'NOT FOR MINORS.'

- (iii) **Marking the 'Animal Origin' Foods:** It will be surprising to know that so-called 'pure-veg' products may also contain animal - based ingredients. For instance, it is not too well known that some common food products like biscuits, ice creams, bread and buns, cakes and *vanaspathi* may use animal enzymes, egg white or gelatine or many other forms of animal origin products.

The Government of India made a major amendment to PFA by introducing the labelling of vegetarian and non-vegetarian foods. On September 26, 2001, a notification was issued by the Ministry of Health and Family Welfare, which said that if any article of food contains whole or part of

any animal including bird, fresh- water or marine animals or eggs or products of any animal origin as an ingredient, its manufacturers will have to make a declaration by displaying a brown dot prominently on the label, next to the brand name. From June, 2002, it has become mandatory for all packaged foods containing ingredients of animal origin to sport a brown dot encased in a brown box. As of now, milk and milk products, if they are used as ingredients, are exempted from this order. For vegetarian foods, the label should have green dot encased in a green box.

- (iv) **Labelling Genetically Modified Foods:** The potential of Genetically Modified foods in fighting hunger and malnutrition has made them very popular in recent times. But there are controversies shrouding these foods regarding their allergenicity, potential toxicity and a number of environmental issues. Given this scenario, what if such ingredients are used in packed foods? How should they be labelled?

The concept of labelling relies on the principle that if the new food that is being provided is substantially equivalent to an existing food, it can be treated in the same way with respect to its safety and nutritional characteristics. Hence the acceptance of GM foods has to be determined by its comparison to an analogous conventional food. The food labelling laws are different in different countries. The European Union argues that any food containing detectable amounts of GM ingredients should be adequately labelled. On the other hand, the USA argues that it is not only unnecessary, but also costly and complicated, especially if the ingredients are taken from a number of sources. The US also argues that so complicated and complex labelling may also give an impression that GM technology is inherently unsafe, when there is no substantial evidence to prove this notion.

- (v) **Labelling Nutraceuticals:** In the recent past, several green and natural products have emerged. These products are being promoted in the market through

ethical route, supported by physicians or as 'over the counter' (OTC) products. As on today, the nutraceuticals do not fall under either the Drug and Cosmetics Act or the Prevention of Food Adulteration Act. According to the PFA, only protein supplements are considered food supplements along with vitamins and minerals. Since there is no well defined regulation guiding the labelling of these products, the labelling requirements under the PFA are being usually followed.

But in case of food products that are making tall health claims, a number of factors have to be taken into consideration. They include health risk, risk-benefit analysis, evaluation and efficacy and toxicity and health regulations. When all these factors are taken into consideration, several foods may fall under a 'grey zone' between foods and medicines.

However, Section 22 of Chapter-4 of the New Food Safety and Standards Act, 2006 clearly defines the terms GM Foods, Organic Foods, Functional Foods and Proprietary Foods. As regards their labelling, although the specific provisions are being worked out, the current regulation mandates, "any product labelled as food for special dietary uses or functional foods or nutraceuticals or health supplements or similar such foods, which is not represented for use as a conventional food or whereby such products may be formulated in the form of powders, granules, tablets, capsules, liquids and other dosage forms but not parenterals and are meant for oral administration."

4.2. Food Labelling In Developed Nations

4.2.1. United Kingdom (UK) and European Union (EU)

In the UK, there is a legal requirement for much of the information that is to be provided on food labels. As the UK is part of the EU, the laws regarding food labelling are based on EU community legislation. As per these regulations, specific information such as name of food, weight or volume, ingredients date and storage conditions, preparation instructions, name and address of the manufacturer, packer or seller, lot number etc. must appear on food labels by law. Additional information

such as nutrition information, cooking instructions and serving suggestions may also be provided. However, foods sold loose are currently exempt from many of the food labelling laws. Some of the mandatory requirements are as follows:

- (i) **Name of the food:** The EU regulation mandates that the name of food must be clearly stated on the label. In case of the foods that have made up names that do not give information about what is in them, the regulation mandates that a description of the foods be given so that it is neither ambiguous nor misleading. In case, any processing is done, the process should also be indicated in the title, for example salted cashew nuts, dried apricots etc. The law also makes it mandatory to describe the differences between apparently similar products. For example, a 'fruit yogurt' must be flavoured using real fruit, while a 'fruit flavoured yogurt' can be flavoured using artificial flavours.
- (ii) **Weight or volume:** Like the Indian regulations, the UK and EU regulations also mandate that weight or volume of the food must be shown on the label. Interestingly, the regulation gives a leverage that actual weight of the product does not need to be exact, but specifies that it must be within a few grams of the weight stated on the label. The symbol 'e' is used to show that the weight complies with the EU requirement for weight under the average system, i.e. the average pack is at least the weight declared. If the product weighs less than 5g then the weight need not be stated.
- (iii) **Ingredients:** Ingredients are listed in descending order of weight, according to the amounts that were used to make the food. The EU regulations mandate that the ingredient names must be listed in the language relevant to the country where the food is being sold. All components, including water and food additives, must be included in the list if they have been added. Some exceptions do exist. For example, if one of the listed components is a food product itself (e.g. toffee in toffee ice-cream) and contributes to less than 25%

of the final food product, its constituent ingredients do not have to be listed. This exception (referred to as the 25% rule) is being phased out as it makes it difficult for people wanting to avoid certain ingredients due to food allergies and intolerances. A new European Union (EU) labelling rule came into force in November 2004 in the UK which requires 12 food ingredients to always be clearly labelled.

They are milk, eggs, peanuts, nuts from trees (including Brazil nuts, hazelnuts, almonds and walnuts), fish, crustaceans (including crab and shrimps), soya, wheat, celery, mustard, sesame and sulphur dioxide. The improved labelling rules provide consumers with more comprehensive information about the ingredients in pre-packed foods and will be particularly helpful for people with food allergies and intolerances who need to avoid specific food ingredients.

- (iv) **Quantitative Ingredient Declaration (QUID):** If an ingredient in the description of the product is featured in a pack shot and other situations, *e.g.* Chicken and Ham Pie, the quantity of the ingredient must be declared as a percentage. This is required as part of EU labelling law, and is known as a QUID.
- (v) **GM ingredients:** The new GM labelling came into force within the EU in 2004. The presence of either genetically modified organisms (GMOs) or ingredients produced from GMOs in foods must be indicated on the labels. Foods produced with GM technology (*e.g.* cheese produced with GM enzymes) and products such as meat, milk and eggs from animals fed on GM animal feed will NOT have to be labelled.
- (vi) **Date and storage conditions:** Information must be provided on how long a product is likely to last once it has been bought and/or opened, and under what conditions it needs to be kept to ensure its freshness. Other foods have a

best before date, after which foods may not be at their best, with regard to flavour, colour and texture. Guidance on the mode of storage has become universal in EU. For example, a simple star system is used to indicate at what temperature the food should be held at and for how long (Eg: * - 6°C 1 week (pre frozen food only) or ** - 12°C 1 month (pre frozen food only) etc).

(vii) **Preparation instructions:** When necessary, instructions on how to prepare and cook the food must be given on the label. If the food has to be heated, the temperature of the oven and the cooking time should be stated. Instructions may also be given for heating in a microwave oven. These instructions should ensure the food tastes its best and that it will be thoroughly heated to a core temperature of 75° C, which minimises the risk of food poisoning.

(viii) **Name and address of manufacturer, packer or seller and Place of Origin:** These details must be stated on the label.

(ix) **Lot or batch number:** The lot or batch number is a code that can identify batches of food in the event that they have to be recalled by the manufacturer, packers or producers.

(x) **Other information which may appear includes**

- **Cooking Instructions/Serving Suggestions:** Manufacturers often provide recipes and cooking instructions on labels for use of the product. A picture of the product used as part of a composite dish or meal is referred to as a serving suggestion. This is to indicate that this is not how the product will look when the packaging is removed.
- **Nutrition Information:** Unlike in India, manufacturers in EU are not obliged by the law to provide nutrition information, unless they make a nutrition claim.

- Guideline Daily Amounts (GDAs):*** In the UK, some prepackaged foods also provide information about guideline daily amounts (GDAs). GDAs are derived from the Estimated Average Requirements for energy for men and women aged between 19-50, of normal weight and fitness (2500kcal and 2000kcal respectively). There are currently no GDAs for children. The fat and saturates GDAs are based on the dietary reference values for these nutrients published by the Department of Health (1991). Figures for salt were added at a later stage, based on the 6g per day recommendation made by Committee on Medical Aspects of Food Policy (COMA) in 1994 (and reaffirmed by the Scientific Advisor Committee on Nutrition (SACN), UK in 2003) GDAs are intended as guidance to help consumers in their understanding of their recommended daily consumption of energy (calories), fat and saturates and a base against which the content of individual foods can be compared.
- Allergen Information:*** Alongside appearing in the ingredient list, the foods that are sometimes known to cause allergy may be listed again in a box or highlighted in some way to draw attention to their presence (e.g. this product contains EGG). Some products carry 'MAY CONTAIN' warnings on labels to highlight that the food may contain minute traces of foods known to cause allergy. This may be because the food is produced on the same line or in the same factory as other products that contain the food known to cause allergy.
- Organic Foods or Ingredients:*** As per the regulation in UK and EU, every organic food product needs to gain certification from one of the six UK Certification bodies. This certification can be found on a food label to identify it as genuinely organic. Regulations also specifically exclude the use of irradiated or genetically modified ingredients in organic food.

- ***Foods Sold Loose:*** The labelling rules for pre-packed foods do not always apply to foods sold loose; for example, the listing of ingredients and date and storage conditions. However, the regulation mandates that for GM products sold 'loose', information must be displayed immediately next to the food to indicate that it is GM.

4.2.2. Australia & New Zealand

The following are the highlights of the important aspects that should be depicted on food labels as per the regulations in Australia and New Zealand.

- (i) ***Name or Description of the Food:*** Foods must be labelled with an accurate name or description.
- (ii) ***Date Marking:*** Foods with a shelf life of less than two years must have a 'best before' date. It may still be safe to eat those foods after the best before date but they may have lost quality and some nutritional value. Those foods that should not be consumed after a certain date for health and safety reasons must have a 'use by' date. An exception is bread which can be labelled with a 'baked on' or 'baked for' date if its shelf life is less than seven days.
- (iii) ***Information on Nutrition Information Panel:*** Packaged foods must have a nutrition information panel. The information must be presented in a standard format specified in the regulation which shows the amount per serve and per 100g (or 100ml if liquid) of the food. There are a few exceptions to requiring a nutrition information panel such as, very small packages which are about the size of a larger chewing gum packet, foods with no significant nutritional value (such as a single herb or spice), tea, and coffee, foods sold unpackaged (unless a nutrition claim is made), foods made and packaged at the point of sale, for example bread made in a local bakery.

- (iv) ***Ingredient List:*** Ingredient list is usually provided on the back of the product. Ingredients must be listed in descending order by ingoing weight. So, if fat, sugar or salt are listed near the start of the list the product contains a greater proportion of these ingredients.
- (v) ***Weight and facts about the food:*** The food products must be labelled with accurate weights and measures information. Fair trading laws and food laws in Australia and New Zealand require that labels do not misinform through false, misleading or deceptive representations. For example, a food with a picture of strawberries on the label must contain strawberries.
- (vi) ***Percentage labelling of characterizing or key ingredients:*** Packaged foods have to carry labels which show the percentage of the key or characterizing ingredients or components in the food product. This will enable the consumer to compare similar products. An example of a percentage of a characterizing component would be the amount of cocoa solids in chocolate. Some foods, such as 'white bread' or 'cheese', have no characterizing ingredients.
- (vii) ***Food additives:*** All food additives used in pre-packaged food must have a specific use, must have been assessed and approved by Food Standards Authority of Australia and New Zealand for safety and must be used in the lowest possible quantity that will achieve their purpose. Food additives must be identified, usually by a number, and included in the ingredients list. This allows those people, who may be sensitive to food additives to aviod them. A full list of numbers and additives can be obtained from the FSANZ. Some additives are derived from food allergens, which must be identified, for example lecithin (Soya bean).
- (viii) ***Legibility and language requirements:*** Any labelling requirement legally required in the Food Standards Code must be legible, prominent, and

distinct from the background and in English. The font size of warning statements must be at least 3mm high, except on very small packages.

(ix) *Directions for use and storage:* Manufacturers must include the information relating to specific storage conditions required in order for a product to keep until its 'best before' or 'use by' date.

(x) *Country of origin:* Australia and New Zealand have different country of origin labelling requirements. In Australia, packaged, and some unpackaged, foods must state the country where the food was made or produced. This could just be identifying the country where the food was packaged for retail sale and, if any of the ingredients do not originate from that country, a statement that the food is made from imported or local and imported ingredients. Australian legislation also lays down rules about 'Product of Australia', which means it must be made in Australia from Australian ingredients, and 'Made in Australia', which means it is made in Australia with significant imported ingredients. In New Zealand, country of origin requirements only applies to wines.

(xi) *Other labelling related issues:*

- **GM Foods:** It is mandatory for GM foods to be identified on food labels in Australia and New Zealand. These requirements became law in December 2001 and were put in place to assist consumers to purchase or avoid GM foods, depending on their own views and beliefs. GM foods and ingredients (including food additives and processing aids from GM sources) must be identified on labels with the words 'genetically modified', if novel DNA and/or novel protein from an approved GM variety is present in the final food. GM foods must also be labelled if they have altered characteristics. Some exemptions are allowed under the labelling requirements. For example, foods which do not contain novel DNA or protein do not have to be labelled, such

as highly refined or processed foods such as vegetable oils or sugars. However, if these foods also have altered characteristics (e.g. a refined oil with an altered fatty acid profile) then the food must be labelled.

- ***Nutrition, Health and Related Claims:*** In December 2003, the Australia and New Zealand Food Regulation Ministerial Council agreed to a new policy for Nutrition, Health and Related Claims. At present, nutrient content claims are allowed (e.g. 'this food is high in fibre'), as are some health maintenance claims. However, there is a prohibition on other types of health claims, with the exception of claims about the benefit of maternal consumption of folate, to reduce the risk of fetal neural tube defects.

The Policy Guideline proposed a significant and positive change for the food industry, with a wide range of claims permitted and providing incentive for innovation. The Claims Classification Framework sets out criteria for three types of claims: nutrition content claims, general level health claims and high level health claims. The level of a claim determines how the claim is regulated, including the evidence required for substantiation. Nutrition content claims are statements regarding the amount of a nutrient, energy or a biologically active substance in the food. Manufacturers must have proof that the nutrient, substance or property that is the subject of the claim is present at levels referred to in the claim. General level health claims can refer to the presence of a nutrient or substance in a food and to its effect on a health function. A general level health claim cannot refer to a serious disease or condition or to an indicator of a serious disease (e.g. blood cholesterol). Manufacturers must use either the FSANZ Model List of pre-approved statements, provide suitable scientific texts or dietary guidelines to support the claim, or must hold scientific evidence to substantiate such claims and produce this evidence, on request, for

enforcement agencies. High-level health claims are those claims that make reference to a serious disease or biomarker and will need to be pre-approved by FSANZ, with approved claims being listed in the standard.

- **Organic:** Currently there are no specific regulations pertaining to use of organic foods

4.2.3. United States of America (USA)

- (i) **Principal display panel (PDP) of package form food:** The term principal display panel means the part of a label that is most likely to be displayed, presented, shown for retail sale. The principal display panel shall be large enough to accommodate all the mandatory label information required to be placed thereon by this part with clarity and conspicuousness and without obscuring design, vignettes, or crowding.
- (ii) **Food labels must list:** Name and address of the manufacturer, packer or distributor. Unless the name given is the actual manufacturer, it must be accompanied by a qualifying phrase which states the firm's relation to the product (e.g., "manufactured for "or "distributed by").
- (iii) **Name of the food:** The name established by law or regulation, or in the absence of such name, the common or usual name of the food, if the food has one, should be used as the statement of identity. If there is none, then an appropriate descriptive name, that is not misleading, should be used. When the nature of the food is obvious, a fanciful name commonly used and understood by the public may be used
- (iv) **Net Quantity:** The net quantity statement (net quantity of contents) is placed as a distinct item in the bottom 30 percent of the principal display panel, in lines generally parallel with the base of the container. Food labels printed must show the net contents in both metric (grams, kilograms,

milliliters, liters) and U.S. Customary System (ounces, pounds, fluid ounces) terms. Use of qualifying phrases or terms that exaggerate the amount of food (like large Oz. (5g.)) is prohibited.

(v) **Ingredient List:** The ingredient list on a food label is the listing of each ingredient in descending order of predominance. The ingredient list is placed on the same label panel as the name and address of the manufacturer, packer or distributor. This may be either the information panel or the PDP. If any trace ingredient is present in a significant amount and has a function in the finished food. If a substance is an incidental additive and has no function or technical effect in the finished product, then it need not be declared on the label. When an approved chemical preservative is added to a food, the ingredient list must include both the common or usual name of the preservative and the function of the preservative by including terms, such as "preservative," "to retard spoilage," "a mold inhibitor," "to help protect flavor," or "to promote color retention." Apart from these, the regulation also mandates that natural colours and flavours should also be declared using term "spice and coloring" or by the actual name.

(vi) **Food Allergens:** The regulation identifies that a "major food allergen" is an ingredient that is one of the following eight foods or food groups or an ingredient that contains protein derived from one of the following: milk, egg, fish, Crustacean shellfish, tree nuts, wheat, peanuts and soybeans. These should be declared on the label. Although more than 160 foods have been identified to cause food allergies in sensitive individuals, the "major food allergens" account for 90 percent of all food allergies. Allergens other than the major food allergens are not subject to labelling requirements.

(vii) **Nutrition labelling:** The Nutrition Facts label should be placed together with the ingredient list and the name and address (name and address of

the manufacturer, packer, or distributor) on the PDP. The Nutrition Facts label is required on most food packages labelled. FDA considers information that is required or permitted in the Nutrition Facts label on the front label or elsewhere on the package to be a Nutrient Content Claim (NCC).

(viii) **Health Claims:** Health claim means any claim made on the label or in labelling of a food, including a dietary supplement, that expressly or by implication, including "third party" references, written statements (e.g., a brand name including a term such as "heart"), symbols (e.g., a heart symbol), or vignettes, characterizes the relationship of any substance to a disease or health-related condition. Implied health claims include those statements, symbols, vignettes, or other forms of communication that suggest, within the context in which they are presented, that a relationship exists between the presence or level of a substance in the food and a disease or health-related condition. Only those claims provided in a FDA regulation can be used in accordance with that regulation. A firm may also submit a health claim based on an authoritative statement by a U.S. government scientific body, which would allow or disallow the same based on the scientific merit.

(ix) **Permitted structure/function statements (Dietary supplement labels):** The law states that dietary supplements can use claims about nutrient deficiency diseases (for example, vitamin C and scurvy) or that describe the effect of the dietary supplement on general well-being. There are three requirements that must be met:

- If there is substantiation that the claims are truthful and not misleading.
- FDA should be notified that the claim is being used within 30 days of first marketing the product.

- The claim must include a mandatory disclaimer statement that is provided for in the law.

(x) *Other labelling related issues*

- **GM Foods:** There is only guidance available, but labelling of GM foods is not mandatory in US. Labelling is absolutely voluntary and the manufacturer has to indicate whether foods have or have not been developed using bioengineering.
- **Organic Foods:** FDA has been asked about the ability of organic foods to bear label statements to the effect that the food (or its ingredients) was not produced using biotechnology. On December 21, 2000, the Agriculture Marketing Service of the U.S. Department of Agriculture (USDA) published final regulations on procedures for organic food production (National Organic Program final rule; 65 FR 80548). That final rule requires that all but the smallest organic operations be certified by a USDA accredited agent and lays out the requirements for organic food production. Among those requirements is that products or ingredients identified as organic must not be produced using biotechnology methods. The national organic standards would provide for adequate segregation of the food throughout distribution to assure that non-organic foods do not become mixed with organic foods. The agency believes that the practices and record keeping that substantiate the "certified organic" statement would be sufficient to substantiate a claim that a food was not produced using bioengineering.

4.3. Cost benefit analysis of Mandatory nutrition labelling

- In a study in 1991, U.S. FDA examined the costs and benefits of mandatory labelling, which became a critical component of the process leading to the Nutrition Labelling Education Act. Costs were calculated at US \$ 1500 million including administration, nutrition content determination tests, printing and inventory. Benefits were estimated at 35179 fewer cancer cases, 4024 fewer

coronary heart disease cases and 129002 fewer premature deaths; all over a 20 years period.

- Australia and New Zealand conducted a cost benefit analysis when preparing mandatory nutrition labelling regulations. The analysis estimated the cost of a one year delay in implementing mandatory labelling. It was estimated that 320-460 deaths would be lost for every year that mandatory labelling was delayed with costs to the health system between 547-567 millions and lowered value of life by \$ 341-486 millions.
- Canada Health (The Health Ministry) estimated that nutrition labels could save \$ 5300 millions in 20 years in direct and indirect costs including the reduced cost of treating certain cancers, diabetes, CHD and Stroke and the broader economic cost associated with loss of productivity set against the 300 million cost industry. Health Canada took the view that mandatory labelling could achieve significant cost savings.

4.4. Consumer Studies on Food Labelling

The following are the important conclusions from the consumer surveys carried out in different countries on consumer perceptions about food labels:

- (i) A study was carried out by European Food Information Council (EUFIC) in 2003 on Consumer attitudes to nutrition information and food labelling among middle social groups. The key findings in the study were:
 - European consumers have reasonable knowledge about nutrition but they tend to exaggerate their response to foods high in fat, sugar or salt. Most consumers believe they should try to avoid rather than eat less of these foods. This finding was most prominent in the UK.
 - Less than one-third of consumers look for nutrition labels when shopping in all six countries surveyed. When they looked for nutrition

information, consumers looked mostly for fat, calories, sugar and salt in the nutrition table and the GDA label.

- Most consumers were able to make correct health inferences from nutrition labels with no major differences between the labelling systems (Traffic Lights (TL) and Guideline Daily Amounts (GDA) and colour coded GDA's).
- A majority of consumers in all six countries were able to identify the healthier product regardless of the labelling system on the product. Consumers paid most attention to fat and calorie levels to determine which products were healthier than others.
- Nutritional knowledge and an interest in healthy eating improve the ability of consumers to make correct health inferences from nutrition labels, thus nutrition and health education is imperative.

(ii) A review of European research on consumer response to nutrition information on food labels by (Grunert and Wills, 2007) indicated that there was a widespread consumer interest in nutrition information on food packages, though this interest varies across situations and products. It concluded that the consumers like the idea of simplified front of pack information but differ in their liking for the various formats. There is, however, virtually no insight into how labelling information is, or will be, used in a real-world shopping situation, and how it will affect consumers' dietary patterns. The study concludes that there is an urgent need for more research studying consumer use of nutritional information on food labels in a real-world setting.

(iii) In order to evaluate the relation between label use and diet, a telephone survey conducted in 1450 adult residents of Washington State (Neuhouser, 1999). The questionnaire assessed the use of nutrition labels along with fat related diet habits, fruit and vegetable consumption, diet related psychosocial factors, health behaviour, demographic characteristics.

Results indicated that the label use was significantly higher among women, residents younger than 35 years and residents more than high school education. When controlled for demographic characteristics, the strongest predictors of label use were believing in the importance of eating low-fat intake ($P < 0.001$). Label use was not associated with fruit and vegetable consumption.

- (iv) A recent study by Kelly et al (2009) studied the most acceptable and effective front-of-pack food labelling system for Australian consumers. Consumers' preferences and ability to compare the healthiness of mock food products were assessed for different front-of-pack labelling systems in Australia. Four systems were tested, including two variations of the Percentage Daily Intake (%DI) system, which displays the proportion of daily nutrient contribution that a serve of food provides; and two variations of the Traffic Light (TL) system, which uses colour-coding to indicate nutrient levels. Their survey with 790 consumers revealed that the Australian consumers indicated strong support for the inclusion of nutrient information on total fat, saturated fat, sugar and sodium on the front-of packages, and a consistent labelling format across all products. Using the TL system, participants were at least three times more likely to identify healthier foods compared %DI system. Consumers supported the introduction of consistent front-of-pack food labelling. They concluded that TL system was the most effective in assisting consumers to identify healthier foods.
- (v) A study was conducted to assess label use and fat consumption in 658 African Americans aged 20-70 years in North Carolina (Satia et. al. 2005). The results indicated that 78% respondents read nutrition labels when they purchase packaged foods. Most respondents used food label at least sometimes but only about half usually or often did so. The authors

concluded saying that efforts should be made to determine how all consumers could use nutrition labels effectively.

- (vi) The Healthy Eating Index (HEI) developed by USDA is used as a measure of diet quality in evaluating the effectiveness of label use. The responses to food label are expected to vary across individuals and across the type of information on the label. Food labels provide measurable benefits by improving diet quality of Americans by as much as four to six on a 100-point Healthy Eating Index Scale. Among nutritional panels, serving sizes nutrient content claims, list of ingredients and health claims, the use of health claims on food labels provide the highest level of improvement in diet quality. A study by Kreuter et al (1997) concluded that persons with high BP were 63% more likely than those with normal or low BP to look for sodium on the nutrition label. Similarly, persons with high blood cholesterol were more likely to look for low cholesterol and saturated fat containing food labels but they no more likely to loose for other nutrition label information.
- (vii) Studies in other parts of the world reported that about 40% of the consumers do not check the food labels (Surujlal & Badrie, 2004; Yang, Angulo, & Altekruise, 2000), women, more so those with higher educational levels, were more likely to check food labels than men (FSAL, 2003; Yang et al., 2000). Subba Rao et al (2007) in their study in south India observed that the literate women respondents were more likely to check label information than their illiterate counterparts.
- (viii) In yet another study in a south Indian state, Sudershan et al (2008) observed that in Of the 48% who buy packed foods, over 78% cannot recognize the symbols on food labels. Among the others who recognize food labels, 53% learnt them from TV, 16% from the health workers and 21% learnt them from friends and relatives. Over a half of the respondents

'never' check the ingredients and surprisingly 68% of them always look for 'best before date'.

- (ix) A study conducted to assess the food safety knowledge and practices of the food safety regulators in India (Sudershan et al, 2008, 2009) observed that the food inspectors, who are the grassroots level food safety regulators in India knew only the basic information that the manufacturer has to indicate on the food label. They lacked knowledge of the existing food labelling regulations regarding nutrition and health claims. They reported of delay in receiving the updates on food safety regulations and their amendments through government channels.
- (x) As part of their Global Consumer Survey in 37 countries, Nielsen (2005) have interviewed 500 Indian consumers and concluded that 37% Indians always check the nutritional information when buying packaged food, only 35% agreed to check labels when they are thinking of buying product for the first time, about 28% check labels when buying specific food types and 10% respondents did so when they are on diet or trying to loose weight and also when they have time. The study said that compared to 2 years ago, there is a marked decrease from 21 to 12% in checking labels while buying products for children. Only 5% Indians never check nutrition labels. Fat content remains Indians leading concern followed by calories and preservatives. Only 59% Indians understand the labels that they read.

4.5. Studies on consumer understanding of nutrition claims

- (i) According to a 2000-2001 U.S. Food and Drug Administration (USFDA) survey of processed, packaged foods, health claims were displayed on 4.4% of packages, structure-function claims on 6.2% and nutrient content claims on 49.7% (LeGault and Others 2004).

- (ii) A survey of 1004 adults indicated that perception of claims varied with the extent that a claim was familiar to consumers and the degree of concern for the associated health condition (IFIC 2002).

- (iii) Camrie and Dougherty (2005) reported in an internet survey of nutrient claim knowledge that ten percent of the respondents correctly identified the number of claims, nearly 43% of the survey participants replied that they did not know how many claims are permitted for the question “How many health claims have been approved by the FDA as of 6/1/01?” The survey also asked respondents about their personal opinions regarding claims. Only 38% of respondents replied that the disclaimers accompanying structure-function claims were helpful for consumers.

4.6. Salient Observation from the Review

- The existing food labelling regulations in India seem to be on par with those of many developed and developing countries of the world.

- There are not many studies that looked into the compliance of food labelling with the regulations.

- A few studies that are available in Indian context indicate that in general, reading labels is not a common practice among Indian consumers.

- The grassroots level food safety regulators themselves are sometimes not aware of the latest developments in the food labelling regulations, hence checking for the compliance in a market situation may not be effective.

- There are no studies in India to assess the consumer understanding of food labels.

- Unlike in many developed countries, food labelling methods in India are not experimented in the consumer domain before bringing out regulations.
- Many recent consumer surveys in the developed countries have tried to evaluate the effectiveness of labelling methods or labelling information in helping the consumers make informed and healthy choices. However, this concept is yet to evolve in Indian scenario. The available studies in India have only seen how labels are useful for consumers in choosing quality foods (free of adulteration).
- It was found that consumer surveys regarding food labels are carried out periodically almost on an annual basis in USA and the results of these studies are utilized to modify labelling regulations. Possibilities to incorporate such a mechanism in Indian context should be explored.
- The studies on various methods of labelling (traffic light, symbol-based, % daily intake etc) have yielded varied results in different countries. However, in the Indian context since the concept of using food labels for choosing healthy foods has still not evolved, more consumer based studies have to be carried out to experiment the use of different methods of food labelling before arriving at a strategy.

MARKET SURVEY
ON
FOOD LABELLING PRACTICES

5.0 Background

In this market survey, a total of 815 pre-packaged foods were examined for their compliance with food labelling regulations. Also, 109 imported foods either directly imported or those having secondary label were examined.

The information on labelling was collected with the help of a pre-tested and pre-coded proforma (Annexure-1). The samples were covered from hyper, super markets and also medium and small food stores in the south Indian city of Hyderabad. All the foods were classified into 15 main categories and five sub-categories (table-1) based on the Vision Document of the Ministry of Food Processing, Government of India (2005).

Table-1: Categories and number of pre-packaged foods examined for labelling information

Category No.	Name of the Food	Number
1	Cereal Products	32
2	Pasta based products	6
3	Ready to Eat Foods	69
4	Ready-to-make foods	
	4.1 Ready to Make- Instant mixes	50
	4.2 Ready to Make-Curry paste	12
	4.3 Ready to Make-Recipe mix (dry)	57
	4.4 Ready to Make-Cake mix	6
5	Snack foods	62
6	Confectionery	154
7	Infant foods	23
8	Beverages(malted)	25
9	Beverages(soft drinks)	63
10	Fruit products	29
11	Vegetable products	38
12	Processed dairy products	67
13	Frozen vegetable products	20
14	Frozen meat products	33
15	Others	
	15.1. Soups	43
	15.2. Cakes	4
	15.3. Functional foods	22
TOTAL		815

The label information on the imported or relabeled foods indicated that the products were from 14 different countries viz, Australia, Belgium, China, Indonesia, Italy, Malaysia, Nepal, New Zealand, Russia, Singapore, Switzerland, Thailand, U.K. and USA belonging to seven food categories. These products were also classified as indicated above.

5.1. Food labelling scenario among Indian pre-packaged foods:

Survey showed that PFA parameters like name of the food, net weight, languages used, principal display panel, letter size have indicated 100% compliance. While batch number, date of manufacturing/expiry, vegetarian/non-vegetarian symbol and list of ingredients showed 99% compliance (table-2). The labelling aspects like instructions for use, storage conditions before and after opening and nutrition information per 100 gm/serving were complied on 77% of food labels. Nutrition claims and health claims were indicated on the 10% and 29% of labels respectively (table-3).

Table-2: Food labelling compliance of Indian pre packaged foods as per PFA regulations

PFA Parameter	Percentage Compliance
Name of the food	100
Net weight	100
Languages used	100
Principle display panel	100
Nutrition information	100
Letter size	100
Process detail	100
Batch number	99.9
Date of manufacture/expiry	99.6
Vegetarian / non-veg. symbol	99.6
List of ingredients	99.1

Table: 3. Food labelling compliance of Indian pre-packaged foods as per PFA regulations

PFA parameter	Percentage Compliance
Instructions for use	91.8
Energy declaration	82.7
a) Ideal(no difference)	25.2
b) Acceptable(<±20 Cal)	71.4
c) Deviation (>±20 Cal)	3.4
Nutrition information /100 g	76.3
Storage conditions:	
Before opening	67.4
After opening	67.6
Quality symbol	52.9
Nutrition claims	28.6
Health claims	10.9

Further, when labelling information on 109 imported pre-packaged foods available in the shelves of super markets were compared (using 'Z' test) with respective categories (as mentioned in table-4) of 236 Indian pre-packaged foods (manufactured at 39 different parts of India) the results indicated the following (table-5):

- (i) Mandatory labelling parameters like name of the food, list of ingredients, manufacturing date/ expiry date, batch no. type of the food, vegetarian /non-vegetarian symbol, font size etc. on the display panel have shown 100% compliance in both Indian as well as imported foods.
- (ii) Declaration distance, percent of space allocated for nutrition information on label is not complied by all the labels in both Indian and imported foods.

- (iii) A significantly ($P<0.05$) higher proportion of Indian foods (79%) gave nutrient declaration per 100 gm/100 ml which is mandatory as per PFA against 68% of imported foods. However, a significantly higher ($P<0.01$) number of imported foods had declared nutrients 'per serving' than Indian foods. About 49% of imported foods indicated nutrition information on 'per 100 gm' as well as 'per serving' basis, which was significantly higher ($P<0.05$) than Indian foods (33.8%).
- (iv) It is interesting note that declaration of energy expressed as calories on the label and the energy calculated from protein, carbohydrate and fat on the labels showed significant difference in both Indian and imported foods. Food labels of 26.6% of imported foods showed a calorie difference between calculated and declared on the label (>20). This variation is significantly different ($P<0.05$) from Indian foods, where only 14% of them had such variation.
- (v) Mandatory quality symbols (like FPO, MFPO) were shown by more Indian products as against imported foods ($P<0.001$).
- (vi) In many cases both in Indian and imported food products the values depicted in nutrient declaration were based on standard databases such as Nutritive Values of Indian Foods (NVIF) of Indian Council of Medical Research (ICMR). However, as per the regulation, nutrient content should be presented based on actual analyses of foods rather than computing them from the standard databases.

Table-4: Categories of Indian and imported pre-packaged foods screened for labels

Category of food	No.of Indian foods	No.of imported foods
Ready to Eat foods	26	13
Ready to make-Curry paste	12	6
Snack Foods	17	10
Confectionery	110	34
Beverages(soft drinks)	18	16
Vegetable products	15	18
Soups	38	12
Total	236	109

Table:5 - Comparison of labels of Indian vs. imported pre-packaged foods for labelling requirements as per Indian regulation

Labelling Parameters	Indian (n=236)	Imported (n=109)	P - Value*
Name of the food address	100	100	NS
List of ingredients	100	100	NS
Manufacturing date	100	100	NS
Expiry date	100	100	NS
Batch No.	100	100	NS
Type of food (veg & non veg)	100	100	NS
Font size of the display panel	100	100	NS
Instructions to use	34	34	NS
Declaration distance	36	16.5	NS
Percent label on the pack (>40%)	92.8	94.5	NS
Language (more than one)	20.8	56.9	<0.001
Nutrients per 100grms	79	67.9	<0.05
Nutrients per serving	44	69.7	<0.01
Both nutrients per 100 gm. & serving given	33.8	48.6	<0.05
Process details	2.1	7.3	<0.005
Quality symbol	49	8	<0.001
Energy difference(<20 Calories)	86	73.4	<0.01
Energy difference(>20 Calories)	14	26.6	<0.05

* %Compliance

The current market survey has indicated that there was a good compliance with mandatory food labelling regulations in India. However, the nutrition declaration on labels, seems to be based on nutritive values (of ingredients) drawn from standard databases, which is contrary to the regulatory requirement of depicting actual values after analyzing the foods. Mandatory quality symbols like FPO were missing on some of the imported foods having supplementary labels. Nutrient declarations on 'per 100 gm basis' as mandated by PFA Act were also not found on as many as 68% of imported foods

WORKSHOP WITH STAKEHOLDERS

**NIN-WHO INDIA JOINT WORKSHOP
ON CURRENT SCENARIO OF
FOOD LABELLING IN INDIA**

24-25th JUNE 2009

**With support from
WHO - India Office, New Delhi**

6.1. Background

The production, sale and consumption of pre-packaged foods have witnessed a major surge in the recent years in both developed and developing countries. Creating supportive environments that help people to make healthy choices is the need of the hour. Food labelling is one of the important population-based approaches that can help consumers make healthy food choices by providing the necessary information about the food on the pack. This precisely is the reason why the issues pertaining to food labelling are attracting more public and regulatory attention than ever in the past. The food label is one of the most important and direct means of communication of product information between buyers and sellers. Ideally food labels can serve many a purpose to varied stake holders. For the policy makers it is a population-based approach to promote healthy eating among people, for the consumer it is a tool to make informed and healthy choices and for the industry it is an effective marketing tool. Food labels can also be viewed as potentially powerful tools of communication. In the Indian context, where overweight, obesity and the resultant non-communicable diseases are increasing; the effectiveness of food labels in discouraging consumption of unhealthy foods needs to be explored.

It is a well known fact that, increased consumer interest in health in the recent years, has resulted in greater availability of foods claiming to contain less energy, sodium and fat and more of dietary fibre, vitamins, and minerals than in the past. Consumers also have more nutrition information due to expanded food labelling mandated by the Government. Packed foods hitherto sold in any Indian markets were only labelled with the product name, name and address of the manufacturer, amount of product in the package, the ingredients and date of expiration. Recently, nutrient content declaration has been made mandatory on nearly all pre-packaged foods.

While there is no doubt that food labels will encourage healthy eating, there is increasing evidence from developed countries (where food labelling is more

evolved); indicating that mere display of food labels cannot help the consumers make informed choices. In the Indian context, where literacy levels are considerably low, addition of symbols to the routine labelling may be more beneficial. For instance, in developed nations the traffic light scheme has been designed to provide at-a-glance information on the quantity of fat/saturated fat, sugars and salt content in the food preparations. Studies revealed that this kind of labelling is becoming more popular (. Similarly representing nutrition labels as Guideline Daily Values (GDAs) was also found to be useful in some countries. But there are hardly any studies that have tested the effectiveness of using such strategies in the Indian scenario. The current status of food labelling in India is primitive and in fact its contribution to public health can be substantial only if food labels are made user friendly.

6.2. Objectives of the Workshop

Given this background, a national workshop was conducted at NIN, Hyderabad on 25th and 26th June 2009 with following objectives:

- (i) To disseminate the findings of the literature review and market survey on the food labelling scenario in India to different stakeholder groups.
- (ii) To arrive at consensus on the strategies for making food labels user friendly in the Indian context.

The workshop was attended by different groups of stakeholders drawn from diverse sectors such as research, industry, consumer societies, regulatory bodies, health functionaries, academics, professional/scientific associations and media (list of participants provided in Annexure -2).

6.3. Outline of Scientific Programme

DAY 1: 24th June 2009	
INAUGURAL SESSION	
Welcome & Inaugural Address	Dr. B. Sesikeran, Director, NIN
Background/Objectives of workshop	Dr. G.N.V. Brahmam, Scientist 'F', NIN
Address by WHO representative	Dr. J.S. Thakur, WHO, New Delhi
Introduction of participants	
Vote of Thanks	Dr. V. Sudershan Rao, Scientist 'C', NIN
TEA	
SCIENTIFIC SESSION - I: Presentation of the background paper	
Chairperson: Dr. J.S. Thakur, WHO India, New Delhi	
Food labelling in the changing nutrition context of India	Dr. A. Laxmaiah, Scientist 'E', NIN
Current Food Labelling Practices	Dr. V. Sudershan Rao, Scientist 'C', NIN
Food labels and Nutrition & Health Communication	Mr. G.M. Subba Rao, Scientist 'C', NIN
Current Practices in Food Labelling - A case study in Hyderabad	Dr. S. Babu, Project Consultant, NIN
Discussion and Chairperson's Remarks	
SCIENTIFIC SESSION - II: Regulatory aspects of Food Labelling	
Chairperson: Dr. B. Sivakumar, Former Director, NIN	
PFA Act in relation to Food Labelling in India	Dr. Mukthar Mohinuddin Khan, Joint Food Controller, AP
Codex guidelines on Labelling - International Perspective	Dr. Sharminder, Regulatory Affairs, Pepsico India
Discussion and Chairperson's Remarks	
LUNCH	
SCIENTIFIC SESSION - III: Food Labels, Health and Nutrition	
Chairperson: Dr. B Sesikeran, Director, NIN	
Nutrition Labelling and Non-Communicable Diseases - Consumer health perspective	Dr. D. Prabhakaran, Cardiologist, Executive Director, CCDC India, New Delhi
RDA in Nutrition Labelling	Dr. B Sivakumar, Former Director, NIN
Discussion and Chairperson's Remarks	
SCIENTIFIC SESSION - IV: Food labels - Industry Perspective	
Chairperson: Dr. BK Tiwari, Nutrition Advisor, DGHS, New Delhi	
Food Labelling - Large Industries Perspective	Dr. Joseph. I Lewis, Kaya Limited, Mumbai
Food Labelling - Small & Medium Industries Perspective	Mr. Nitin Sanghi, Joint Secretary, BWCMA, Hyderabad
Discussion and Chairperson's Remarks	
TEA	
SCIENTIFIC SESSION - V: Food Labels - Consumer Perspective	
Chairperson: Dr. Kalpagam Polasa, Scientist 'F' and HoD, FDTRC, NIN	
Consumer perspectives on Food Labelling	Mr. Vijaya Sardana, Healthy Foods
Food Labelling and consumer expectations	Mrs. Rajam Ganesan, Consumer Care Centre, Hyderabad
Discussion and Chairperson's Remarks	

DAY-2: 25th June 2009	
Review of first day's deliberations	Mr. GM Subba Rao
Converting knowledge into Action	Dr. Sesikeran, Director
Group Activity	
1. Mandatory Food Labelling	
2. Nutrition Claims	
3. Health claims	
4. Making labels consumer friendly	
TEA	
Presentation by groups and Discussion	
LUNCH	
FINALIZATION OF WORKSHOP RECOMMENDATIONS	
Closing Session	

6.4. Workshop Report

The workshop commenced with the Dr. B Sesikeran, Director NIN welcoming the participants. Dr. J.S. Thakur, National Professional Officer (Non-Communicable Diseases and Social Determinants of Health), WHO Country Office for India, gave a brief overview of the need of food labelling in the changing context of nutrition in India. Dr. G.N.V. Brahmam, Scientist 'F' & Head of Community Studies Division of NIN outlined the background and objectives of the Workshop.

The first technical session, which was chaired by Dr. J.S. Thakur, dealt with presentation of the background paper. Dr. A. Laxmaiah, Scientist 'E', NIN giving an overview of food labelling in changing nutrition context of India, highlighted the growing prevalence of overweight/obesity and associated non-communicable diseases in India. He mentioned about the double burden of malnutrition that India is currently facing. Dr. V. Sudershan Rao, Scientist 'C', NIN highlighted the global scenario of food labelling, comparing and contrasting the same with that of India. He highlighted the need for identifying nutrition and health claims that can be incorporated in the labelling regulations of India. While concluding that the Indian regulations are on par with those of many developed countries, he suggested that there was a need to integrate all the labelling regulations that are guided by different

acts and orders in India. Mr. G.M. Subba Rao, Scientist 'C', NIN highlighted the current status and possibilities of nutrition communication through food labels. While reviewing some studies done in different parts of the world, he indicated that was a lack of such consumer studies to determine the consumer knowledge, practices and behaviours pertaining to usage of food labels. He highlighted the need for creating awareness about the existing regulations to various stakeholders. Dr. S. Babu, Project Consultant, presented the results of market survey on Indian and imported pre-packaged foods for their compliance with food labelling regulations. He indicated that there was a good compliance with mandatory food labelling regulations in India. However, there were discrepancies in nutrition declaration on labels and mandatory quality symbols like FPO were missing on some of the imported foods having supplementary labels.

The technical Session -II deal with regulatory aspects of food labelling. It was chaired by Dr. B. Sivakumar, Former Director, NIN. Mr. Mukthar Mohinuddin Khan, Joint Food Controller, Government of Andhra Pradesh, gave a detailed account of the various labelling requirements under the Prevention of Food Adulteration Act (PFA). The next speaker, Dr. Shaminder Singh, Vice-President, Regulatory Affairs, PEPSICO India explained the various components of Codex guidelines on food labelling. He informed that these guidelines were general and should be adopted by different countries to their respective needs, while emphasizing the need for harmonizing the labelling regulations with those of codex guidelines especially in the present scenario of globalization of markets.

Session-III was on 'Food labels, health and nutrition' and was chaired by Dr. B. Sesikeran. The first presentation in this session was on 'nutrition labelling and non-communicable diseases - consumer health perspective' by Dr. D. Prabhakaran, Cardiologist, Executive Director, CCDC India. In the context of increasing incidence of hypertension and cardio vascular diseases, Dr. Prabhakaran stressed that even on labels of salt and sugar, their health effects should be clearly indicated in order to help consumers make healthy choices. Speaking on 'the Recommended Dietary

Allowances (RDAs)' and nutrition labelling, Dr. B. Sivakumar clearly elucidated various concepts like RDAs, Daily Reference Indices (DRIs) and Nutrition Quality Indices (nutrient density, daily values nutrient to calorie ratio etc.). He felt that caution needs to be exercised in propagating the ill-effects of some nutrients on labels (by using symbols) especially considering that India is facing a strange paradox of undernutrition and overnutrition.

The Industries perspective on food labels was discussed during the Session-IV, which was chaired by Dr. B.K. Tiwari, Nutrition Advisor, Directorate General of Health Services, New Delhi. Giving the large industry perspective, Dr. Joseph Lewis, Scientist, Kaya Limited, Mumbai felt that risk impact analysis should form the basis for identifying the relative adverse impact of various nutrients on health before depicting the same on food labels. Mr. Nitin Sanghi, Joint Secretary, Biscuits, Wafers, Confectionary Manufacturers Association, Hyderabad put forth the small scale industries (SSIs) perspective and brought the difficulties faced by them in understanding the various regulatory aspects. Considering the costs involved in changing the labels/information on labels due to frequent amendments in laws, Mr. Sanghi urged for regular awareness programmes for small industries. He also highlighted that there was an urgent need to bring out a manual on labelling guidelines for the benefit of SSIs.

Consumer perspective on food labels was discussed during Session-V. The session chaired by Dr. Kalpagam Polasa, Scientist 'F' and HoD Food and Drug Toxicology Research Centre, NIN had presentations by representatives from consumer organizations and NGOs. Mr. Vijay Sardana, Healthy Foods, New Delhi gave a brief overview of various factors influencing the consumer psyche while buying foods. He advocated that a checklist should be prepared to help consumers protect themselves from false nutrition and health claims, economic fraud and misleading claims. He mooted the idea of creating a facility of toll free telephone number for consumers to seek necessary information about regulations and also to complain about deviations in labelling.

Mrs. Rajam Ganesan of Consumer Care Centre, Hyderabad highlighted various frauds and misleading claims on food labels. She suggested that even the smallest food pack should have some essential information like 'best before date', name and address of the manufacturer etc.

6.5. Recommendations

On the second day of the workshop, an open forum discussion moderated by the Director, NIN was conducted with an objective of converting the knowledge into action. The following emerged as the recommendations of the workshop:

1. It was recommended that comprehensive 'general standards for the labelling of pre-packaged foods' be prepared integrating all the labeling provisions available in various regulations today.
2. A guidance document based on the above standard may be prepared for enabling effective implementation. These can be made available in regional languages for use of all the stakeholders.
3. It was recommended to develop guidelines for nutrition and health claims based on Codex Guidelines and other international guidelines keeping in view the country needs.
4. The need to initiate consumer perception studies on the most effective communication method using symbol/colour(s)/other strategy on labels was emphasized.
5. Standardization of the location of each of the components on the food label.

CONCLUSIONS
&
RECOMMENDATIONS

Conclusions:

Although the food labelling regulations in India are on par with those of the developed countries, there are hardly any studies to examine the extent of compliance. There is an urgent need to initiate such market studies in India and continue to carry them out on a regular basis in order to monitor the compliance by the food manufacturers.

In the Indian context, many studies indicated that food labels are not usually read by consumers while making food choices, this may be either due to low literacy rates or lack of nutrition awareness. In such a scenario perhaps there is a need to evolve and experiment symbol-based labelling of foods in India.

There are not many studies that looked into the compliance of food labelling with the regulations. The market survey carried out as part of this study indicated that there was a good compliance with mandatory food labelling regulations in India among both Indian and imported pre-packaged foods. However, the nutrition declaration on labels, seems to be based on nutritive values (of ingredients) drawn from standard databases, which is contrary to the regulatory requirement of depicting actual values after analyzing the foods.

Standardization of food labels and their contents on various categories of foods as well as on different types of packages may also help consumers locate the required information on labels.

Recommendations for future action:

1. All food labelling regulations which are currently guided by many Acts and Orders (such as PFA, FPO, MFPO) need to be unified into comprehensive general standards for labelling of pre-packaged foods for the benefit of all stakeholders. This is partially fulfilled by the new Food Safety and Standards Act 2006. However, there is a need to develop educational material in the form of manuals

for providing guidance to the industry, regulators and consumers for effective implementation, regulation and use.

2. The knowledge of food inspectors, who are the grassroots level regulators, on health and nutrition claims on food labels is almost nil. Today's food market is full of branded food products which offer some benefits in terms of health and nutrition to the customer. In such a scenario, the food inspectors should be equipped with updated information on provisions related to food labelling, nutrition/health claims and amendments thereof. This can be achieved through regular refresher training programmes. Multi-sectoral inputs from policy makers, research institutes and district-level administration are necessary for this.
3. The food inspector training programmes at the time of induction, which were hitherto stressing on the need to curb food adulteration and ensuring good manufacturing practices, have to now incorporate adequate components on the existing food labelling regulations in order to equip them check compliance by the manufacturers.
4. There is a need to undertake nation-wide studies to understand the consumer knowledge, practices and behaviour related to food labels for formulating strategies to make food labels user-friendly.
5. It is also time to evolve permitted nutrition and health claims that can be used by the food industry on the lines of those in countries such as USA, Singapore, Malaysia and Canada.

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ANNEXURES

**National Institute of Nutrition, Hyderabad
Indian Council of Medical Research
WHO NIN Project on Assessment of Current Scenario of Food Labelling in India**

Name of the food market:

Address:

1. General Information:

Name of the investigator:

Date of Survey:

Sl. No	Name of the Product	Manufacturer name/ Brand name	Quality symbol#	Quantity (gm)	Place of Origin	Language used~	Legibility of notes on label		Dimensions of pack of product & display panel						
							Shelf life (mm)	Nutrient information (mm)	Length		Width		Area		
									Total	Label	Total	Label	Total	Label	Percent

Quality symbol: 1.FPO 2.ISO 3.AGMARK 4.MFPO 5.US 6.EU 7.OTHERS 8. Not given 9. ISI

~ Language: 1. English 2. Hindi 3.Telugu 4.Other Indian language 5.Foreign language

3. Nutrition information:

* 1. Yes 2. No

WORKSHOP ON ASSESSMENT OF CURRENT SCENARIO OF FOOD LABELING IN INDIA, HELD DURING 24 - 25 June 2009

List of Participants

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