F. No. 1/School Guidelines/IEC/FSSAI-2015-16
Food Safety and Standards Authority of India
(A Statutory Authority established under the Food Safety and Standards Act, 2006)
(Ministry of Health and Family Welfare)
FDA Bhawan, Kotla Road, New Delhi-110002

The 12th October, 2015

ORDER

Subject:- Draft Guidelines for Making Available Wholesome, Nutritious, Safe and Hygienic Food to School Children in India - regarding.

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WHEREAS the Central Advisory Committee (CAC) of the Food Safety and Standards Authority of India (FSSAI) was entrusted by the Hon'ble High Court of Delhi in the matter of WP (C) 8568/2010 "Uday Foundation for Congenital Defects and Rare Blood Groups v/s Union of India and Ors." with the work of development of guidelines for making available wholesome, nutritious, safe and hygienic food to school children in India.

2. WHEREAS the Central Advisory Committee (CAC) has submitted the draft guidelines to Hon'ble High Court which has directed the FSSAI to give the said guidelines the form of Regulations or Directions and to further take appropriate steps for ensuring enforcement thereof.

3. WHEREAS it has been decided by the Food Authority to issue the said Guidelines in the "Draft" form as the said draft Guidelines would be converted into a Regualtion in due course after following the prescribed process of inviting comments, suggestions, etc. from various stakeholders.

4. WHEREAS in compliance of the Order dated 31.07.2015 of the Hon'ble High Court, Delhi in the matter of WP (C) 8568/2010 and as per the decision of the Food Authority, the Food Safety and Standards Authority of India issues the draft Guidelines titled **"Guidelines for making available wholesome, nutritious, safe and hygienic food to school children in India"** enclosed herewith.

(Ashish Bahuguna)
Chief Executive Officer

Encl: as above

To,

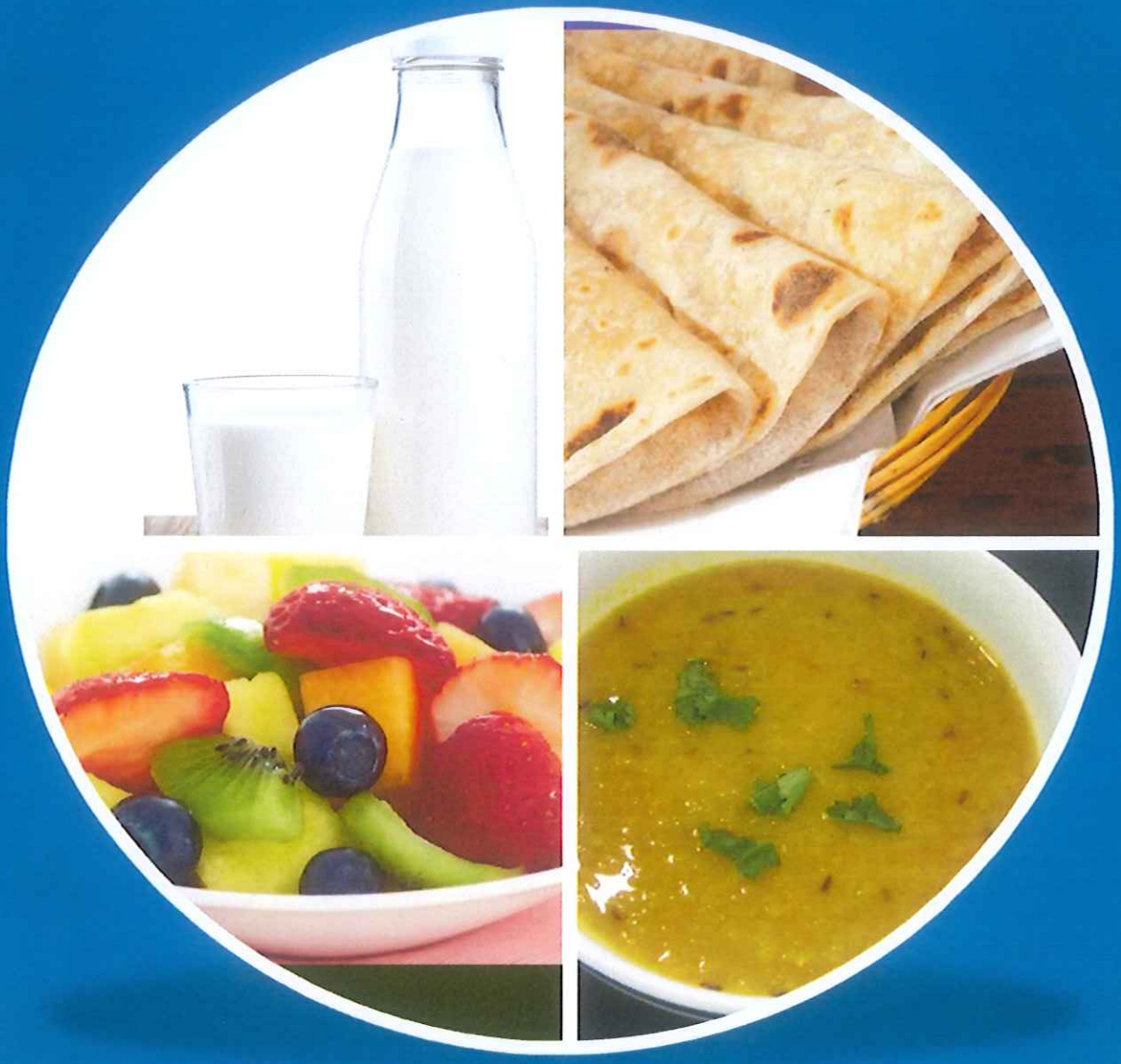
1. All concerned Ministries / Departments / Organisations
2. All Food Safety Commissioners

सत्यमेव जयते

fssai

DRAFT

GUIDELINES FOR MAKING AVAILABLE WHOLESOME, NUTRITIOUS, SAFE AND HYGIENIC FOOD TO SCHOOL CHILDREN IN INDIA



सुरक्षित आहार, स्वास्थ्य का आधार

INDEX

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Background

As per the Economic Survey of India 2012-13, there are more than 14 Lakh[1] schools throughout India. These schools are of widely varying type - from fully air-conditioned school equipped with all facilities - to those even without a *pucca* roof; from residential boarding school - to those where children need to walk/travel long distance every day to school; from schools with only selling food counter - to those schools which serve meals in schools. There are varying degrees of wholesome, nutritious, safe and hygienic foods available to school children in the country. Lack of availability of balanced diet and safe food coupled with lack of awareness about physical activity are, in most school children, believed to have led to various health related concerns.

The objective of this document is to make available Wholesome, Nutritious, Hygienic and Safe Food to School Children in India. It has been prepared by an Expert Group constituted by the Food Safety and Standards Authority of India under the directions of Hon'ble High Court of Delhi. The composition of the Expert Group is given on page 34 of the document. For the sake of better understanding and implementation, these guidelines have been prepared in two parts, namely,

Part-I: Guidelines for making available Wholesome and Nutritious Food to school children
Part-II: Guidelines on Food Safety, Hygiene and Sanitation for Food available in school canteens

PART I - Guidelines for making available Wholesome and Nutritious Food to School Children

Section 1: Context of The Proposals

1.1 Healthy Lifestyle:

A healthy lifestyle is cornerstone of good health, physical fitness, energy and reduced risk for disease. It is based on the choices one makes about his or her daily habits. Good nutrition, daily exercise and adequate sleep are the foundations for continuing health lifestyle. A healthy lifestyle includes diet based on balance, variety and moderation coupled with regular physical activity commensurate with one's age, gender and body constitution.

[1] Economic Survey 2012-13, Source : Statistics of School Education - 2010-11 (Provisional)

1.2 WHO Global Strategy on Diet, Physical Activity and Health urges:

- [2] "to develop, implement and evaluate actions recommended in the Strategy, as appropriate to national circumstances and as part of their overall policies and programmes, that promote individual and community health through healthy diet and physical activity and reduce the risks and incidence of non-communicable diseases;
- [3] to promote lifestyles that include a healthy diet and physical activity and foster energy balance;
- [4] to encourage and foster a favourable environment for the exercise of individual responsibility for health through the adoption of lifestyles that include a healthy diet and physical activity"

Section 2: Balanced Diet, HFSS food and Non-Communicable Diseases (NCDs)

2.1 Balanced diet and dietary needs of children[5]

As per "Dietary Guidelines for Indians, 2011" by National Institute of Nutrition (NIN), a balanced diet is one which provides all nutrients in required amounts and proper proportions. It should provide around 50-60% of total calories from carbohydrates, preferably from complex carbohydrates, about 10-15% from proteins and 20-30% from both visible and invisible fat. In addition, it should provide other non-nutrients such as dietary fibre, antioxidants, which bestow positive health benefits.

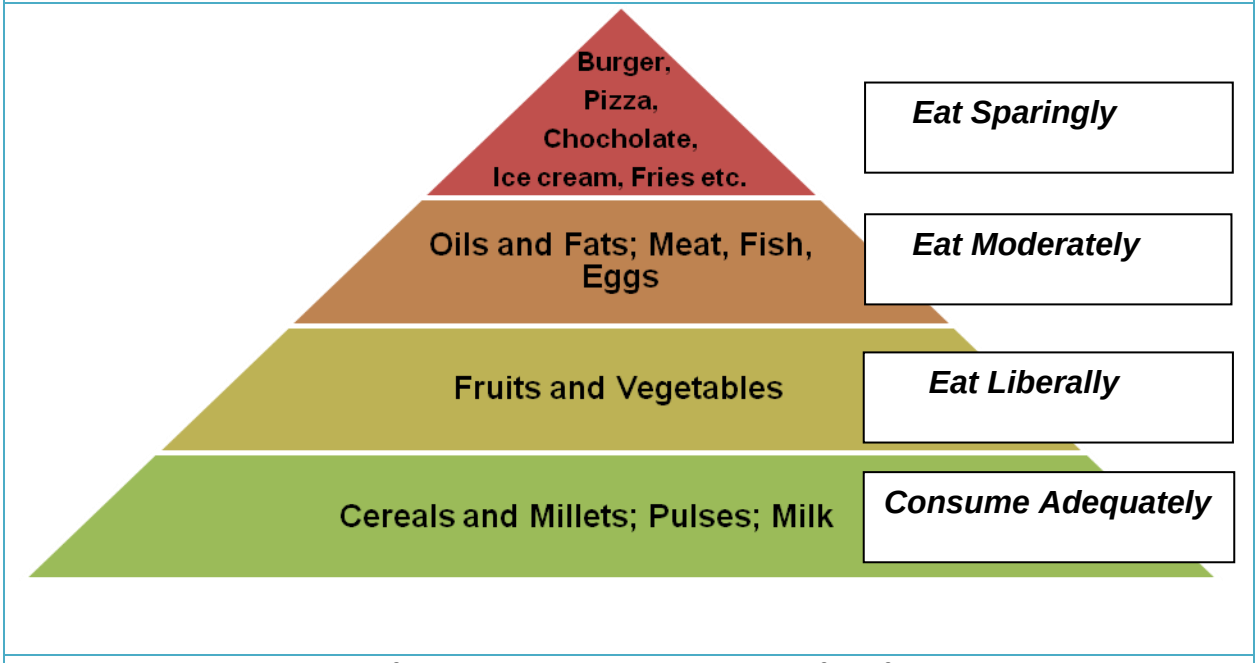
The guidelines depict the importance of foods through a "Food Pyramid" (Figure 1). Balanced diet is recommended through a blend of four basic food groups such as cereals, millets and pulses; vegetables and fruits; oils, fats and nuts; milk and animal foods. Notably, food items such as burgers, pizzas, fries, chocolates, ice creams, jams etc. are not considered the right choice to meet nutrient needs and must be eaten sparingly.

NIN (2011) guidelines recommend preferring traditional and home-made foods; avoiding replacing meals with snack foods; and limit consumption of sugar and processed foods which provide only (empty) calories. It further states that "processed foods being rich in fats, salt, sugar and preservatives may pose a health risk if consumed regularly".

It also recognizes children's special needs of growth, fighting infections, maturation, bone development and bodybuilding. Nutritionally adequate and balanced diet has an important role in appropriate body composition, body mass index and reduced risk of diet-related chronic diseases in later life.

[2] Fifty Seventh World Health Assembly WHA 57.17 (22nd May 2004) - Clause 2(1)
[3] Fifty Seventh World Health Assembly WHA 57.17 (22nd May 2004) - Clause 2(2)
[4] Fifty Seventh World Health Assembly WHA 57.17 (22nd May 2004) - Clause 2(6)
[5] Dietary guidelines for Indians: A Manual; NIN 2011

Figure 1: Food Pyramid by NIN



Source: Dietary Guidelines for Indians, NIN; Reproduction of the figure mentioned

2.2 'HFSS Foods' and ingredients of concern

As per WHO Document titled "Marketing of Foods High in Fat, Salt and Sugar to Children – Update 2012-2013", foods that are high in fat, salt and sugar are commonly termed as HFSS Foods.

Sugar: Sugar is empty calories with no beneficial effect and there is no safe level of its intake. High use of sugar, particularly fructose, is harmful. Studies have established direct relationship of sugar with obesity, diabetes and metabolic syndrome[6].

Salt: Salt is added for preservation and enhancing the taste of food. High salt content in diet is strongly associated with high blood pressure and related cardiovascular diseases[7]. Evidence suggests that high salt intake increases mass of left ventricle, stiffens and narrows arteries, including coronary and renal arteries. It increases the probability of stroke, severity of cardiac failure and tendency for platelets to aggregate[8]**.** As per WHO, cutting down on dietary salt intake to recommended 5 g per day has a major impact on reducing blood pressure and cardiovascular diseases.

[6] Malik, V.S Sugar sweetened beverages and the risk of metabolic syndrome and type 2 diabetes: A meta-analysis http://care.diabetesjournals.org/content/33/11/2477.full

[7] Salt Intake and Hypertension: Walking the Tight Rope; Can J Cardiol 1997;17:272B

[8] Harmful effects of dietary salt in addition to hypertension; Journal of Human Hypertension (2002) 16, 213–223

Saturated Fatty Acid (SFA): SFAs are widely used in packaged foods including cookies, crackers, and snack chips. When consumed in excess of the recommended (limit less than 10% of total calorie intake), SFAs are known to clog arteries and increase risk of heart attack and stroke.

Trans Fatty Acid (TFA): TFAs are formed during the process of hydrogenation of vegetable oils (PHVOs) to make it semi solid that enables longer shelf life, better form and texture. Typically they are found to be high in bakery products and snacks that are deep-fried in PHVOs. TFAs are well known to have an adverse impact on blood lipid levels as they reduce the amount of good cholesterol (HDL) and increase bad cholesterol (LDL). Their consumption increases insulin resistance and promotes obesity. WHO recommends less than 1% of calories from TFAs.

Besides the above key ingredients of concern, caffeine used in carbonated beverages and energy drinks is an addictive stimulant, which, if consumed in excess, can lead to impaired muscle and nerve functions, dehydration and a host of other disorders[9]. Consumption of caffeine, particularly among school children, is a matter of concern and needs to be strictly regulated in compliance with the Food Safety and Standards Act, 2006 and Regulations made thereunder.

2.3 HFSS Foods and burden of NCDs

WHO reports that Non-Communicable Diseases are the leading cause of death world-wide:

- Unhealthy diets, especially the excessive consumption of calories, salt, saturated fat and sugar cause at least 40% of all deaths from NCDs, and approximately one-quarter of all deaths globally.
- Over 80% of global deaths due to cardiovascular diseases and diabetes occur in low- and middle-income countries. NCDs also kill at a younger age in these countries, where 29% of NCD deaths occur among people under the age of 60, compared to 13% in high-income countries.
- In India, as of 2008, about 53% of all deaths were due to NCDs. The disease burden of NCDs is expected to reach to 57% by 2020 as compared to 29% in 1990[10].

WHO says unhealthy diet is associated with three out of four major NCDs. It is known to be one of the modifiable risk factors (Table 1):

[9] Seifert *et al*, Health effects of energy drinks on children, adolescents and Young adults. Pediatrics, Feb 14, 2011
[10] World Health Organization - NCD Country Profiles , 2011; http://www.who.int/nmh/countries/ind_en.pdf

Table 1: Modifiable risk factors - Unhealthy diet associated with three out of four major NCDs

	Tobacco Use	**Unhealthy diet**	Physical inactivity	Harmful use of alcohol
Cardiovascular diseases	√	√	√	√
Diabetes (Type 2)	√	√	√	√
Cancers	√	√	√	√
Chronic Respiratory Diseases	√			

Unhealthy diet leads to metabolic changes and conditions such as overweight, high blood pressure, raised blood glucose and cholesterol, which are among the leading causes of NCD deaths in India[11]

Childhood obesity

Childhood obesity is one of the most serious public health challenges of the 21st century. Overweight children are likely to become obese adults. As per WHO, about 44% of the diabetes burden and 23% of the CVD burden is attributable to overweight and obesity. Overweight children are more likely than non-overweight children to develop insulin resistance, hyper-insulinemia, diabetes and cardiovascular diseases at a younger age, which in turn are associated with a higher chance of premature death and disability[12].

Studies have established the link between consumption of HFSS food and obesity. Numerous studies done among school children of Delhi, Amritsar, and Southern India show that the prevalence of overweight/obesity is high and on the rise. In urban post-pubertal children of Delhi it increased from 16% in 2002 to about 24% in 2006. It is high among the affluent class and children of private schools compared to low and middle-income groups[13].

Hypertension

In India, hypertension is the leading NCD risk and estimated to be attributable for over 10 per cent of all deaths[14]. Hypertension is strongly associated with high Body Mass Index (BMI) and salt intake. A cross sectional study[15], published in *Epidemiology* in 2013, among 400 school

[11] Global status report on non-communicable diseases 2010.World Health Organization; http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf

[12] Childhood obesity and adult morbidities; Am J Clin Nutr 2010;91(suppl.):1499S–1505S, http://ajcn.nutrition.org/content/91/5/1499S.full.pdf

[13] Prevalence of overweight and obesity amongst school children in Delhi, India; Asia Pac J Clin Nutr 2008;17 (4): 592-596: http://apjcn.nhri.org.tw/server/APJCN/17/4/592.pdf

[14] Time to effectively address hypertension in India: Indian J Med Res 137, April 2013, pp 627-631

[15] Prevalence and determinants of hypertension among urban school children in the age group of 13- 17 years in, Chennai, Tamil Nadu; IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 8, Issue 3

children in Chennai found that the total prevalence of hypertension was 21.5%. Several other studies done in India suggest high prevalence of hypertension in overweight and obese children compared to normal weight children[16].

As per WHO, the amount of dietary salt consumed is an important determinant of blood pressure levels and overall cardiovascular risk. World Heart Federation says that a universal reduction in dietary intake of about 3 gm. of salt, would lead to a 50% reduction in the number of people needing treatment for hypertension. The same decrease would lead to a 22% drop in the number of deaths resulting from strokes and a 16% fall in the number of deaths from coronary heart disease[17].

Diabetes and pediatric metabolic syndrome

Type 2 diabetes which is very common in adults is now increasingly being reported in children. The leading risk factor for kids is being overweight, often connected with an unhealthy diet and lack of physical activity. According to a study done by Dr Anoop Mishra et al on post pubertal Indian children, 67% males with high BMI were found to have insulin resistance while overall prevalence was about 22% in males and 36% in females[18]. As per the Diabetes Atlas 2006 published by the International Diabetes Federation, the number of people with diabetes in India is around 40.9 million and is expected to rise to 69.9 million by 2025 unless urgent preventive steps are taken[19].

Metabolic syndrome is a cluster of the risk factors for type-2 diabetes and cardiovascular disease characterized by abdominal obesity and others such as high blood pressure and increased plasma glucose. The prevalence of metabolic syndrome in overweight children was found to be about 18 times higher than their normal weight counterparts in Delhi[20].

Coronary Heart Disease (CHD)

CHD is expected to be the single most important cause of death in India by the year 2015. According to the World Heart Federation, 35% of all CHD deaths in India occur in those aged 35-64 years. CHD affects Indians with greater frequency and at a younger age than counterparts

[16] Prevalence and Determinants of Hypertension among Urban School children in the Age Group of 13- 17 Years in, Chennai, Tamil Nadu ; http://www.omicsonline.org/prevalence-and-determinants-of-hypertension-among-urban-school-children-in-the-age-group-of-years-in-chennai-tamilnadu-2161-1165.1000130.pdf

[17] http://www.world-heart-federation.org

[18] High prevalence of insulin resistance in post-pubertal Asian Indian children is associated with adverse truncal body fat patterning, abdominal adiposity and excess body fat; http://www.nature.com/ijo/journal/v28/n10/full/0802704a.html

[19] http://www.idf.org/diabetesatlas

[20] Prevalence of Pediatrics Metabolic Syndrome (PMS) amongst Children in the Age Group of 6–18 Years belonging to High Income Group Residing in National Capital Territory (NCT) of Delhi; Indian J Pediatr (2010) 77:1041; http://medind.nic.in/icb/t10/i9/icbt10i9p1041.pdf

in developed countries, as well as many other developing countries.[21] The age group 20-29 has seen the highest rise with double the number of cases since 2000 as per a study in Indian Journal of Medical Research[22].

2.4 HFSS food consumption in India

Consumption of 'HFSS Food' is steeply increasing both in urban and rural areas. The ease of availability, taste, low cost, aggressive marketing and advertisements and peer pressure make them popular with children.

A study on the HFSS Food eating habits of school children in Delhi found that 60-70% of children in different age groups consumed chips at least 2-3 times a week[23]. In another study among overweight adolescent girls (16-18 years) in Kurukshetra in 2013, the mean daily energy intake was found to be about 110 per cent of the Recommended Daily Allowance (RDA) and fat intake was almost double of the RDA. The most common (60.4%) effect of skipping meal was consumption of foods such as potato chips, chocolate and carbonated drinks[24].

HFSS food replacing balanced diet is a key issue: As per NIN dietary guidelines "the shift from traditional to 'modern' foods, changing cooking practices, increased intake intensive promotion of HFSS foods and beverages have affected people's perception of foods as well as their dietary behavior. Irrational preference for energy-dense foods and those with high sugar and salt content pose a serious health risk to the people, especially children. The increasing number of overweight and obese people in the community and the resulting burden of chronic non-communicable diseases necessitate systematic nutrition educational interventions on a massive scale."

Additionally, a lot is at stake if balanced diet is replaced: A diverse range of macronutrients and micronutrients in its most natural form; Original flavors, colors and aroma that continue to keep the appetite alive for a lifetime; A wide range of time tested spices and herbs that continue to act at a prophylactic level (preventive) at sub-therapeutic levels.

[21] Mark D Huffman, Coronary heart disease in India; Centre for Chronic Disease Control, New Delhi, India
[22] http://online.wsj.com/news/articles/SB10001424052702304644104579191682155932364
[23] Consumption of lifestyle foods among children, Anoop Mishra and Seema Gulati 2010; Unpublished data, presented at CSE's South Asian media briefing on food safety and environmental toxins, March 29-30, 2012
[24] Increasing Proclivity for Junk Food among Overweight adolescent Girls in District Kurukshetra, India; http://www.isca.in/IJBS/Archive/v2i3/14.ISCA-IRJBS-2013-026.pdf

Section 3: Guidelines for Promoting Wholesome and Nutritious Food and Restricting/ Limiting the Availability of Foods High in Fat, Sugar and Salt (HFSS Foods) among School Children

3.1 The Underlying Principles: Several countries have taken steps to enhance availability of wholesome and nutritious food to school children and to restrict/limit availability of HFSS Foods among them. With respect to India, the proposed guidelines are based on following principles:

(i) Children are not the best judge of their food choice. They have limited understanding on the impact of food on their health. Broadly, they are not aware about the concept of balanced diet and what kind of food is to be consumed and avoided to achieve it. They also lack required know-how on diseases and its relation to diet. While on one hand, they lack awareness and necessary discretion, such products are being promoted by manufacturers. They are one of the biggest viewer groups of television and food advertisements constitute a major share of overall TV, radio and print advertisements across the world.

(ii) Schools are not the right place for promoting HFSS foods. Schools are a place to learn right values and constructive behaviors for a lifetime. Since food consumption at school is significant part of the overall daily diet, schools should not allow the canteens to promote food habits that negatively impact the health of children.

(iii) Benefits **of balanced, fresh and traditional food cannot be replaced.** Frequent consumption of foods high in salt, sugar and fats and low in other essential macro and micronutrients is detrimental and should best be avoided. Such eating behaviors may extend beyond schools and become a dietary habit.

(iv) It is necessary to **improve the dietary habits** of school children by providing and appropriate mix of foods that enhances the wholesomeness and nutrition and also encourages them avoid consumption of unhealthy diet.

(v) Physical activity is another important element of promoting growth and help in reducing the risks and incidence of non-communicable diseases.

3.2 Guidelines

1. Restrict / Limit the Availability of most common HFSS Foods in Schools and area within 50 meters

The objective is to restrict/limit the consumption/availability of most common HFSS food (as per indicative list in Table 2) in the school premises, where the child is without parental supervision. In schools and nearby areas of 50 meters, restrict/limit the availability/consumption of most common HFSS foods (Table 2) that are widely promoted and advertised, easily accessible to children, and are standardized processed foods.

Table 2: Most Common HFSS Foods

S. No.	Most Common HFSS Foods (Indicative List)
1.	Chips, fried foods
2.	Sugar sweetened carbonated beverages
3.	Sugar sweetened non-carbonated beverages
4.	Ready-to-eat noodles, pizzas, burgers
5.	Potato fries
6.	Confectionery items

The identified foods are based on an evaluation done out of available similar foods in India. They are considered unhealthy due to imbalance in nutrients, i.e., high in fat, sugar, salt and/or low in proteins, fibers and nuts. The criteria followed to explain the identification of the above mentioned most common HFSS Foods (Table 2) are given on page 16 of this document.

Steps should be initiated to develop a nationwide programme for identification of further foods based on the above criterion and inform schools accordingly. This would lead to a framework to categorize such foods and propose criterion based on nutrition and wholesomeness.

Besides the listed foods, another food category of concern is the non-standardised deep fried foods such as samosa, chana bhatura, etc. that are available in the school canteens and nearby areas. The school management must ensure regulation of such foods through canteen policies that promote healthy, wholesome and nutritious foods. The school canteen policy would provide guidance on this matter to management.

2. Develop a Canteen Policy to provide Nutritious, Wholesome and Healthy Food in Schools

Canteens in the schools should not be treated as commercial outlets. They carry a social responsibility towards inculcating healthy eating behaviours. They can be used to motivate children to consume healthy and hygienic food. Canteen policies based on nutrition criteria has been developed in many other countries.A suitable canteen policy that enables nutritious, wholesome and healthy foods to children should be developed in consultation with health ministry and education ministry. It should be based on the following:

- The school canteen policy should consider, for the sake of easy understanding, introducing the concept of colour coding (Table 3) to categorize the foods, for instance,
  - foods that should be eaten most as of Green category,
  - foods that should be eaten sparingly as of Yellow category, and
  - most common HFSS Foods as of Red category,
  - It is recommended that at least 80% of the food available in schools should be of Green category.

- It is clarified that this concept is not meant for labeling of foods.

- The policy should be applicable for all types of schools such as primary, secondary, day care, boarding etc. Depending upon the place and region, the policy should include foods that are to be promoted as well as discouraged for consumption by children.

- The policy should also take into consideration non-standardized foods that are sold in canteens and may extend to foods that are brought by children from home. Regarding foods that are to be discouraged, suitable measures such as decreasing the frequency and portion size could be suggested.

- A 'School Health Team' or similar unit could be set up in each school comprising teachers, parents, students and school canteen operators, who will coordinate, implement and monitor the canteen policy to make available quality and nutritious food to students in schools. This Team will also monitor the checklist given in this Guideline.

- A well-structured curriculum on balanced diet and its health impacts should be introduced. The curriculum needs to take into account the level of students and detail out as the children migrate from one class to another. NIN should be involved in developing this curriculum.
  (Note: This point is being referred to the Ministry of Human Resource Development, Government of India for further action.)

- Schools should also promote nutrition education and awareness among children through various tools such as posters. If required a provision for funds from Department of School Education and Literacy should be made.

Table 3: Concept of Colour Coding of Foods

Colour Code	Availability	Examples
Green	Always on the menu (at least 80% of available food items)	Vegetables and legumes, fruits, grain (cereal/ pulses) foods; preferably wholegrain and/or high in fibre, lean meat, egg, fish, low fat milk, curd, paneer etc.
Yellow	Select carefully Approach should be greening, small portion size and reduced frequency	Baked vegetable based snacks, ice creams, milk-based ices and dairy desserts etc
Red	Restrict / Limit Availability in Schools	HFSS Foods as per Table 2

Sample Menu Options for Healthy Food

Based on the above suggestions, an indicative list of healthier sample menu options that could be categorised as green is provided in Table 4 given below:

Table 4: Sample menu options with Kcal

Food items	*Kcal*	*Food items*	*Kcal*
Vegetable sandwiches (brown or multigrain bread) {no mayonnaise, low fat cheese can be used}	150-200	Paneer / chicken / egg / salami sandwiches (brown or multigrain bread) {no mayonnaise}(low fat cheese)	200-250
Fruit salad: 1 big katori	100	Fruit chat	100
Single fruits (seasonal)	80-100	Fruit yoghurts	100
Chick pea vegetable chat 1 medium katori	100	Paneer/ vegetable cutlets 2 pc	200
Fruit custard 1 big katori	200	Khandvi 2 pcs	80
Veg. poha 1 medium katori	150	Sprout salad 1 medium katori (sprouts 30g rest salad)	100
Veg. uttapam 1 medium	150	Veg. upma 1 medium katori	200
Vegetable pulao with veg raita; 1 medium katori	200	Vegetable idlis with chutney: 2 pc	120
Vegetable (whole wheat flour/multigrain flour) kathi rolls: 1	150	Paneer/chicken/egg (whole wheat flour/multigrain flour) kathi rolls: 1	200

Table 5: Sample beverage options (200 ml) with Kcal

Beverages	*Kcal*	*Beverages*	*Kcal*
Low fat milk shakes with seasonal fruits (banana ,mango, strawberry, chiku, black current) no added sugar	180	Fresh lime soda / shikanjee (with 10g sugar)	40
Fresh fruit juice	120	Badam milk	180
Smoothies with fruits	180	Salted / plain lassi	120
		Jaljeera	60

3. Regulate Promotion of 'HFSS Food' among School Children

There is a substantial increase in advertising of foods high in fat, sugar and salt across the world. Children are especially vulnerable to advertising because they cannot fully understand the disguised persuasive techniques of the advertisements and judge critically. The impact is exponential as proved by several studies. The objective is to regulate the ‘exposure’ and ‘power’ of advertisements and promotional activities that are targeted to children.

- It is recommended that Government should consider developing a framework to regulate promotion of HFSS Foods among School Children taking into account WHO Document

titled – "A Framework For Implementing The Set of Recommendations on Marketing of Foods and Non-Alcoholic Beverages to Children – 2012".

- It is further recommended that Government may advise Advertising Standards Council of India (ASCI) or any other relevant body to consider developing such framework to address the following issues:

  (i) Regulating advertisements of HFSS foods to school children. This should include age group, print / electronic media timing.

  (ii) Limiting reach of such advertisements in electronic media where School Children are the key audience.

  (iii) Restricting celebrity endorsements for HFSS Foods

  (iv) Regulating promotional activities of 'HFSS Foods' targeted at children.

(Note: This issue / point is being referred to the Ministry of Information and Broadcasting, Government of India for further action in this regard.)

4. Food Safety and Standards Authority of India should consider reviewing the Labeling Regulations to enable disclosure of all Relevant Information

The objective is to better educate the consumer to facilitate an informed decision, as it is critical to a healthy and balanced diet. In the current context, it is more about creating awareness among parents at home that gets reflected into eating behaviors of the entire family including children. As per WHO, providing accurate, standardised and comprehensible information on the content of food items is conducive to consumers making healthy choices.

In India, the labeling regulations mandate packaged food manufacturers to declare nutritional information on product labels indicating the energy value in Kcal followed by the amount of nutrients present. However, it needs to be made more informative. While reviewing the labeling requirement following may be taken into consideration.

Nutrition Facts labeling including the quantity of nutrients on the pack: The labels should inform (suggested format in Figure 2) on how much the quantity of nutrients in a food packet and serving size contribute to the total daily requirement. Desired information may include:

- Serving size and number of serving size per packet/container
- Per serving information and its contribution to RDA (in%) as per NIN
  - Calories
  - Key ingredients (in grams) such as total fat, saturated fat, trans-fat, sugar, carbohydrates, proteins, salt/sodium etc.
- Total calorie count based on which RDA is calculated

Figure 2: Nutrition Facts Labelling

Nutrition Facts

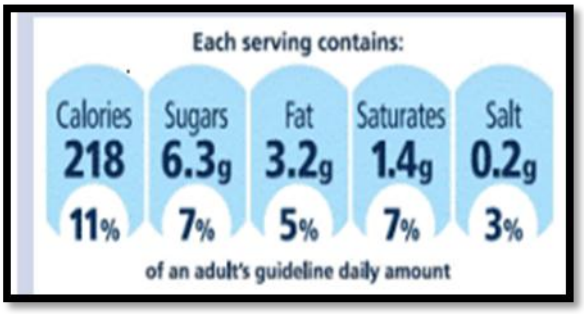
Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving	
Calories 260	Calories from Fat 120
	% Daily Value*
Total Fat 13g	**20%**
Saturated Fat 5g	**25%**
Trans Fat 2g	
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	

Vitamin A 4%	•	Vitamin C 2%
Calcium 15%	•	Iron 4%

- Front of the Pack' labeling that provides the Nutrition Facts in a simpler, easy to understand manner. Refer to an illustration below (Figure 3):

Figure 3: 'Front of the pack' Labeling



- Review of labeling provisions for non-packaged HFSS Food items.

(Note: The Labeling Regulation is being reviewed in the Food Safety and Standards Authority of India and further information in this regard may be provided separately.)

5. Establish Stringent Limits for Unhealthy Ingredients

From the perspective of controlling the intake of TFAs that are extensively used in bakery, confectionery and deep fried cooking, a limit of 10% of trans fats in the cooking medium, i.e., vanaspati, etc. should be revised to 5% at the earliest.

(Note: An amendment Regulation titled "Food Safety and Standards (Food Products Standards and Food Additives) Amendment Regulations, 2015 has been notified by the FSSAI which will be effective from 27th August, 2016.)

6. Encourage Physical Activity by School Children

Consumption of food and physical activity by school children should be promoted in line with the **WHO Global Strategy on Diet, Physical Activity and Health** and the Government of India Policy of making Physical Activity compulsory in Schools. Physical activity complements maintaining good health if it is accompanied by a well-balanced and nutritious diet. Government and schools should take initiatives to encourage physical activity by children such as supporting infrastructure within and outside the school, creating awareness among children and their parents about the importance of outdoor games and sports, increasing time devoted to such activity and introducing allocation of marks/grades to sports.

For children and young people, physical activity includes play, games, sports, transportation, chores, recreation, physical education, or planned exercise, in the context of family, school, and community activities. The recommendations to improve cardio-respiratory and muscular fitness, bone health, and cardiovascular and metabolic health biomarkers are:

a) Children aged 5-17 should accumulate at least 60 minutes of moderate - to vigorous-intensity physical activity daily, e.g., Team sports like Football, Cricket, Basketball, Tennis, Badminton, *KhoKho, Kabaddi*.

b) Amounts of physical activity greater than 60 minutes provide additional health benefits.

c) Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week, e.g., Cycling, Running, Swimming, Roller skating

The term "physical activity" should not be mistaken with only "exercise". Exercise, is a subcategory of physical activity that is planned, structured, repetitive, and purposeful in the sense that the improvement or maintenance of one or more components of physical fitness is the objective. Physical activity includes exercise as well as other activities like walking, strolling in garden, walking the dog, taking the stairs, house chores and recreational activities which involve bodily movement and are done as part of playing, working and active transportation.

Physical inactivity due to insufficient participation in physical activity during leisure time and an increase in sedentary behavior during occupational and domestic activities, e.g., Watching TV, Play Video Games, Indoor Card Games, Console Gaming etc. should be reduced as far as possible.

Scientific Criteria followed to explain identification of HFSS Foods

A "cut-off" criterion based on RDA of nutrients by NIN[25], India

The criterion is based on RDA of nutrients provided by NIN, India. Most of these are in line with those recommended by WHO. NIN guidelines have adapted to suit the Indian population.

Methodology for setting "cut-off" limit: RDA of calories and individual nutrients (refer 1 below) is apportioned across meals and snacks throughout the day (refer 2 below).It is then compared with actual amount of calories and respective nutrients that are present in foods. Foods with higher than the set 'cut-off' limit of one or more parameters are considered unhealthy. Breakfast and/or mid-morning snack is considered for school children.

1. RDA of nutrients considered for children (based on 2100 Kcal for 10-12 years)

Salt/sodium: Total RDA for salt is 5 g /day, sodium 2 g/day as per NIN dietary guidelines
Total fats: Total fat intake should not be >30% E per day (WHO recommendation adopted by NIN)
Trans fatty acids (TFAs): Total RDA is <1% E per day (WHO recommendation adopted by NIN)
Added sugar: Total RDA 30 g sugar /day as per NIN dietary guidelines
Saturated fatty acid (SFAs): Total RDA is up to 8% E (WHO recommendation adopted by NIN)

2. Meal break-up considered (% total calories)

Breakfast	25%
Mid-morning snack	10%
Lunch	25%
Evening snack	10%
Dinner	25%
Bedtime	5%

Table 6: Cut-off values for calories & nutrients that should not be exceeded in a snack or meal

Cut-off values of calories and nutrients (RDA for calories 2100) [10-12 years]*							
	% RDA allocated	Kcal limit	Total fat[g/% of total]	SFAs [g/% of total]	TFAs [g/% of total]	Sugar[g]	Salt/sodium[g]
Snack	**10**	**210**	**7/30**	**1.86/8**	**0.23/1**	**3**	**0.5/0.2**
Meal	**25**	**525**	**17.5/30**	**4.65/8**	**0.57/1**	**6.25**	**1.25/0.5**

[25] Dietary guidelines for Indians, A manual, NIN, 2011

* *Calculation illustration:*

- *Kcal: 10% of 2100=210 Kcal; 25% of 2100=525 Kcal*
- *Total fat: 30% E of 210 for snack = 63 Kcal and 63/9 (Kcal/gm of fat) = 7 g; similarly its 17.5 g for meal*
- *SFAs: 8% E of 210 snack = 16.8 Kcal and 16.8/9 (Kcal/gm of fat) = 1.86; similarly its 4.65 g for meal*
- *TFAs: 1% E of 210 snack =21 Kcal and 21/9 (Kcal/gm of fat) = 0.23 g; similarly its 0.57 g for meal*
- *Sugar: 10% of 30 g (RDA) for a snack = 3g; similarly its 6.25 g for meal*
- *Salt/Sodium: 10% of 5 g of salt (RDA) and 2 g of sodium (RDA) for a snack = 0.5 g of salt and 0.2 g of sodium; similarly its 1.25 g of salt and 0.5 g of sodium per meal*

Based on the cut-off values, various snack foods available in the India are evaluated. A red/bold figure in the tables below highlights that the cut-off is exceeded vis-à-vis respective nutrient or calories.

***Table 7: Examples of identified HFSS food items*:**

Food item	Serving size	Calories [Kcal]	Total fat [gm]	Sodium [gm]	Added sugar [gm]	Saturated fat [gm]
Potato Chips	50 g	**272**	**17**	**0.39**	1	**5.35**
Aloo Bhujia	50 g	**315**	**25**	**0.34**	0	**5**
Cola Drink	300 ml	132	0	0	**33**	0
Instant Noodles	80 g	**360**	**14**	**0.95**	**3.2**	**6.8**
Milk Chocolates	40 g	**220**	**12**	.045	**21**	**8**
Non-carbonated Fruit Beverage	200 ml	146	0	0	**34.6**	0
Aloo Burger	155 g	**352**	**14**	**0.84**	**8**	NA

Source: Company websites primarily.

PART II - Guidelines on Food Safety, Hygiene and Sanitation for Food available in school canteens

1. Food Safety, Hygiene and Sanitation:

Food Safety, Hygiene and Sanitation are fundamental to ensure human health and safety. Several instances have come to notice, whereby, issues relating hygiene, sanitation and safety have raised concerns about the safety of the health of school children. The following requirements are important to ensure safety of food made available to them. These requirements should be read in conjunction with Schedule IV of Food Safety and Standards (Licensing and Registration) Regulation, 2011.

1.1 Building design of school canteens:

a) Location

- Food preparation and serving area should be located in such a way that there is no food safety risk from objectionable odors, smoke, dust or other such contaminants.
- It should not be located near toilets.

b) Roads and areas used by wheeled traffic

- Areas for wheeled traffic, in and around food preparation and serving areas, should be constructed in such a manner that it doesn't pose a risk to food safety.

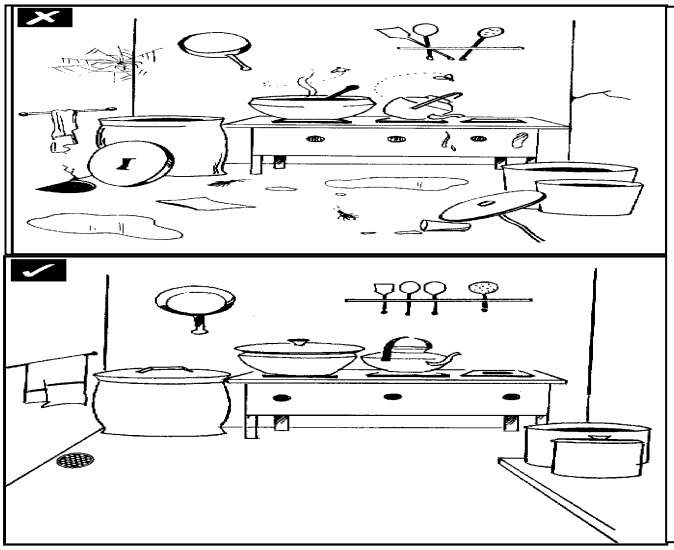
c) School Canteen Building and Facilities

- They should be:
  - of sound construction and well maintained,
  - designed to permit easy and adequate cleaning.
  - prevent the entrance and harboring of pests and
  - prevent entry of environmental contaminants such as smoke, dust, etc.
- Floors, walls and ceilings, where appropriate, should be easy to clean and disinfect, without crevices and prevent accumulation of dust.
- Windows and other openings should be fitted with insect-proof screens.
- Doors should have smooth, non-absorbent surfaces and, be self-closing.
- Adequate provisions for drainage and cleaning shall be made in school canteens.

1.2 Hygienic Requirement: Utensils / Equipment

a) Equipment and Utensils

- All equipment and utensils which may come in contact with food should be made of material which is resistant to corrosion and is capable of withstanding repeated cleaning, and disinfection.
- All equipment and utensils should be designed and constructed to prevent hygienic hazards and permit easy and thorough cleaning and disinfection.



Wash and sanitize dishes after cooking or eating.

Protect dishes from germs after they are sanitized.

Keep the cooking area clean.

b) Equipment and utensil storage

- Portable equipment such as spoons, beaters, pots and pans, etc., should be protected from contamination.

c) Refrigeration

- In case canteens use raw materials or serve foods which require low temperature storage, canteen should have adequate facilities for the same.
- All refrigerated spaces should be equipped with temperature measurement devices.

1.3 Hygienic Requirement: Preparation Steps

a) Raw Material Requirements

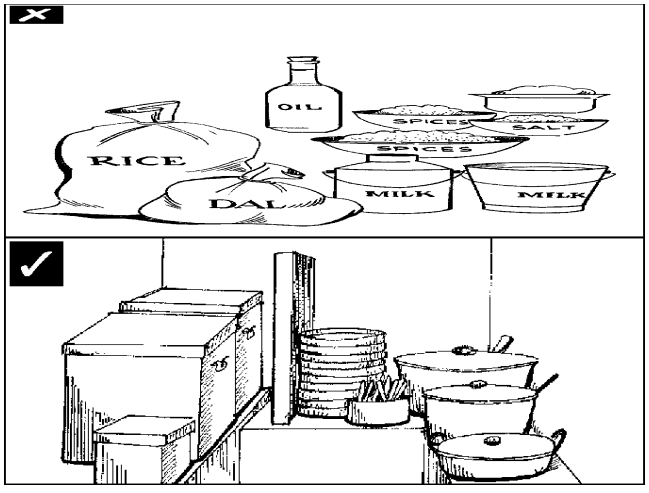
- Raw materials or ingredients should be inspected prior to use in canteens. No raw material or ingredient should be accepted if it is decomposed or contains insects or extraneous substances

Do Not Buy Foods like Fruits, Vegetables from Unhygienic Places

- Raw materials and ingredients stored on the premises of the establishment should be maintained under conditions that will prevent spoilage, protect against contamination and minimize damage. Meat, poultry, fish and other non-veg products should be sourced only from licensed / authorized vendors.
- Frozen products should be received at temperature below -18^{o}C and fresh / chilled products to should be received at temperature below 5^{o}C and must be refrigerated after reception till usage. Refrigerators should not be overstuffed to ensure proper circulation of the air inside.

b) Storage

- Raw and cooked food must be separated during storage and preparation.



- All raw foods which require refrigeration, such as meat, chicken, fish, certain vegetables etc., should be stored under appropriate refrigerated conditions.
- Appropriate stock rotation mechanisms must be used.
- Food must be kept hot at >60°C or cold at <10°C, during prolonged periods of service and where food is presented as a buffet/self-service.

c) Water Supply

- An ample supply of clean drinking water, in compliance with the IS-10500 quality standard, under adequate pressure and of suitable temperature should be available with adequate facilities for its storage, where necessary.
- If required, a system to ensure supply of hot potable water should be available.
- Ice shall be made from potable water and should be handled and stored so as to protect it from contamination.

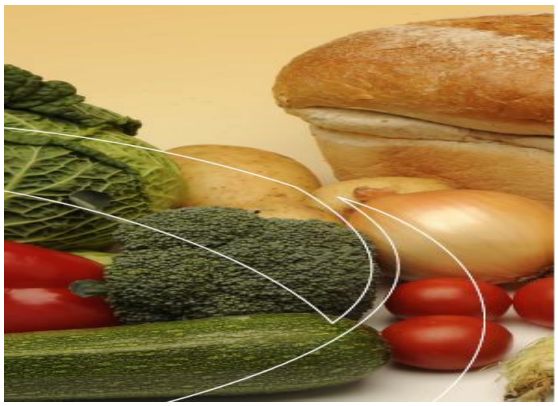
d) Cooking process

- The time and temperature of cooking should be sufficient to ensure the destruction of non-sporing pathogenic micro-organisms.
- The quality of oil or fat should regularly be checked for odor, taste and smoking color, and if necessary, changed. Repeated use of oil for frying is not desirable.

e) Salad preparation

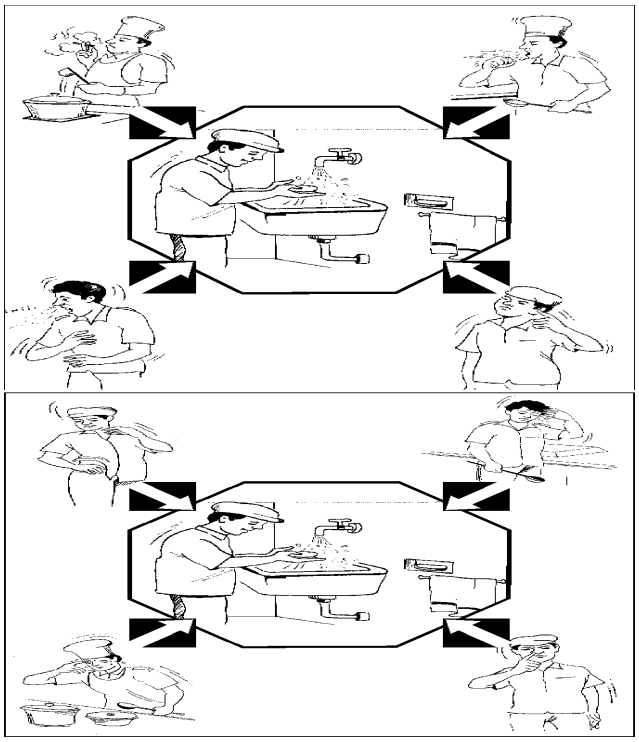
- Step: 1 for all salad items, sorting is to be done. Remove any bruise, rotten items.
- Step: 2 thoroughly wash the salad items (except onion where peeling off is done).
- Step: 3 Wash and sanitize the salad cutting area, cutting pad, knives /cutter and hands with disinfectant.
- Step 4: Cut and remove both ends of the salad item and rinse with water.
- Step 5: Peel off the outer skin of the salad items (where applicable) and dip in 25ppm – 50ppm chlorine solution for few minutes, before chopping into smaller pieces as desired. The chopped salad should be kept at refrigerator if stored longer than normal lunch hour.

Precaution: Do not handle the salad with BARE HANDS after sanitation.



1.4 Safe Handling of Cooked Food:

- Canteen Staff must be trained in the good hygiene practices, before hiring.
- Good practices of personal hygiene must be followed e.g. daily bath, hand sanitation and the protective uniform (including hair cover, gloves, shoes) etc.



Wash hands after any of this

- Ensure that the serving plates, bowls, glasses and spoons are clean and dry.
- Periodical assessment/audit of the cooked food handling practices must be performed and shared with School Health Team.
- Regular microbiological analysis should be carried out for the cooked food, salad and drinking water in a FSSAI approved laboratory.
- Typical indicative values for different microbiological parameters are:

Item description	TPC	Coliforms	Norm: E. coli/g
Cooked Food	10,000 cfu/g	Max. 10 cfu/g	Absent/g
Salad	10,00,00 cfu/g	Max. 10 cfu/g	Absent/g
Utensils	100cfu/100 cm^2	Max. 10 cfu/100 cm^2	Absent/g
Hand swab from food handlers	100 cfu/ swab from both the hands	Max. 10 cfu/swab from both the hands	Absent / swab from both the hands

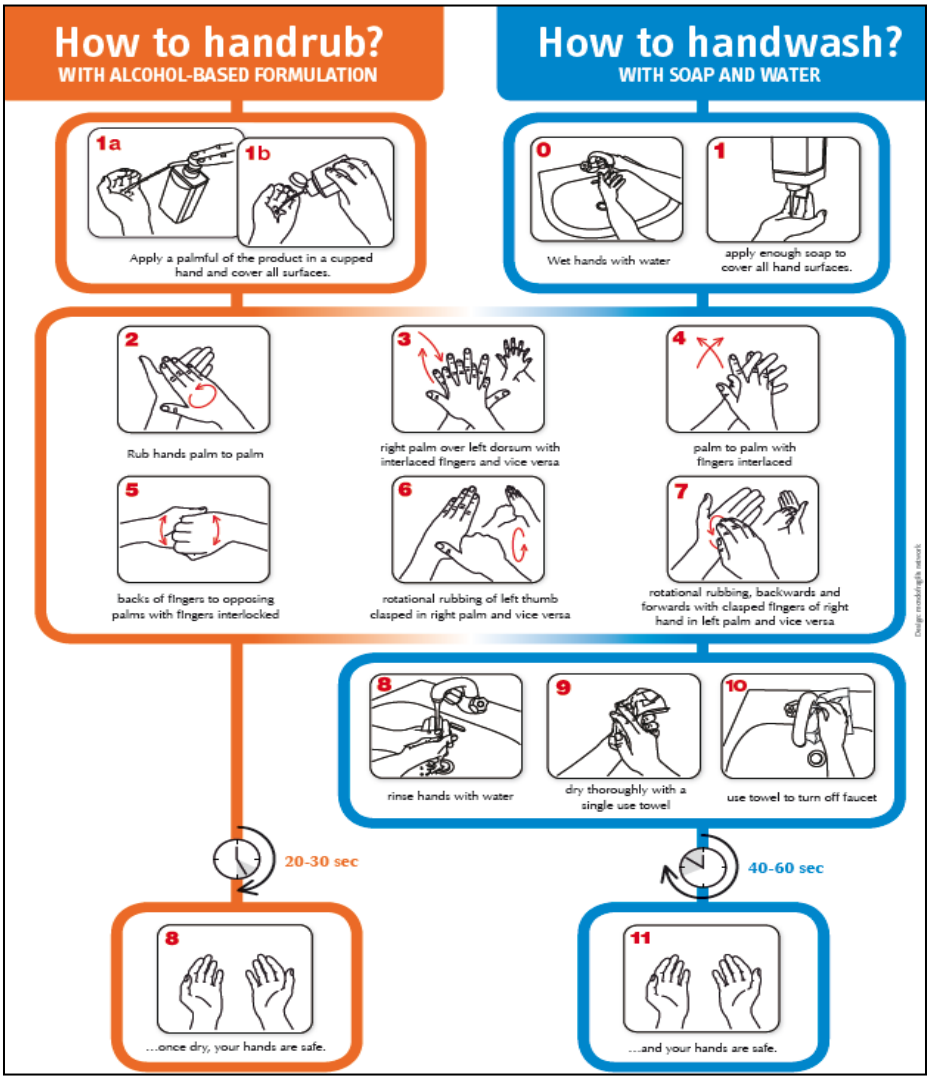
1.5 Personal Cleanliness

a) Canteen staff must maintain a high degree of personal cleanliness, trimmed nails, (where appropriate) wear suitable protective clothing, head covering.

b) In-case of cuts and wounds, canteen staff may be permitted to continue working, with suitable cover / waterproof dressings.

c) Canteen staff must wash their hands with soap where personal cleanliness may affect food safety, for example:

- At the start of food handling activities
- Immediately after using the toilet.
- After handling raw food or any contaminated material (used utensils, waste materials).



1.6 Health Status

a) Personnel known, or believed, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through food, shall not be allowed to enter into any food handling area.

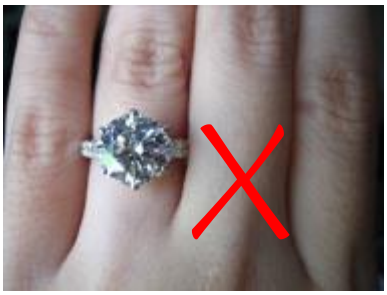
b) Arrangements shall be made to get the canteen operators/food handlers in school canteens to be medically examined regularly to ensure that they are free from any infectious, contagious and other communicable diseases.

1.7 Personal Behavior

a) People engaged in food handling activities should refrain from behavior which could result in contamination of food, for example:

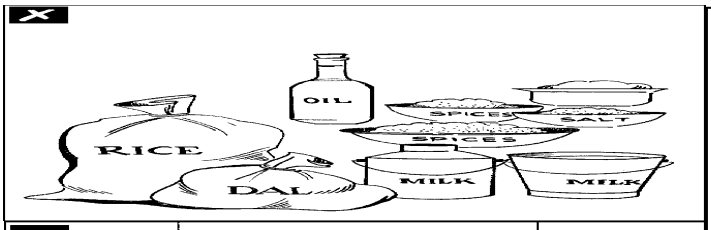
- Smoking; spitting; Chewing or eating or sneezing or coughing over unprotected food.
- Putting fingers on hair, nose, mouth during cooking or serving food.

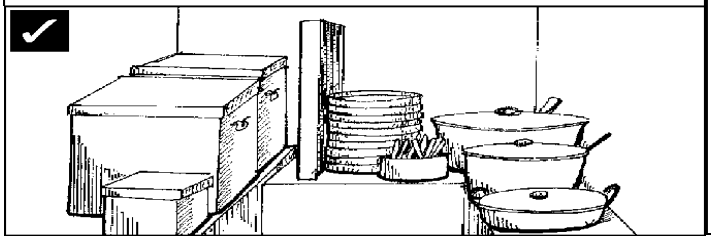
b) Personal effects such as jewelry, watches, pins or other items should not be worn or brought into food handling areas.



c) Prevent cross contamination – before starting the job of cutting or cooking, ensure all utensils, knife, chopping boards should be thoroughly cleaned. Separate chopping boards and knives for raw fruit/vegetables/meat/poultry and ready-to-eat food should be used.

d) All types of chemicals i.e. cleaning, sanitation and insecticides etc. must be stored away from raw materials and finished foods and should be stored under control with lock and key.





Store foods in appropriate containers

To prevent cross contamination, cooked and uncooked food should not be kept in the same

1.8 Pest Management

a) Animals and insects, potential risks to health, should be excluded from canteen buildings

Rat: responsible for plague, Q fever, leptospirosis

Pigeon: responsible for salmonellosis, psittacosis

Housefly: carrier of pathogenic bacteria.

Weevils: carrier of pathogenic bacteria.

Cockroach: carrier of Pathogens.

b) There should be an effective control of pests. Canteen and surrounding areas should be examined for evidence of infestation.

- Ensure doors are closed, when not in use.
- Use proper netting / air curtain / PVC strip with 25% overlapping
- Do not give food & space for roosting.
- Keep area clean. Do not leave any open foodstuff.
- Maintain clean drainage, and treat gutters periodically.

c) Pest control treatments with chemical or biological agents should only be undertaken under direct supervision of trained personnel.

d) Insecticides should only be used if other measures cannot be used effectively. Before pesticides are applied, all food, equipment and utensils should be safeguarded from contamination.

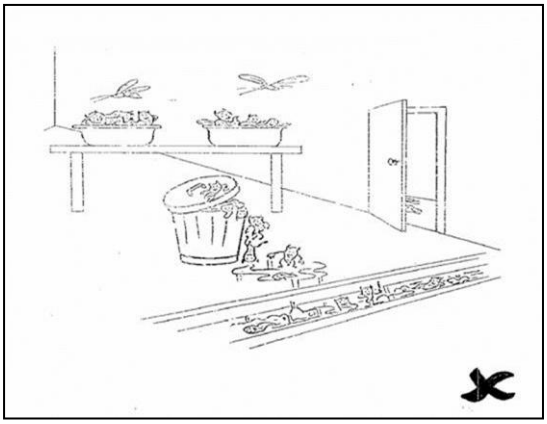
e) After application, contaminated equipment and utensils should be thoroughly cleaned to remove residues prior to being used again.

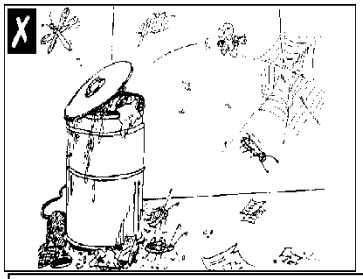
1.9 Waste Management

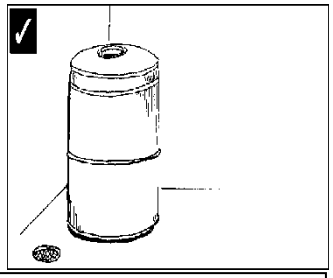
a) Containers for inedible material and waste should be covered, leak proof, constructed of metal or other suitable material which should be easy to clean. Collection of waste material should not spread it to other areas.

b) Facilities for storage of waste and inedible material

Where required, schools should also have facilities for the storage of waste/ inedible material prior to removal from the canteen. These should be designed to prevent access by pests.







Remove sources of pest contamination.

Keep discarded food / refuse in covered bins

c) Waste disposal

Schools should have an efficient waste disposal system which should at all times be maintained in good order and repair. All waste pipes should be properly trapped and lead to a drain.

1.10 Training

a. Training of canteen staff is an essential foundation pillar for the success of food safety management systems and it needs to be supported by the school health teams.

b. School health team should identify and train a senior person as the food safety leader, who should be capable of understanding this area.

c. Food Safety team leader should also be instrumental in inculcating awareness among canteen staff and students.

Checklist for Utensils and Other Equipment					
S. No.	**Activity/Focus Point**	**Yes**	**No**	**Corrective action**	**Remarks**
1.	Sufficient stainless steel utensils and other wares required for cooking available in proper condition				
2.	Food contact surface does not contaminate food with off smell or odour				
3.	Food contact surface are smooth for cleaning and without any pits, corrosion or foreign matter and is not absorbing moisture				
4.	Equipment allow complete cleaning and draining of water with no water/ food residues holding				
5.	Equipment are identified for the usage to prevent cross contamination, i.e., Containers used for raw material, processed food and waste etc.				
6.	Separate storage space identified for clean and unclean utensils and protected from contamination				
7.	Refrigerators are maintained clean and stuffed not in excess with proper segregation to prevent cross contamination				
8.	Raw material Refrigerator must be separate from processed foods				
9.	Equipments have the desired covers for prevention of any unintended contamination of foreign matter, hair, dirt, etc.				
10.	Crack wares are not in use				

Checklist for Raw Materials Management					
S. No.	**Activity/Focus Point**	**Yes**	**No**	**Corrective action**	**Remarks**
1.	Raw Material used in the kitchen are listed and approved				
2.	Raw Material purchase system is documented with the criteria for food quality and safety and approved				
3.	Raw material purchase excludes spoilage, pest infestation, fungus or objectionable odours and dirt				
4.	Processed material purchase from identified vendors (ideally approved vendors)				
5.	Raw Material storage in proper condition - Perishable products at < 10 C; Segregation between raw and processed foods. Animal origin products < 5 C (milk, meat etc.). Frozen Material at - 18 C				
6.	Inventory Control exists with identified expiry/ use before date. Excess materials are not allowed				
7.	Individual Raw material storage Containers with proper covers and labels				
8.	Inspection system of Raw materials to prevent any pest growth like raw cereals and pulses etc.				
9.	No infested material stored in the kitchen and disposal mechanism exists				
10.	Temp. Monitoring of equipment storing materials done on daily basis				

Checklist for Water and Salads					
S. No.	**Activity/Focus Point**	**Yes**	**No**	**Corrective action**	**Remarks**
1.	Clean/potable water availability for Drinking and Washing, cleaning as per IS-10500				
2.	Hot water available for washing utensils				
3.	Water taps in proper repaired conditions				
4.	Water used for other requirements in segregated lines, no cross connection. Water distribution lines are identifiable for the type of water				
5.	Ice is prepared from clean potable water				
6.	Drinking Water cooler, dispensers are maintained clean and under proper cover with no entry points for pests or dirt.				
7.	Salad are washed in clean drinking water and all visible soil is removed				
8.	Salads are peeled off and dipped in chlorine water as prescribed before chopping				
9.	Separate containers, knives are used for salad after peeling off/ washing.				
10.	Chopped Salad is kept at cold temperature(< 10 C) before serving				

Checklist for Handling of Cooked Food					
S. No.	**Activity/Focus Point**	**Yes**	**No**	**Corrective action**	**Remarks**
1	Persons serving food are trained in Hygiene and Food Safety Principles with training records				
2	Persons following proper usage of PPEs				
3	Canteen crew following Personal Hygiene practices - No sneezing, no jewelry, trimmed hair nails etc.				
4	Separate Serving spoons for individual cooked items				
5	Serving plates, spoons etc. are clean and dry kept at clean surface.				
6	Proper segregation of cooked food from raw fruits and Salads				
7	Cooked Food kept at hot temp. (> 60 C) and salad, yoghurt, ice creams etc. to be at < 10 C before serving as applicable.				
8	The cooked food containers, are properly covered and with separate spoons to prevent any contamination				
9	Spilled foods is removed carefully				
10	Leftover food is disposed of as waste immediately				

Checklist for Monitoring and Controls					
S. No.	**Activity/Focus Point**	**Yes**	**No**	**Corrective action**	**Remarks**
1	The Hygiene management system is in place with respect to the formation of the hygiene committees including Management				
2	Proper training are delivered, evaluated and recorded for Food Safety and Hygiene				
3	Raw Material Quality and food safety checks are conducted before purchase, delivery and usage				
4	Regular inspection and assessment is done by the Food Safety Committee for Hygiene controls in the kitchen and related areas like wash rooms				
5	Periodical Hygiene monitoring checks are conducted for the canteen Crew by the Hygiene/ Food Safety Committee				
6	Periodical checks on the cooked food and water quality are conducted in an external FSSAI approved laboratory				
7	All the records and inspection results of food quality and safety are reviewed by the food safety team leader and presented to the management for corrective action				
8	Management commitment is visible by their presence in the meetings and minutes of meetings are shared in the food safety committee meetings				
9	Improvement areas are identified and pending points are properly tracked				
10	Certification from the FSSAI is conducted by the management committee				
11	Key Deliverables on the food Hygiene standards are tracked and the staff is motivated by recognizing the best employee etc.				

Food Safety and Standards Authority of India
(Ministry of Health and Family Welfare)
FDA Bhawan, Kotla Road
New Delhi – 110 002
(www.fssai.gov.in)

सुरक्षित आहार, स्वास्थ्य का आधार