

DO YOU EAT RIGHT?







About the Book

We all know we should eat right. But many of us don't, as a matter of habit. The food we eat affects not only our health but also our state of mind, our environment and therefore our quality of life. Despite our best intentions, we are either unaware of what it means to eat right or we do not know how build to the right eating habits.

'Do You Eat Right?' has been crafted to help you understand critical up-to-date information about food safety, nutrition and environmentally safe food practices in a simple and practical way so that you can make the right food choices. This book covers topics such as reading labels, use of healthy cooking oils and checking food adulterants at home etc. as well as practical tips on cultivating right eating habits such as reducing the intake of salt, sugar and fat. It also highlights various initiatives taken by the Food Safety and Standards Authority of India (FSSAI), the country's apex food regulatory body, towards ensuring safe, healthy and sustainable food for you, wherever you are- at the workplace, at school or at the station while traveling.

This book is divided into nineteen short chapters under broad three sections- Health is Wealth, Safety is Paramount and Protect our Planet. In the first section, the book explains nine key topics on eating healthy from making the right food choices, reducing salt, sugar and fat, eliminating trans fats, using healthy cooking oils, eating fortified foods, inculcating healthy eating habits among children to reading food labels correctly.

In the second section, the book focuses on FSSAI's initiatives under Eat Right India, a largescale movement to change the way India eats through regulatory action and targeted initiatives for food producers and consumers. In the six chapters, focus on various steps taken by FSSAI to ensure food safety everywhere from stations to meat shops, places of worship, restaurants and campuses. It also showcases how FSSAI has empowered consumers to check food adulterants easily. This section introduces you to the catchy vocabulary and symbolism of Eat Right India so that you can make it your own.

The third section puts the planet at the centre of our food choices, making a strong case for adopting environmentally sustainable food practices and habits. In four chapters, it highlights three key initiatives of FSSAI to promote organic food, reduce plastic and food wastage and promote donation of surplus food.

The knowledge extracted from the vast scientific literature, often inaccessible to most people, and practical wisdom of experts and professionals in the area of food and nutrition is now in the form of small, information bites in this user-friendly book. So why wait to dig in and eat right?



Acknowledgments

The Food Safety and Standards Authority of India (FSSAI) would like to express a heartfelt gratitude to Sh. Pawan Agarwal Special Secretary to the Government of India, for providing the conceptual framework for the book. We would like to express our gratitude to all those who have contributed to the content of this book-Dr. Swati Bhardwaj and Dr. Meenu Singh, from Vital Strategies, Ms. Rijuta Pandav and Ms. Rohini Saran from Food Fortification Resource Centre (FFRC) at FSSAI; Dr Heena Yadav, Dr Sujata Singh and Ms. Jyotsna Singh from FSSAI. We would like to thank Mr. Mayank Chauhan, Graphic Designer, FFRC, FSSAI for the creative design and layout. Finally, we would like to convey our appreciation to Dr Joshita Lamba, Consultant, for coordinating and contributing in this project.

We are also grateful to Ms. Kavita Devgan, holistic health consultant, for her valuable insights and to our reviewers Dr Pulkit Mathur, Assistant Professor, Lady Irwin College and Dr Eram Rao, Associate Professor, Bhaskaracharya College of Applied Sciences for their critical inputs.



CHAPTERS

Section 01

Health is Wealth

1	Making Right Food Choices	10
2	Pledge to Cut Off Too Much Salt	18
3	Stop the Sugar Attack	28
4	Thoda Kam - fat	33
5	Trans Fats are not Just Bad but Downright Ugly	41
6	Don't be afraid of fats - Just Get Oil Smart	47
7	Fortifying our Health	53
8	Catching Them Young	59
9	Learn to Read Labels	65

Stressing on Sustainability

Section 03

- | | | |
|----|--------------------------|-----|
| 16 | Putting the Planet First | 105 |
| 17 | The Organic Decision | 111 |
| 18 | The Organic Decision | 117 |
| 19 | Save Food Share Food | 123 |

CHAPTERS

Section 02

Safety is Paramount

- | | | |
|----|-------------------------------|----|
| 10 | Safe Travels | 71 |
| 11 | Stay Safe From Adulterants | 75 |
| 12 | Eat Clean Meat | 81 |
| 13 | Blissful and Hygienic BHOG | 85 |
| 14 | Push up Your Hygiene Quotient | 89 |
| 15 | Healthy Campus, Healthy You | 95 |

SECTION 1

Health is Wealth

*"It is health that is real wealth and
not pieces of gold and silver"*

Mohandas Karamchand Gandhi





Chapter 1

Making Right Food Choices

The road to health goes through this simple equation:

Nutrition + Health = Right Food x Better Digestive Capacity

And all this takes is making correct food choices.

Our eating habits can make or break our health. There is no doubt at all that - we are what we eat. And unfortunately, we eat what we get. Even more unfortunate the entire environment we subsist in is fashioned towards eating unhealthy food, as that is what is being made available and sold to us through high decibel and very effective marketing. This is in fact the key field in the food and nutrition space that FSSAI is working to address. Eat Right India movement is working to transform the country's food system to not just ensure availability of safe food, healthy and sustainable diets, but the programme is also bringing about a right information revolution by ensuring that correct information is reaching people across the country through its stellar initiatives. The key challenges FSSAI is seeking to address via the Eat Right India movement are:

Food is a fundamental need and a right. The fact that food is critical in shaping and determining the health and nutrition outcomes of the country is a no brainer. It is also a commodity, a product, a meal and source of nutrition which is deeply ingrained in our culture, heritage and identity. At every stage along the food value chain - primary producers, processors, buyers, packagers, distributors, regulators and consumers play a role in shaping its safety and quality, its environmental footprint and its ability to feed citizens healthily and sustainably. And this chain needs to function properly for right food to reach the end users.

Food safety is a critical link for good health and nutrition but is often neglected. In India, food-borne illnesses remain a threat to the entire population and their burden in fact is comparable to malaria, HIV/AIDS and tuberculosis.

That there is a strong interconnection between unsafe food and adverse health and nutrition outcomes is again well established as that results in poor absorption of nutrients from food, particularly of vitamins and minerals that impact nutritional status of a person.

India has persistently high prevalence of undernutrition with rising incidence of over-nutrition and non-communicable diseases. These are pervasive across age groups and there is need for urgent action across age groups. There is also an epidemiological shift happening from communicable to non-communicable diseases like diabetes, hypertension, and obesity.

Finally, the country is also facing myriad of other challenges, including water crisis, high food loss and waste, and rising ill effects due to climate change. All these need to be addressed too.

The Good Work

To address all these concerns FSSAI has expanded its focus from merely preventing food adulteration towards a more holistic approach to ensure safe and wholesome food for all citizens and has made a transition from being merely an 'enforcer' to also an 'enabler' by launching the 'Eat Right India' movement. The movement targets people across ages, gender, regions, and socio-economic groups. It brings together food-related mandates of the agriculture, health, industry and environment ministries with a 'whole of government' approach. It has forged partnerships with not only flagship programs of the country but also with professionals and other stakeholders.

The movement has three key pillars –

1 Food Safety

2 Healthy Diets

3 Sustainable Food System

w e a r e
w h a t w e
e a t



Food Safety

The focus is on ensuring personal and surrounding hygiene, maintaining hygienic and sanitary practices through the food supply chain, combating adulteration, reducing toxins and contaminants in food and controlling food hazards in processing and manufacturing processes.

Healthy Diets

The focus is on promoting diet diversity and balanced diets, eliminating toxic industrial trans fats from food, reducing consumption of salt, sugar and saturated fats and promoting large-scale fortification of staples to address micronutrient deficiencies.

Sustainable food systems

Actions under this pillar promote local and seasonal foods, prevent food loss and food waste, conserve water in food value chains, reduce use of chemicals in food production and encourage use of safe and sustainable packaging.



On occasion of 150th birth anniversary of Gandhiji, FSSAI also launched a unique initiative the 'Swasth Bharat Yatra' to spread the messages of 'Eat Right India' movement amongst masses. 'Swasth Bharat Yatra', the world's biggest cyclothon was flagged off on 16th October 2018, on the occasion of World Food Day. This yatra was one-of-a-kind Pan-India public health revolution, encouraging people to 'Eat Right' and delivering the message of 'Eat Right India' through direct outreach among citizens. It was instrumental in galvanizing the food safety network in all the states and create a sustainable culture and habit of safe and healthy diets by promoting individual awareness and collective action and strengthening institutional systems.

In addition, an amazing initiative the 'Eat Right Mela' has also been conceived to engage, excite and enable citizens to eat right through an info-tainment model. The first National Eat Right Mela was held during 14th-16th December 2018 in New Delhi in collaboration with NASVI's Street Food Festival to an overwhelming response. Since then, Eat Right Melas have been held all over India in various cities like Mumbai, Chennai and Indore and even at district level at Barpeta, Assam.

The second National Eat Right Mela was organised from 25th -29th December 2019 which was a complete food experience for the entire family. In addition to showcasing street foods from all over the country, it consisted of entertaining yet informative activities such as food quizzes, talks by dieticians and nutritionists, live cooking demonstrations by chefs, discussions by leading food experts and exhibits on healthy eating along with a host of cultural performances such as street theatre, dances. It was a huge success.



6

Simple Steps to Eat Mindfully

- 01** Keep Gaps: Try to eat all your meals within a consistent 10-hour window, and fast for the remaining hours of the 24 hours day. This helps protect from NCD's like Type 2 diabetes, cardiovascular diseases and inflammatory disorders.
- 02** Hydrate well: Very often what you perceive as hunger is only dehydration. So, before you pick up that cookie, have some water first. Enough water will keep all body systems chugging along.
- 03** Chew More: Chew your food properly. It takes about 20 minutes for your brain to respond to increased glucose levels (due to the food) and get the "I'm full" message. So if you eat at supersonic speed, you'll end up eating much more than you should. So, to time it right, follow the 20:20 rule. Try chewing each mouthful 20 times until it becomes almost liquid. This also leads to better digestion of food.
- 04** Just eat: When you are eating, avoid all distractions, and just focus on your food... look at it, taste it, feel it... let your stomach extract the maximum possible nutrients. Otherwise the food you are eating at that time is as good as 'wasted' if your body's energies are concentrated elsewhere as the nutrient absorption gets short-changed extensively.
- 05** Know your portions: Practice portion control consciously. Your portion could decide just how many extra calories you are wolfing down on a daily basis. When portion size of a dish is too large, share your dish.
- 06** Eat a happy diet: What you eat has the power to make you feel good or really bad as food affects our emotions directly. Science is clear that when you eat food that you don't enjoy, the nutrient absorption is very low. So, try to eat healthy foods in a way they make you happy.





Chapter 2

Pledge to Cut Off Too Much Salt

When **Rajkummar Rao** says it, you just listen.
When experts talk about its importance, you
just think about it.

But it's only when your heart begins to get
affected by it, then you actually take action.

Why wait for the damage to happen before
understanding its importance.

We are talking about

Aaj se 'Namak' Thoda Kam



The Truth

In spite the flak it has been receiving, a little salt is indispensable for a healthy, balanced diet. Salt (sodium chloride, NaCl) helps regulate body's water balance, keep muscles functioning and helps conduct nerve impulses. In short, salt is essential for life.

How much do we need?

Different people spout different figures for our daily requirement of salt but experts worldwide thankfully are unanimous about it. WHO recommends a safe intake of 2000 mg of sodium = 5 g (1 tsp) a day.

Eating excess of salt will only add to the health troubles and unfortunately, that is exactly what we are doing, often unwittingly, every day. It's time to look at just how much salt we are eating every day.



**CTRL +
SALT +
DELETE**



Are we eating too much?

Ask people what they know about salt and sodium, most don't know and often underestimate how much sodium they are getting. In fact, on an average, Indians are consuming two times the recommended daily intake i.e. more than 2 tsp of salt, (approximately 10g per day) the recommended daily intake i.e. 1tsp of salt approximately 5g per day.. It is not just the salt we add to our food while cooking, the sodium can come from salt and other chemical additives which are added to processed and restaurant foods. Foods naturally also contain some sodium. This make it hard to stay within the recommended limits. The truth is unshakeable: Most of us get way too much sodium through food.

Why you need to pay attention?

Remember, that uncomfortable bloating feeling when your rings get stuck and your waist swells a few inches suddenly could also be due to the skewed sodium-potassium balance in the body; too much sodium makes the body retain water and bloat up. Salt has a direct connect with high blood pressure (hypertension). Too much sodium causes your body to retain water, putting an extra burden on your heart and blood vessels, which may lead to high blood pressure (BP).

High BP is an important risk factor for stroke, so keeping salt low is important to keep debilitating and often fatal strokes away too. Globally more than a million people die every year from heart attacks and stroke

Finally, excess sodium can even weaken your bones as it leads to leaching of calcium from the skeleton, priming you for early osteoporosis



Less Salt



Trim it!

Smart strategies

- ▶ Make gradual reduction in salt intake to let the taste buds adapt better.
- ▶ Have more water. Excess sodium will get excreted out with water.
- ▶ Eat more potassium rich foods like fruits, vegetables and coconut water (to balance out sodium).
- ▶ Don't keep the salt shaker on the table.

Read labels carefully

- ★ Packaged foods are big culprits in adding sodium to our diet. Sodium is there in everything from canned foods to papads, to even ketchups and bread, biscuits and cookies. As per FSSAI's advertising claims
 - **Low Sodium:** Product contains not more than 0.12 g of sodium per 100 g for solids or 100 ml for liquids. Very low Sodium: Product contains not more than 0.04 g of sodium per 100 g for solids or 100 ml for liquids.
 - **Sodium free:** Product contains not more than 0.005g of sodium per 100 g for solids or 100 ml for liquids.
- ★ Limit your intake of pickles, chutneys, sauces, papads and namkeens.
- ★ Eat unsalted nuts.
- ★ Look out for regular high sodium suspects like cured meats - salami, bacon, ham and sausages and steer clear of Mono-sodium Glutamate (MSG or ajinomoto). Skip or avoid them.
- ★ Limit intake of foods described as brined, pickled, barbecued, cured or smoked as they tend to be higher in salt.
- ★ Say no to HFSS or unhealthy food; a few slices of pizza or canned soups can send your sodium skyrocketing.
- ★ Cook from scratch or use minimally processed foods which are additive free... De-emphasize the use of processed foods. Avoid readymade soup premixes and batters, masala mixes, and instant meals. They tend to be high in sodium.

Add flavor not salt

- ★ Switch to alternative flavorings: wedges of cut lemon/lemon juice, chilli flakes and black pepper powder, onion powder and garlic powder are good options.



Herbs like coriander, parsley, mint, oregano, thyme, and basil work well too. Try this: mix 5 parts roasted and powdered sesame seeds with 1 part salt, and use as a flavoring. Adds an interesting flavour to food.

- ★ Avoid highly salted flavorings like stock cubes and gravy granules and foods like crisps, salted nuts, popcorns, savory snacks and soups – they are all high in salt.

Cook Smart

- ★ Monitor added salt during cooking. In India, more than 80% of salt comes from salt added during cooking. Track and monitor the consumption of salt at home - buy and use only a fixed quantity every month and try further reducing the quantity.
- ★ Do not add salt to rice or atta when making chapatis.
- ★ Eat fruits and salads without adding salt. Avoid sprinkling salt on curd too.
- ★ Use more fresh produce as they are rich in other nutrients which balances the sodium.
- ★ Add salt after the food is cooked, it gives more salty taste with less salt.
- ★ Look for ways to pair salted foods with unsalted or less salted foods, for example, have dal that has salt with rice without salt, etc.
- ★ Focus on high umami foods. These foods are high in a compound called L-Glutamate (a flavour enhancer) that triggers our umami or savory taste receptors. Chicken and meat broths together with fermented foods, fish, soya bean, mushrooms, tomatoes, seaweeds and carrots are examples of umami foods/ingredients.

The Good Work

Aaj Se Thoda Kam Campaign of FSSAI aimed at nudging people to reduce their salt, sugar and fat intake is delivering the message very effectively, and educating people through communication material and a TVCs featuring actor Rajkummar Rao.

A meaningful all round strategy to reduce salt consumption across populations containing all elements of the WHO's SHAKE salt reduction package is being followed aggressively.

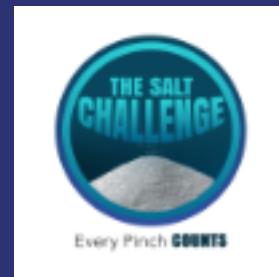
FSSAI launched an innovative challenge-The Salt Challenge: Every Pinch Counts in November 2019, where they invited suggestions from nutrition professionals and students all over India for cutting down salt intake at home and restaurant cooked food. The competition received an overwhelming response from every corner of the country in a span of just 10 days

Success Story shared by 'ICMR-NIRT Staff Canteen' at Chennai: They have successfully implemented following strategies to reduce salt intake:

- ▶ No salt is added in idli and dosa batter before cooking for breakfast.
- ▶ No salt is added in boiled white rice during preparation for lunch.
- ▶ No salt is added in buttermilk, served along with afternoon meals.
- ▶ Instead of pappad/ appalam (which contains salt) along with meals, customers are offered option of having green salad with lemon. (Which instead has resulted in reduction in papad consumption in 1/3rd of staffs).
- ▶ Request to avoid pickle or to take less pickle, which is salty and nor-mally served along with afternoon meals. (This advisory has resulted in 3/4th reduction in pickle consumption overall).
- ▶ Request to avoid or add less salt to curd rice in lunch

Suggestions received during the challenge:

- Use of unsalted butter, use of groundnut powder, tamarind pulp, amla, garlic powder, onion powder, carrom seeds, coconut milk, coconut powder, mushroom powder. Undaria and dulse species of Brown seaweed delivers umami flavour to the food
- Many herb /spice mix which were suggested from different regions as an alternate to salt e.g. Podi using toor dal, garlic, chillies, tamarind, rosemary and curry leaves and using dried coriander, jeera, bengal gram, chilly, pepper, cloves, lemon zest, vinegar, oregano, dried lemon powder, kokum, dried beetroot powder, and cinnamon can be added to reduce the salt in the dish.
- Oils infused with garlic, chilli, lemon can be a wonderful replacement for butter, salted butter, and soy sauce.
- Salt substitutes, which consist of other mineral salts, can impart a salty flavour to food. Potassium chloride (KCl) is the most popular choice as a feasible salt replacer.
- Prepare poriyal with adding roasted groundnut powder instead of salt.
- Replace traditional pickles and sauces with pickled vegetables (cucumber and carrot soaked in vinegar).



More is being done

◆ There are some more effective proposals in the pipeline:

The Eat Right campaign (somewhere it's written as a movement and somewhere a campaign – let's maintain consistency) is working towards reducing the salt content of packaged foods as that helps change the food environment without requiring consumer action, making the healthy choice the default. It seems possible looking at the example of Kuwait, the largest manufacturer of bread, , which has successfully reduced the salt content of bread by 20%.

Focused advocacy is on to garner with support by civil society, researchers, and scientific associations to encourage industry to participate, ensure support across government, consumers and industry.

◆ Low Sodium Salts

Low-sodium salt is a specially formulated salt that provides lower sodium than ordinary salt by partial replacement of sodium chloride with potassium, magnesium and calcium compounds. It is generally consumed by people with hypertension and high blood pressure. FSSAI is under the process of setting up standards for low sodium salts in India. Presently, there are few brands of low sodium salts available in India market. Advocacy of low-

sodium salts in which the sodium chloride (the harmful ingredient in salt) has been replaced with potassium chloride will help. However, it is advisable to consume it under medical supervision, and should be avoided by people with medical conditions like kidney problems, hyperkalemia etc.

People don't know or have no control over the amount of salt that they eat at restaurants; these foods are often saltier than foods cooked at home. Here displaying warning labels on foods to enable consumers to make informed choices can help. For example, New York City has introduced regulations so that large restaurant chains with 15 or more locations must display high-salt warning labels on menu items or combination meals that contain more than the recommended daily limit of sodium.

Behaviour change communication strategies must be used to educate, motivate and empower the public to achieve the objective of reducing salt consumption.

Bottom line

One must eat just adequate quantity of salt. Avoid adding extra salt at the table

**Know approximately how much sodium is in a given amount of table salt
(made approximately of 40% sodium and 60% chloride):**

1/4 teaspoon salt = 575 mg sodium

3/4 teaspoon salt = 1,725 mg sodium

1/2 teaspoon salt = 1,150 mg sodium

1 teaspoon salt = 2,000 mg sodium

SHAKE the SALT Habit

WHO recommended

SHAKE Technical package Surveillance: measure and monitor salt use

Harness Industry: promote reformulation of foods and meals to contain less salt.

Adopt: standards for labelling and marketing

Knowledge: educate and communicate to empower healthy eating

Environment: support settings to promote healthy eating

Eat Less Salt.





Chapter 3

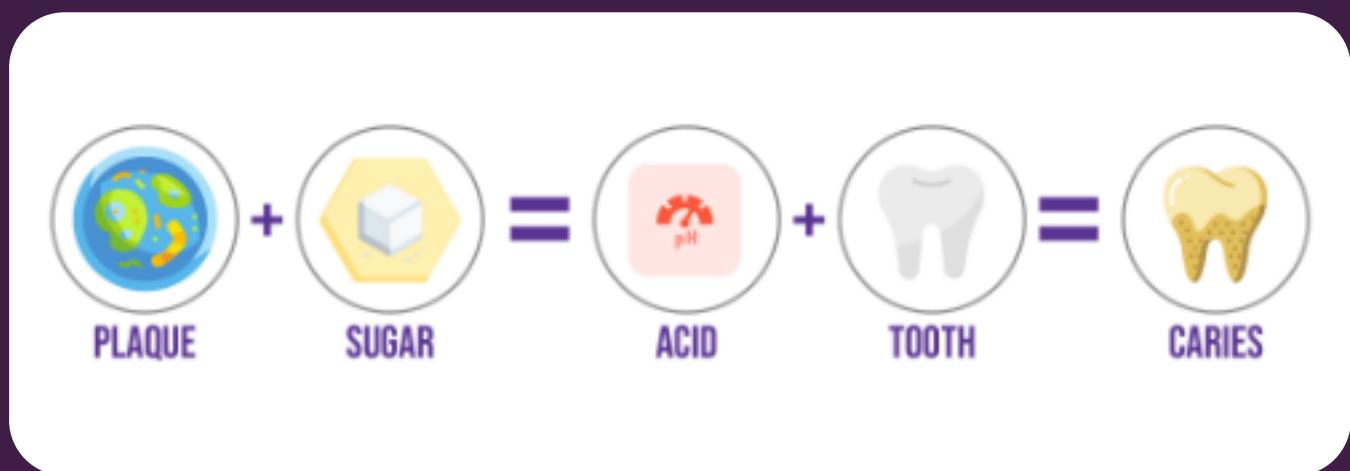
Stop the Sugar Attack

If you think that sugar's only adverse effect is on our teeth then it's time to swallow the bitter pill - it is not really as sweet and simple as that! In fact, sugar is a far bigger devil (threat)? As its excess leads to weight gain, elevates blood lipid levels and increases inflammation in our body.

Why is it important to be careful?

Mindless consumption of sugar in our diet does not just lead to diabetes; it can speed up heart disease, grow gallstones, hasten hypertension, cause arthritis, and even aggravate adult acne and wrinkles.

- ★ Every 5 gm (1tsp) of sugar adds an extra 20 calories, and slowly these calories add up and lead to weight gain. So, if you are skipping meals to get thin but not putting a lid on how much sugar you are eating, then you are going on the wrong path. Those inches won't melt.
- ★ The connection between sugar and dental caries is known to everyone, and it can come in between you and your 100watt smile. Bacteria thrive on sugar. More sugar consumption leads to more food for the bacteria which increased thrive and multiply and produce acid. And when bacteria are more, more acid is produced. This acid eats away at the tooth enamel leading to holes or caries. And yes, adults are equally susceptible too



- ★ Too many ladoos or chocolates might show up as pimples on your face (and early wrinkles with time), as sugar leads to inflammation in the body, one side effect of which could be bad skin too. This is because too much sugar in the bloodstream attaches to proteins to form advanced glycation end products (AGEs), which damage the collagen and elastin, the protein fibers that keep skin firm and elastic. Keeping diet low in sugar (and fat) keeps the wrinkles and acne at bay.

So how much to have?

When it comes to sugar, lesser the better. Ideally 4-5 tsp in a day according to Indian Dietary Guidelines. This includes the sugar you add to beverages and foods as well as sugar present as an ingredient in any foodone , one must limit the intake of sugar specially in hidden sources. WHO recommends 5% of the total energy from sugar. But sugar is not just the table sugar that you consume; added sugars can be found in everything from cereal bars to salad dressings, and even in seemingly healthy foods like granola, flavoured yoghurts, instant cereal mixes, protein bars, canned fruits, and even in juices, sports drinks and iced teas. So ,**read labels carefully.**

Look out for

While there is certainly nothing wrong with having moderate amounts of sugar in your diet, what is damaging is how fast it adds up. There is just too much sugar in almost everyone's diets these days and we end up unwittingly consuming it at an astoundingly high and unhealthy level - even if we don't have a sweet tooth. So to keep a lid on consumption look out for:

- ★ The umpteen teaspoon of sugar that you add to your tea, coffee, milk, iced tea, lemonade, lassi, cocktails.
- ★ The packaged juices, flavoured yoghurts, canned fruits, cereal bars, chocolates, cookies, aerated drinks (, processed foods, granola, sports drinks, even ketchup and salad dressings.
- ★ Read the labels carefully. Added sugars include all kinds of sugars and syrups that are added in a product during processing to make it taste better. Check the box to know about the different kinds (names) of sugars.



Aaj se thoda kam – cheeni kam

The **Aaj se thoda kam Campaign** is nudging people to:

- ★ Gradually reduce the use of sugar in their daily diet
- ★ Track and monitor the consumption of sugar at home – buy and use only a fixed quantity every month
- ★ Use naturally sweet ingredients rather than refined sugars. For example, in fruit-based desserts add more fruits for natural sweetness.
- ★ Limit the intake of cakes, pastries, confectionary and sweets prepared with refined cereals containing high amounts of sugar.
- ★ Limit the consumption of sugar or carbonated sweetened beverages and sugary snacks
- ★ Instead of drinking fruit juice, eat fresh whole fruits. It provides fibre, which gives a feeling of fullness and fewer calories.
- ★ Moderate the intake of sugar-preserved foods like jams, jellies, marmalades and sugarsnacks.
- ★ Prevent children from overindulging chocolates and candies that may put them at risk of obesity, and other non-communicable diseases later in life
- ★ Limit the amount of desserts and use less sugar in preparing them.
- ★ Use of condiments such as nutmeg, cinnamon could be added to reduce the need of sugar in the dish.



One Final Tip

To keep sugar cravings away it is very important to keep the blood sugar stable by starting the day with a nutritious breakfast and having smaller meals throughout the day.

Read food labels carefully

Knowing about different kinds of sugars goes a long way in controlling blood sugar.

Brown sugar:

These are sugar crystals coated with molasses.

Maltose:

Maltose is the breakdown product of the starches. It is formed when two molecules of glucose combine.

Fructose:

It is the naturally occurring sugar in the fruits and honey. One and a half times as sweet as sucrose but with the same caloric content,

Molasses:

Also referred to as the golden syrup and is often listed in the list of ingredients for making cakes.

Glucose:

This naturally occurring sugar is found in fruits, some vegetables and honey. It results in a quick and significant rise in blood sugar.

Sorbitol:

A sugar alcohol, which is present naturally in fruits. It is more slowly absorbed than glucose.

Honey:

Other form of sugar like honey contains about 35 per cent glucose, 40 per cent sucrose and 25 per cent water.

Sucrose:

Known as table sugar, it is refined sugar that is made from sugarcane.

Lactose:

Form of sugar naturally present in milk.





The need for sugar free products has given rise to 'sugar substitutes or artificial sweeteners'. Sugar substitutes or artificial sweeteners also called as non-nutritive sweeteners, contain few or no calories or nutrients. They used instead of sugars (i.e., sucrose, corn syrup, honey) to sweeten foods, beverages and other products, such as oral care products and certain medications. In India the FSSAI has approved five artificial sweeteners, namely, **Saccharin sodium**, **Aspartame** (methyl ester), **Acesulfame potassium**, **Sucratose**, and **Neotame**. These are available under different brand names. However, it is advisable to be cautious in their consumption. It is best to stick to naturally sweet foods.



Chapter 4

Thoda kam - Fat

For more than half a century now we have been asked to eat a low fat diet to save our health, but have progressively only become more unhealthy, fat and diseased. Confused?

Well, that's exactly how news about fat has always been over the decades: complicated, confusing, and contradictory.

That said: one fact that stands validated and strong still, is that excess of fat intake is a clear risk factor for obesity and non-communicable diseases (NCDs) like diabetes and heart diseases.

Now the right message is not to 'give up' fat, but to reduce the consumption as we all do need some fat to stay healthy.

How much?

Now that it is decided that giving up fats is a bad idea, how do we decide how much fat to eat? Well, keep calories coming from fats to maximum 25% of your total calorie intake for the day. Basically, if you are eating a 2000 calorie diet then not more than 500 calories should be from fats, both visible (what you cook in) as well as invisible (nuts, oilseeds, milk, eggs, fish, etc). Easier way would be to stick to about 20-25g gm or ml (4 tsp) of visible fat (cooking oil) per person per day, and avoiding processed foods that are high in fat. Nuts and seeds also form an integral component of the 'fat' category. They provide us with the good fats. Include peanuts, almonds, pistachio, sesame seeds. etc., in your daily diet.

The Good Work

Food Safety and Standards Authority of India launched 'Aaj Se Thoda Kam' campaign as a preventive healthcare measure to address various lifestyle related non-communicable diseases. The campaign aims to promote reduction of fat through communication material and a TVCs featuring actor Rajkummar Rao for wider and more effective dissemination in mass media and social media and is proving very effective at this.



Karo Thoda Kam

- ★ Gradually reduce the use of oil in your daily diet.
- ★ Track and monitor the consumption of oil at home - buy and use only a fixed quantity every month and try reducing its quantity further.
- ★ Measure cooking oil with a small spoon rather than pouring freely from the bottle.
- ★ Change the type of oil every month.
- ★ Do not repeatedly reheat oil or re-use the same oil for frying or cooking. This is elaborated further in the box.
- ★ Avoid frying as much as possible. Instead boil, steam, roast or grill food.
- ★ Moderate the use of butter and ghee.
- ★ Avoid vanaspati, bakery shortenings and margarine as they contain trans fats (bad fat).
- ★ Moderate the consumption of bakery products or processed foods high in fat.
- ★ Choose lean meat sources like chicken or fish over red meat or organ meat, if you are non-vegetarian

Why do we need Fat?

Yes, you read it right, fat in fact is quite vital to help us lead healthy, productive lives. Dietary fats supply us with energy. So, if you want to feel good all day long, you need to make sure you are getting enough fats, and the right types. Eating less fat means one ends up eating more carbohydrates, (and the wrong type!). When we replace the fat with quick burning carbs we tend to feel fatigued, and also risk wreaking havoc on the metabolism and hormones.

Fat also provides fat soluble Vitamins A, D, E and K. This means their absorption and proper use in the body depends on the presence of fat in our diet. These vitamins are essential for blood clotting, cell repair, growth and immunity.

Certain essential fatty acids omega 3 and omega 6 fatty acids are linked to the production of many chemicals in the brain, and their deficiency can play havoc with our mood. Our hormones get affected too, as most hormones running in our body depend on fats to stay the course. Very often hormonal imbalances can be traced to low fat diets.



Choose Wisely

Elimination of fat from the diet usually means eating more carbs and proteins, which is not a good idea. Too much protein has been linked to nephrological problem or kidney damage, and carbs in excess are any ways clearly bad for us.

Finally cutting down fat does not help in weight loss. Fat delivers a feeling of satiety as they keep our blood sugar levels stable longer and prevent excess hunger and cravings. Whereas with fat free meals we usually end up eating and eating, and consume excess calories without realizing.



Quit repeated use of cooking oil

You must have seen the same oil being reheated again and again to cook the snacks when you go to a restaurant, hotel or at the local shop. We are guilty of doing this at our homes too. But is this practice safe? Have you ever wondered what this practice does to our health?

The Dangers

Eating food cooked in the oil that has been reheated again and again is the worst thing we can do to our heart and general health. This process - reheating oil - leads to formation of toxic compounds in the oil which when ingested lead to multiple health problems. Cooking food in dark coloured oil giving blue-grey colour smoke which is being used and reheated throughout the day can make the food rancid, release harmful toxins, form trans fats, which can further lead to:

- 1 Increase in free radicals in the body, which can cause inflammation - the root cause of most diseases including obesity, heart disease and diabetes.**
- 2 Increase in level of LDL or bad cholesterol in the body which can lead to heart disease and stroke.**
- 3 Burning sensation in stomach and throat and acidity.**
- 4 Higher risk of cancer. Reheating the oil changes its composition which leads to release of So be wary! Very wary!**

The Good Work

While using the same cooking oil for repeated frying has adverse health effects, this Used Cooking Oil is also a potential feedstock for manufacturing biodiesel. Therefore, on the occasion of World Biofuel Day i.e. 10th August 2018, FSSAI has launched 'Repurpose Used Cooking Oil' (RUCO) - an ecosystem to enable the collection and conversion of used cooking oil to biodiesel. FSSAI has created a nationwide eco-system to collect used cooking oil to be converted into bio-diesel. In a typical year, Indian masses consume about 23 million tons of

cooking oil. Hence There is a potential to recover about 3 million tons of used edible oil for producing bio-diesel,

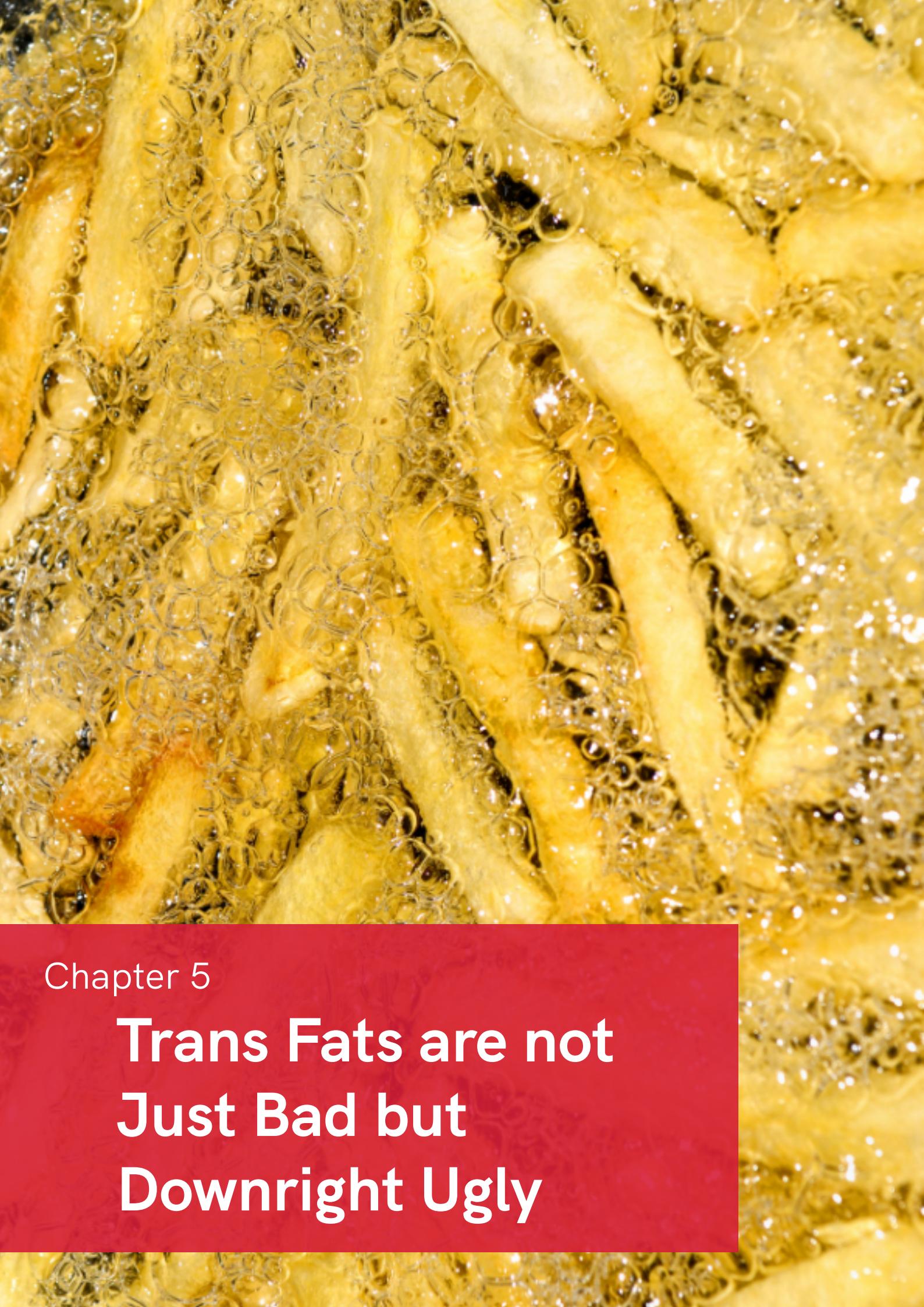
The government has introduced a new set of regulations governing the use of cooking oil which has set the maximum permissible limit of Total Polar Compound (TPC) in cooking oil at 25 percent. As part of RUCO, standards relating to total polar compounds in cooking oil have been notified, guidelines and directions have been issued to streamline the collection process. A "RUCO Compliant" sticker has also been released for food businesses complying with the regulations.

Use Oil Responsibly at Home

For cooking at home using a fresh batch every time is a good practice but may not really be economical and practical. But you can reduce the risk of negative effects that of reused oil by following these pointers:

- ★ Make sure the leftover oil from cooking or frying is cooled down, strained (as food particles in used edible oil further spoils it) and then transferred into an airtight container, which can be used for making parathas and vegetables.
- ★ Always check the oil each time before reuse; if it's dark in colour and is sticky then don't use it.
- ★ If the oil begins to smoke too quickly while heating it, please discard it. Nothing is more important than your health.





Chapter 5

Trans Fats are not Just Bad but Downright Ugly

Fats get the bad rap all the time, but not all fats are bad. Some like ghee and coconut oil are actually good for us when consumed in right amount. But that said it's important to keep an eye out for the meanest of all the fats - trans fats.

That is because according to WHO estimates, every year, trans fat leads to more than 500,000 deaths worldwide from cardiovascular diseases. So, eliminating trans fats is key to protecting health and saving lives.

But why are they so dangerous?

Trans fats have a specific chemical structure, that our body finds hard to metabolize and also trans fats have no physiological role to play in our body. So certainly don't consume it !

In addition they clog arteries, increases 'bad' LDL cholesterol and triglycerides, and reduces 'good' HDL cholesterol, a multifold whammy that increases the risk of coronary heart diseases. They can also trigger diabetes. Immune dysfunction, obesity, reproductive problems and cancer.

Plus those who eat more trans fats have higher levels of C-reactive protein (a biomarker for inflammation in the body). Trans fat consumption is linked with poor memory and higher risk for dementia too.

All this is definitely scary!

Where are they lurking?

Even scarier news is that these artery clogging fats are there almost everywhere. Some trace amounts are found in dairy and red meats which according to some reports may not be that harmful for health as other forms i.e. artificial trans fats.

It is the artificial trans fats that is formed when hydrogen is added to vegetable oil to make it solid at room temperature called industrially produced trans fatty acids (IP-TFA), which is the dangerous kind.

TFA were first introduced into the food supply in the late 19th and early 20th centuries when partially hydrogenated oils became popular and replaced butter and ghee in industrial food products to cut cost and to increase the shelf life.

Look out

Trans fats are also found liberally in:



Fats/oils: Vanaspati, margarine, bakery shortenings.



Bakery Products: Cookies, biscuits, doughnuts, fan, rusk, cake, crackers.



Packaged foods: Bhujia, namkeen mixtures, cake icing, hot chocolate mixes, potato chips, corn and tortilla chips, microwave popcorn.



Fried foods: Most street / restaurant foods - bhatura, aloo chaat, patties, samosa, kachori, pakora's, french fries, fried chicken, even sweets like imarati, jalebi... as these are mostly made with or fried in partially hydrogenated oils.



Reheated oil: Some trans fats are formed when the same oil is reheated and used for cooking again and again.

Be careful

WHO recommends that total TFA intake to be limited to less than 1% of total energy intake, which translates to less than 2.2 g/day in a 2,000-calorie diet. No need to get into calculations, just follow these thumb rules:

- ★ Go easy on fried foods and bakery items
- ★ Carefully choose the cooking oil at home (avoid vanaspati)
- ★ Don't reheat oil too much
- ★ Cut down consumption of processed and packaged foods
- ★ Avoid fried street food.
- ★ Read the labels carefully as other names for trans fats are partially hydrogenated oils, hydrogenated vegetable fats and shortening.

The News is Good

Elimination of industrially-produced TFA is feasible and achievable, and it is being done successfully worldwide. Several countries have in fact eliminated industrially-produced TFA from the food supply through implementation of systematic policy actions and monitoring programs.

Taking guidance from the REPLACE action package recommended by WHO that provides six strategic actions to eliminate trans fats from the food supply: Review, Promote, Legislate, Assess, Create and Enforce - India too is committed to elimination of industrial trans fats in fats and oils in a phased manner from the food supply and make India Trans Fat free by 2022.

The trans-fat content in fats and oils has already been limited to 5% and the process to further reduce it to 3% by 2021 and to 2% by 2022 is already on target. The regulation is being extended to food products having fats and oils too.

In addition, Food Safety and Standards (advertising and claims) regulation 2018 allow the trans-fat free claim on foods that contain 0.2 gram trans fats per 100 gm / 100 ml. Similarly, food establishments (bakeries, sweet shops and other food outlets) can now display the trans-fat free logo in their outlets and on their food products if they use trans-fat free oils/fats.

FSSAI is also educating chefs and working with them to encourage use of healthier fats/oils, use fats/oils with less than 2% trans fats in all their recipes, promote trans fats free food, reformulate and create a pool of healthy region specific trans-fat free recipes, work with food technologists to promote substitutes for trans fats and create awareness among consumers on ways to avoid trans-fat in their diet.

TRANS-FAT: A SILENT KILLER

Eliminate Trans-fat



AVOID
VANASPATI OR
MARGARINE



LIMIT FRIED
FOODS



AVOID REPEATED
USE OF COOKING
OIL

Calories	% Daily V.
100	
Total Fat 11g	17%
Saturated Fat 2.5g	12%
Trans Fat 2.5g	
Cholesterol 0mg	0%
Sodium 105mg	4%
Total Carbohydrate 0g	0%
Dietary Fiber 0g	

CHECK
NUTRITION LABEL
FOR "TRANS-FAT"



Trans Fats are the worst type of fat, they increase the bad cholesterol (**LDL**) and decrease the good cholesterol (**HDL**) in our body

Bottom line

The fact is that while we love foods which contains trans fats, our heart and blood vessels don't. Remember they increase the shelf life of foods, but might end up reducing ours. Besides why should our children have such an unsafe ingredient in their food. We owe it to them to eliminate it completely, and replace with healthier oils that preferentially contain monounsaturated and polyunsaturated fats.

The REPLACE Road-Map

Review dietary sources of industrially produced trans-fat and the landscape for required policy change.

Promote the replacement of industrially produced trans fat with healthier fats and oils.

Legislate or enact regulatory actions to eliminate industrially produced trans fat

Assess and monitor trans fat content in the food supply and changes in trans fat consumption

Create awareness of the negative health impact of trans fat among policy makers, producers, suppliers, and the public. Enforce compliance with policies and regulations





Chapter 6

Don't be afraid of fats - Just Get Oil Smart

Are you constantly on a hunt for foods that are fat free? And when you hear the word "fat," do you automatically think bad? If yes, you couldn't be more wrong. Not our fault actually! Dietary policies worldwide for decades continuously branded fat as a villain, a vile food ingredient responsible for all the bad that happens to our body.

In 1990s in fact the market was flooded with low-fat products: non-fat salad dressing, baked potato chips, low-fat milk and yogurt and more such. And due to this conscious cutting down of fat from the diet, our consumption of carbohydrates increased substantially and our plate became completely unbalanced. This is one of the cause which has led to an increase in the lifestyle diseases worldwide.

Thankfully now the tide is turning and it is becoming increasingly clear that fat is not devil, in fact its intake is imperative for health, as long as we choose the right kind and quantity. Sure, some fats are still bad, and too much of any kind is harmful to our waist and health (when it comes to calories, all fats deliver 9 calories per gram), so the trick is to consume the right kind of fat in an appropriate amount and choose the good fats over the bad.

Know Good fat vs. Bad fat

Replace bad fats with good fats. And beware just adding a little good fat to an already bad diet does not work as good fat works best when it replaces bad fat. For that it is important to understand the difference between healthy and unhealthy.

Poly Unsaturated Fatty Acids

PUFA are primarily of two types: omega 6, and omega 3. They are called essential fatty acids (EFA's) because we cannot live without them, and the body cannot make them indigenously, like vitamins, minerals and other essential nutrients, we must get them from the foods we eat. While we need both omega-3s and omega-6s, an imbalance between them can lead to inflammation in the body (bad for our health). The ideal ratio of essential fatty acid, linoleic acid (omega- 6): linolenic acid (omega - 3) should be 5- 10:1 but today the ratio stands around 15:1, that is we are consuming way too much of omega 6 which is extremely unhealthy. Excess usage of visible fats and processed foods (like chips, pakoras, French fries etc.) that we consume are to be blamed for this.

Balance it: with enough consumption of omega 3, found in fatty fish (salmon, mackerel, tuna, surmai, singhara, hilsa, rohu), walnuts, flaxseeds (alsi seeds), and greens like methi and mustard leaves.

Monounsaturated Fatty Acids

Along with PUFA, MUFAs too health benefits. These important fats help lower bad LDL cholesterol and raise good HDL cholesterol.

Zero in: on high MUFA oils - olive, flaxseed, almond, sesame, peanut and cashew. Olives, dark chocolate, peanut butter, almonds, cashews, pistachios, peanuts and seeds like sesame, pumpkin, poppy, chia and flax are other good sources of MUFA.

Saturated Fatty Acids (SFA)

Stop banning unsalted butter and ghee from your diet. These are not devil. The mantra is to take them in moderate amounts.

Look out: SFA are found in red meat, poultry, butter, cheese, full-fat dairy products, coconut oil, palm oil and ghee.

Bad Fat, the Trans Fats

As discussed in previous chapter it is important to keep an eye out for this meanest of all fats. They are dangerous as they increase 'bad' LDL cholesterol and triglycerides, and reduce 'good' HDL cholesterol (terrible for our heart), and also trigger diabetes, immune dysfunction, obesity reproductive problems and cancer and have been linked to poor memory too.

Be careful: they are there almost everywhere - cookies, crackers, cake icing, potato, corn and tortilla chips, many types of packaged or microwave popcorn, doughnuts, baked goods, margarines, and other processed foods, and of course all fried food - samosas, pakoras, kachoris, French fries, doughnuts and fried chicken, even fried sweets like gulab jamuns. jalebis... as they are often cooked in partially hydrogenated oils. So be careful. By the way another name for trans fats is "partially hydrogenated oils", so steer clear of the vanaspati's too. (Read the chapter 5 on trans fats for more details).

**Use combination of fats
and oils but with
moderation.**



Choose oils carefully

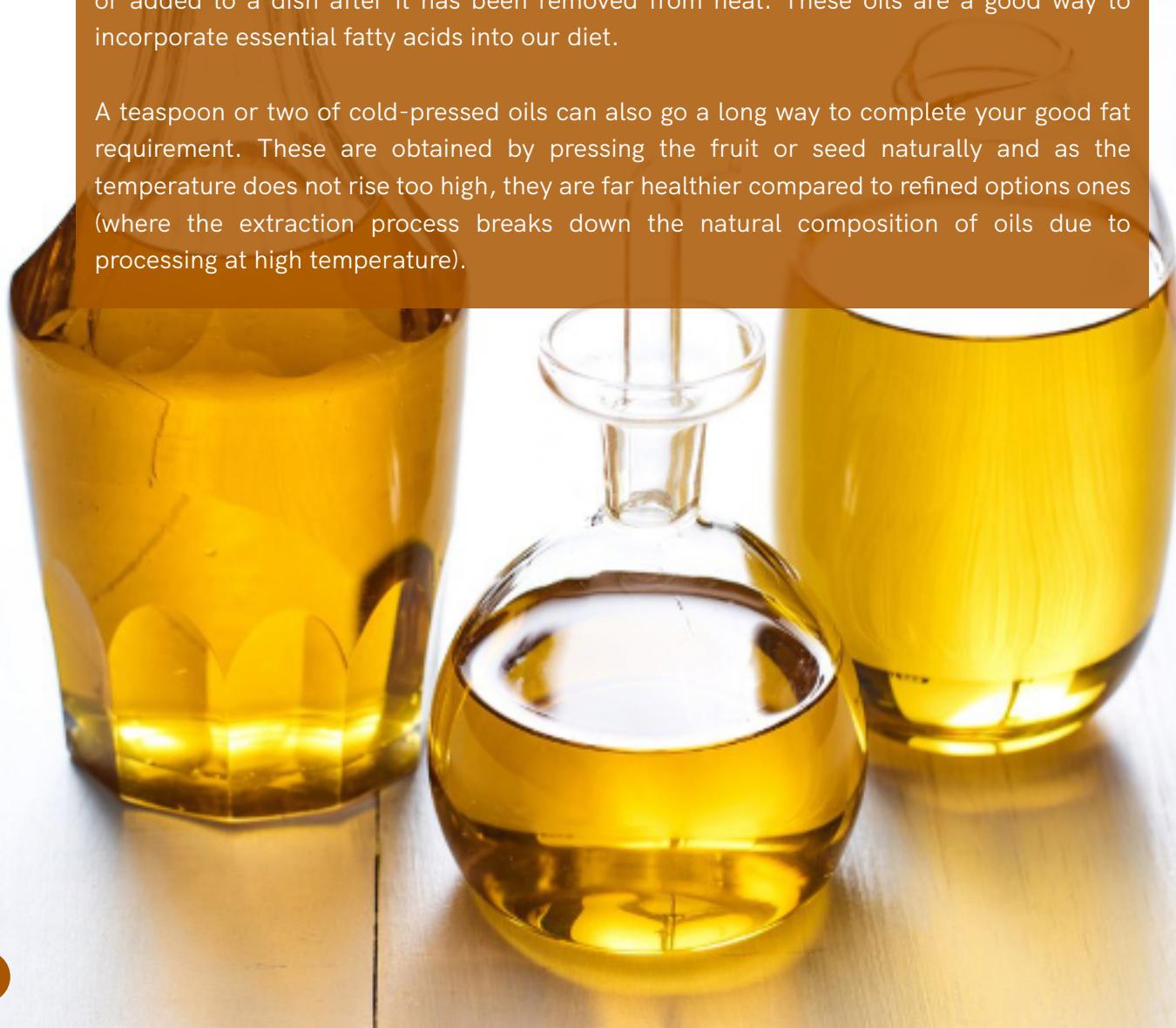
There is an ever-expanding choice of oils at your local grocery store over the past few years. Each of these oils has its place in the kitchen and serves a specific function. Keep these factors in mind when choosing them:

No oil is completely made of one fatty acid; they all are a combination of the three kinds of fats (MUFA, PUFA and SFA) in different percentages, based on the nut, seed or fruit from which the oil is derived, so it makes sense to keep rotating them.

Consider the smoke point (the temperature at which volatile compounds emerge and a bluish smoke becomes clearly visible from the oil) of the oil. Heating oil past its smoke point leads to a loss of flavor, its nutritional value and also toxic compounds which are bad for health. Oils that can take high temperatures make good all purpose cooking oils e.g. mustard, safflower, sunflower, and peanut oil. Medium-high heat oils are good for baking, sautéing and stir-frying e.g. butter, coconut oil,. For sauces, lower-heat baking and pressure cooking, medium-high heat oils are best.

There are some oils that should never be heated; these can be used in dips and dressings, or added to a dish after it has been removed from heat. These oils are a good way to incorporate essential fatty acids into our diet.

A teaspoon or two of cold-pressed oils can also go a long way to complete your good fat requirement. These are obtained by pressing the fruit or seed naturally and as the temperature does not rise too high, they are far healthier compared to refined options ones (where the extraction process breaks down the natural composition of oils due to processing at high temperature).



Oils and Fats - Myths and Facts

Myth: Margarine contains less fat than butter.

Fact: Butter and margarine contain different types of fat, but in similar amounts and hence also have an equal number of calories. In fact, unsalted butter is usually the healthier option – of course in limited quantities – as most margarines (particularly the hard varieties) although free of saturated fats have trans fats. Secondly, butter contains the usual vitamins found in milk – which are fat soluble, the fat in the butter helps your body absorb them well and margarine is generally devoid of vitamins unless they are specially added during production.

Myth: Salad dressing should be totally fat-free

Fact: Salad veggies are filled with terrific nutrients such as lycopene and beta carotene. But these antioxidants are better absorbed with a little help from fat.

This doesn't mean you should drown your greens in a rich ranch or blue-cheese dressing: A small amount of olive oil or any cold pressed oil will be sufficient. Or you can add low-fat cheese, nuts, seeds or avocado.

Myth: Fat-free is low-calorie

Fact: Don't indulge in extra-large servings of fat-free foods, especially baked goodies such as cookies, cakes and crackers – these foods may contain the same amount or even more calories than regular versions! That's because manufacturers usually add other things to compensate for the taste and texture that fats give to the dish, and that something is often a sugary or floury substance – empty calories! So, in fact certain foods labelled as low fat may actually be high in calorie because of high sugar or carbohydrate content. Always get the details by checking labels for the serving size and number of calories per serving.

Myth: The 'cholesterol free' label means a healthy food

Fact: 'Cholesterol free' doesn't necessarily mean fat free. The food might well be cholesterol free but at the same time be rich in saturated fatty acids or trans fatty acids, both of which raises blood cholesterol. 'Cholesterol free' is just a marketing strategy.



Look For



FORTIFIED
SAMPOORNA POSHAN
SWASTH JIVAN

Logo



Chapter 7

Fortifying our Health

There is just too much focus on what we eat, but somehow, we are still losing the plot. Our energies are concentrated on whether we are getting enough of the macronutrients like carbohydrate, fat and protein etc. But we often miss out on the essential micronutrients - vitamins and minerals - and thus get saddled with deficiencies that can affect our health negatively. The effects of these micronutrient deficiencies, also known as 'hidden hunger' can be devastating. This "hidden hunger" in India affects all sections of India's population - urban and rural, rich and poor, old and young - with women and children most at risk.

So, what actually are the micro-nutrients?

The term micronutrients actually refer to a broad list of vitamins and minerals that are important even though they are needed only in minuscule amounts, in milligrams or micrograms (that's why they are called micronutrients). They enable the body to produce enzymes, hormones and other substances that are essential for sustained growth and development, fighting infections, building immunity and that's why the consequences of their deficiency can be severe.

Why are they important?

Micronutrients act as 'spark plugs' for several body functions, which is why they are often referred to as the "magic wands" of health. Each nutrient has a specific role to play. Iron, calcium, Zinc, Vitamin A, vitamin D, and vitamin B, particularly folate and Vitamin B12 or cobalamin deficiencies are of big concern today as they are mostly lacking in modern day diets. All these are needed for multiple processes and proper absorption and utilization in the body is also important.

Each nutrient has a specific role to play. For example, manganese promotes bone formation and energy production, iron helps the body produce enough red blood cells which are needed for oxygen transportation, magnesium helps your heart maintain its normal rhythm, vitamin B complex plays an important role in cell metabolism, and vitamin E protects cells in the body from damage caused by free radicals, which are the main cause of cardiac disease and cancers.

Iron deficiency is extremely common and can lead to anaemia. Iodine deficiency is the primary cause of preventable mental growth and development in children and thyroid disorders in adults. Zinc deficiency impairs immune function and also increases risk of gastrointestinal infections. Deficiency of Vitamin D level affects besides bone health, lifestyle-related chronic disorders like diabetes, cardiovascular diseases, auto-immune disorders, depression, and some cancers too.

How to get them?

Our bodies cannot make these micro-nutrients, so they must be supplied through the diet via a wide variety of fruits, vegetables, whole grains and dairy products. Also, as different foods contain different levels of vitamins and minerals, it's important to eat a wide variety of foods from the different food groups to ensure that we get enough of all. Sometimes though, even a good diet on its own is unable to address all the requirements of a person. In such cases micronutrient malnutrition can be addressed successfully in a holistic manner through food fortification.

What is Fortification?

Fortification involves adding small quantities of the vital, vitamins and minerals to staple foods like rice, wheat flour, salt, edible oil and milk - to improve their nutritional value. It works as a good preventive tool too and is an extremely effective way of meeting our nutrient needs. Such foods are known as fortified foods.



Recognizing the importance of this, the Food Safety and Standards Authority of India (FSSAI) has launched a large-scale drive to encourage certain foods to be fortified. This include milk and oil (fortified with Vitamin A and D), wheat flour and rice (fortified with Iron, Vitamin B12, and Folic Acid) and double fortified salt (fortified with Iodine and Iron). Now a lot many fortified products can be seen in the market which have the +F logo, also notified by FSSAI for easy recognition of the fortified staples.

Fortification

Works as a good preventive tool too and is an extremely effective way of meeting nutrient needs of people. Fills the gap in nutrition in an easy manner without any change in taste, texture or flavor of food. Does not require a behavior change so is easily accepted. Is one of the most effective, scalable, affordable and sustainable ways to address micronutrient deficiencies.

The Good Work!

FSSAI is working with various organizations and line ministries like the Ministry of Women and Child Development (WCD), Ministry of Human Resource Development (HRD), Department of School Education and Literacy and Ministry of Consumer Affairs, Food and Public Distribution (CAFPD) Department of Food and Public Distribution for the cause of fortification to help change the nutrition landscape and bring the food ecosystem to globally set benchmarks. Some of the effective steps already taken are:

- ▶ The Food Safety and Standards (Fortification of Foods) Regulation, 2018 on fortification of food in key staples like oil and milk (with vitamin A and D), wheat flour, Maida and rice (with iron, folic acid and vitamin B 12), and double fortified salt (with iodine and iron).
- ▶ The LOGO (+F) for fortified foods that creates a rallying point for the industry to adopt fortification has already placed fortification firmly on the national agenda.
- ▶ Multiple advisories for endorsement of '+F' logo, and scientific health claims for label declaration of fortified foods (all approved by the scientific panel on nutrition and fortification) have been released.
- ▶ The Ministry of WCD and Department of School Education and Literacy have issued advisories for mandatory inclusion of fortified staples namely Wheat Flour, Rice, Edible Oil and Double Fortified Salt.
- ▶ Department of Food and Public Distribution has directed states, which are distributing wheat flour to use Fortified Atta for distribution and encourage publicity of fortified oil in the States/ UTs. Further, they have started a centre sector scheme where initially 15 States (1 district each) will be provided with fortified rice through Targeted Public Distribution System (TPDS).
- ▶ FSSAI has also set up the Food Fortification Resource Centre (FFRC), which acts as a resource hub and a single point contact for accessing end-to-end technical support to scale up fortification across the country.

The Hits:

114 top companies and Medium, Small and Micro-enterprises (MSMEs) with ~157 fortified products across commodities have already been placed under the purview of the Food Fortification agenda. There has been tremendous traction in the oil and milk industry, with 47% of top ten players of packaged refined edible oil industry and 36.6% of the organized milk industry fortifying as per FSSAI standards.

22 States, namely, Odisha, Karnataka, Haryana, Gujarat, Goa, Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Jharkhand, Assam, Rajasthan, Tamil Nadu, Telangana. Tripura, West Bengal, Kerala, Bihar, Chhattisgarh, Andhra Pradesh and Delhi and 5 Union Territories (UTs) (Dadra and Nagar Haveli, Daman and Dui, Andaman and Nicobar Islands, Chandigarh, Delhi) have adopted fortification of several commodities in the government Safety Net Programmed (SNP) namely Integrated Child Development Services (ICDS), Mid-day Meal Scheme (MDM) and Public Distribution System (PDS). As on April 2020.

Retailers and e-commerce platforms, Kendriya Bhandars, CRPF/CSD (write full form) and other armed forces canteens and messes are communicating the benefits and providing fortified staples to the masses.

The good work is on and it will help change the nutrition landscape of the country in a big way.



FORTIFIED
SAMPOORNA POSHAN
SWASTH JEEVAN



Chapter 8

Catching Them Young!

Are you concerned about what your child is eating and drinking every day? Join the Eat Right School Program! Everyone is worried about the kind of food our children are eating these days but we don't know what to do about it. Here, the catchphrase, 'catch them young' can provide the answer.

Eating habits formed in the formative years stick and stay on till adulthood making it imperative

to teach young children good food habits early on. Ideally, the process must begin as early as possible to ensure that they will make and keep right eating habits for a lifetime. That said, catching the attention of a captive audience (in schools) to educate and teach them the rules of right eating at any age is a wonderful start. And this is where the '**Eat Right School**' initiative

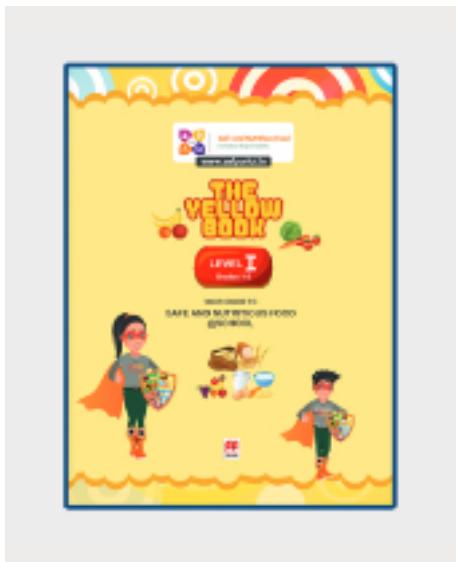
The Good Work!

Realizing how susceptible students are to wrong eating influences due to their lack of awareness, and also taking into account the fact that at a young age they are open to experimenting with food, FSSAI, under the Eat Right School vision has been working extensively to create awareness about 'Eating Healthy', 'Eating Safe', and 'Eating Sustainable' among school children, and through them, among the community at large.

The Eat Right School Program

The Eat Right School program, launched by FSSAI in September 2016, promotes a culture of food safety and nutrition. It is based on the Eat Right Matrix and is run through the school's health and wellness ambassadors and teams. Close to 35,527 schools across the country have already been registered under the Eat Right School program till 5th October 2020.

The **tools** used for the program are:



The Yellow Book - an attractive manual with age-appropriate content with simple messages and activities to be carried out within school and at home to reinforce the importance of food safety and nutrition.

It has been translated into English, Hindi, Assamese, Bengali, Punjabi, Gujarati, Marathi, Kannada, Tamil, Malayalam and Telugu already.



Activity Book - A fun-filled activity book has been designed to teach and reinforce the message of safe and nutritious food.



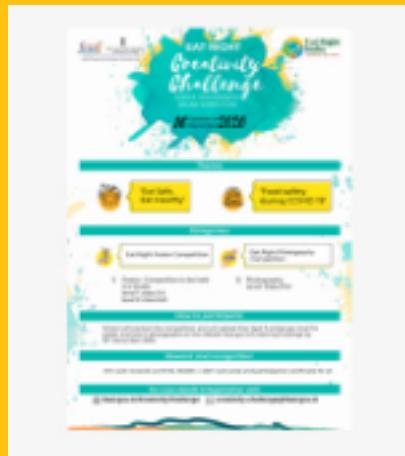
Magic Box - The Food Safety Magic Box comprises 102 simple tests to check food adulteration along with Magic Box Companion Guidebook designed to provide right information for schools and homes.



Food Safety Guidebook for Teachers- To further facilitate the usage of Food Safety Magic Box, grade-wise lesson plan booklets have been developed for the teachers. The lesson plan booklets are available from grades 3-10. Each grade booklet contains 12-15 tests, which are mapped across the curriculum of the particular grade.



Mascots: 'Miss Sehat' and 'Master Sehat', which children can relate to have been used extensively in the training content and a mascot activation program in malls, schools and other public places is on the anvil. Master and Miss Sehat engage and educate children to promote social and behavioural change around food safety, hygiene and healthy diets in a fun, educative manner and are a huge hit.



Eat Right Creativity Challenge: Pan India competitions 'On the spot Poster', 'Paint a Wall', and 'Digital Creative' on the 'Eat Right' theme is organised to engage schools and young people.

The Regulatory Framework

FSSAI has passed a Regulation, Food Safety and Standards (Safe Food and balanced diets for children in School) Regulations, 2020. The regulation prohibits,

- 1 The sale of food products high in saturated fat or trans-fat or added sugar or sodium in school premises or campus.
- 2 The Food Business Operators (FBOs) to advertise, market or sell or offer for sale including free sale food products high in saturated fat or trans-fat or added sugar or sodium in school campus or to school children in an area within fifty meters from the school gate in any direction.
- 3 Any advertisement banner or wallpaper of food, which is high in saturated fat or trans-fat or added sugar or sodium on school computers.

Additionally, the regulation makes it mandatory to FBOs supplying prepared meals in the premises to follow general guidance provided in the regulation and direction issued by the Food Authority or the State Food Commissioners.



In addition, FSSAI has developed a regulatory framework to enable the schools to promote safe and wholesome food in schools via:

- ★Mandatory registration of school canteen/hostel mess
- ★Training modules for school canteen and mess staff
- ★Guidance for sale and nutritious food in Mid-Day meal

FSSAI also works with the school to create awareness for parents and community through seminars, workshops and training programs for parents on Eat Right and conducts activities for creating mass awareness on food safety, hygiene, nutrition and to curb waste.

Well, teaching children to eat well can be tricky. The idea is not to overwhelm them with too many facts that they can't grasp or turn every information section into a lecture. But it is important not to wait too long as then they could pick up unhealthy habits that become difficult to shake off later. They need to know that every food they put into their bodies affects them. And schools can get that message across by talking with them about the food they put in their bodies, why it matters, and how they can learn to make the healthiest choices. FSSAI has stepped in here in a very effective way to help guide the schools to do this process effectively.



What the schools can do...

Schools can encourage healthy eating habits by:

Incorporating healthy eating and physical activity across the curriculum in fun and creative ways.

Offering healthy foods in school canteens

Creating partnerships with the broader community, for example, local food growers, sporting clubs, library etc.

Providing parents with information on healthy food choices and active living.

Providing professional development opportunities for teachers and other support staff to teach and promote healthy eating and being active.

Creating and developing a school vegetable garden.

Involving pupils and parents in making school food policy.

Promoting snack breaks for students to eat fruit and vegetables.



Nutrition Facts

Per 3/4 cup (29 g)

Cereal Plus 125 mL
Only 2% P.S. Milk

Amount

110

170

Calories

% Daily Value

6 %

9 %

Fat 1 g*

Saturated 0.3 g
+ Trans 0 g

Cholesterol 0 mg

Sodium 180 mg

Carbohydrate 23 g

Fibre 2 g

Sugars 10 g

Protein 2 g

Vitamin A

Vitamin C

Calcium

Iron

Vitamin D

Chapter 9

Learn to Read Labels

How many of us actually pay attention to labels when shopping for groceries and other food items? Typically, we scan the brand, price and if we have an extra second, we glance at the expiry date. The nutrition sticker, however, usually goes unnoticed. And even if people try, the jargon sounds confusing and most people find it difficult to spot the red flags amongst the maze of details mentioned there.

Why Become 'Label Wise'?

Labels help us compare products more easily, choose better foods according to their nutritional value and are particularly helpful when one has to follow a special diet like, say, have low sodium foods (to prevent hypertension) or have a high fibre diet (to prevent constipation). Even if there is no special need, reading labels is an excellent habit that adds tremendously to a healthy lifestyle and helps people stick to healthier eating.

Look Out For

All those names and numbers mean something:

Serving Size: Always check this first. This will tell you the amount to eat - and if you stick to that amount, the amount of calories and other nutrients that you will ingest. For example, if the serving size mentioned is say, two biscuits but you have four, you will need to double the counts of everything right away.

Calories: We all need to monitor our intake; the amount that we ingest in a day should be lower than the amount we burn off. Usually for a sedentary worker it is around 1660 calories for a woman, and around 2110 calories for a man. So, make your calculations accordingly. For example, if one serving of the ready-to-eat food that you are eyeing is giving you upwards of 1000 calories, maybe you need to rethink - as managing the rest of the day's meals in the leftover calories from your quota will not be practical.

To do a quick check, follow this general guideline: Per Serving of food items providing of 150 calories or less would be low-calorie, between 150-400 would be medium and anything beyond would definitely be high calorie.

Fats: Here, first of all you need to look up the Total Fats. It is best to keep this as low as possible (we all know how bad fats are for our body in excess).

Also understand here that 1 gram of fat has 9 calories. So, if your food has 10 grams of fat, it contains 90 calories from fat. It is best to keep calories from fat less than 25% of the total calories in a day. And then it helps to read the finer print. Look up the saturated fats (SF) and opt for foods that keep these low. According to general guidelines, it is best to keep SF less than 1/3rd of the total fat intake in a day - that is about 8% of total calories. Polyunsaturated

and monounsaturated fats are the good fats but most labels don't mention these. Be careful with trans fats (the worst kind, so best to keep these nil).

If you see the any mention of the words "hydrogenated" or "partially hydrogenated" or "shortening," then the food contains some amount of trans fat... whether the label mentions it or not. Cholesterol is not as terrible as trans fats but it helps to keep this low as well, as excess may clog the arteries. High cholesterol foods include beef, eggs (the yolk), cheese, poultry, organ meats, cream and foods made from these.

Sodium: This refers to salt and our daily intake ideally should not be more than 2400 mg per day.

Total Carbohydrates: This reading usually includes carbohydrates, dietary fibre and sugars, so make sure to check the breakup given carefully. As long as the fibre content is high (say 3 gm or more per serving or 6g /100g) then the food has sufficient complex carbohydrates for it to be good for you. Very low fibre means refined, so it is better avoided.

Protein: The average protein requirement of protein is between 40 to 55 grams for most people. Higher protein foods are better for you, so check this number carefully too.

The Good Work!

Very effective regulations have been passed by FSSAI to ensure safe and fair labelling, and these are enforced very strictly. FSSAI has also been educating people about the labels for a long time now. One of the areas that FSSAI is working on extensively is educating India, rethinking Food Labelling to help make the consumer smart and learn how to eat safe and eat right.



Become a Label Wizard

Look out for these red flags

Chips

Red flags: They mention nil trans fats but check the ingredients list as often you'll find hydrogenated fat mentioned, which are trans fats really! Plus, their sodium content is universally high – and a cause of concern.

Packaged Juice

Red flags: Even if there is no added sugar, most juices have about 30 gm plus natural sugar in a 250 ml glass. Also, juices have close to nil fibre – less than 3 gm in a 250ml serve. Whereas just one fruit (say an apple) will give you the same amount of fibre with far less calories. Very low fibre is bad news for our gut.

Instant noodles/soups

Red flags: Fat content: While most soups tend to be low in fat, instant noodles are huge on them, often hiding more than 10 gm per serving.

Plus, instant soups tend to be really high on salt; even half of a packet at a time will give you more than half of your daily requirement of sodium right away!

Cookies and biscuits

Red flags: They tend to be very high in calories. If you stick to the serving size (2-3 biscuits) you will have down controlled calories (around 100 calories) but if you (like most of us) wolf down the 8-10 biscuits packet then it is upwards of 450 calories for most cookies (cream or even otherwise). That's about one fourth to one-fifth of the daily requirement of calories for most sedentary people. Think!

Plus, most of the cookies tend to be really high in sugar - often making up to about 1/3rd of the ingredients weight.

Ready-to-fry meats (kebabs, nuggets)

Red flags: A 100 gm serving (measly few nuggets) has about 8 gm fat, even before they have been fried - whereon the fat content just gets ballistic.

The kebabs or chicken nuggets you wolf down at one time could give you upwards of 1000 calories; that's staggeringly high for a snack.

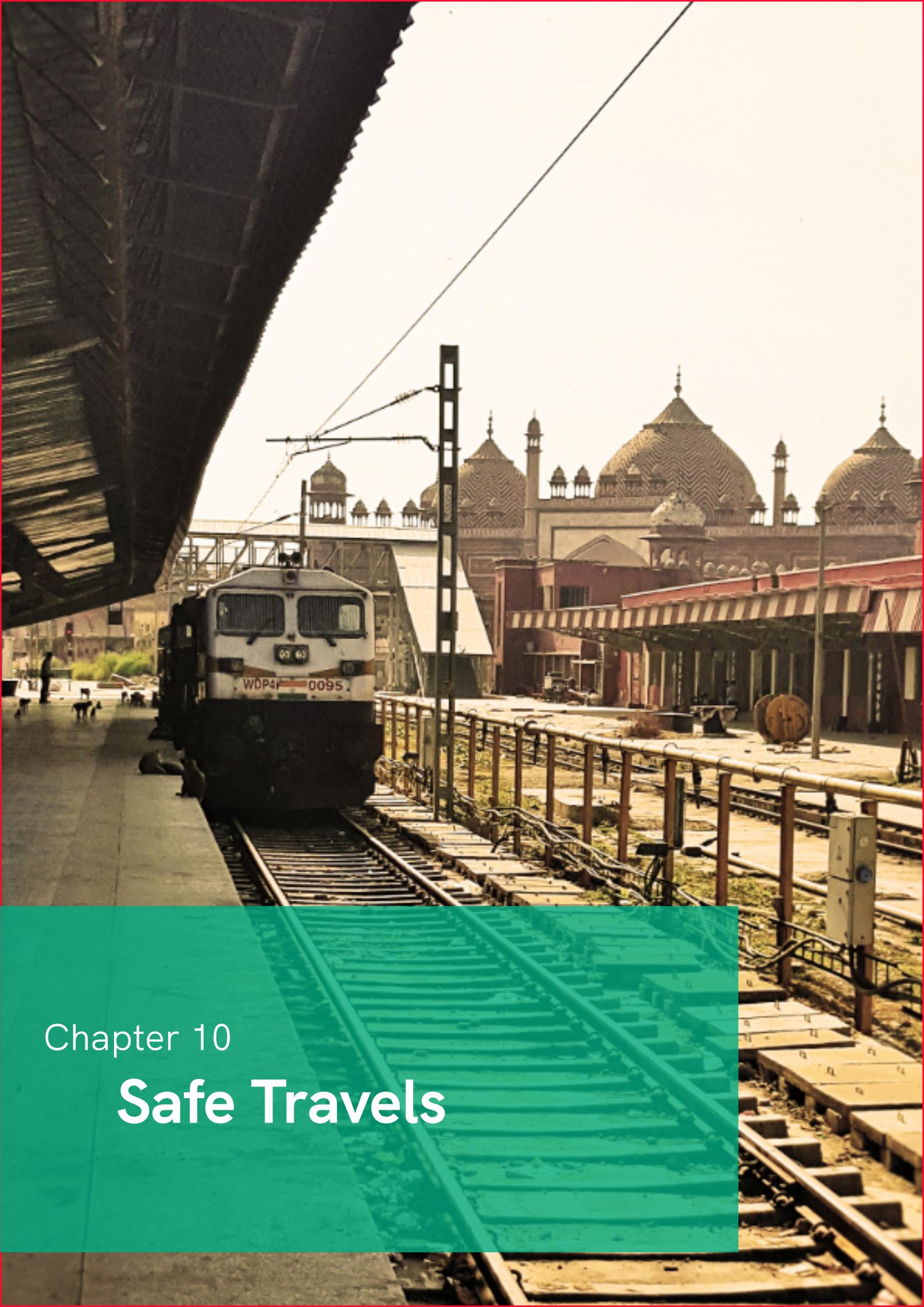
SECTION 2

Safety is Paramount

"Cleanliness is next to Godliness"

Mohandas Karamchand Gandhi





Chapter 10

Safe Travels

Going on a holiday trip? Watch your diet. Never a better time to heed to that advice than while travelling! Don't let your wrong choice of food wreck your long-cherished hopes of having a perfect holiday. After all, healthy hassle-free holidays are what happy memories are made of.

When was the last time you took off on a trip with your family in your car or by train, a song in your heart, humming your favourite tune, a sunshine smile lighting your face, passing the snacks around, and you stopped at some promising dhabas and eateries along the way or at the station canteens to savour the local food, and it all ended up with one or more of your family members falling sick causing concern and draining your resources even more than your dream holiday did. Upset stomachs, fevers, diarrhea and vomiting are not what you bargain for when you plan and save for a holiday. Yet, if you are not careful about some little precautions while you are travelling, you may be asking for trouble.

But not anymore, as efforts are being made to help passengers make healthy and right food choices. FSSAI has launched the 'Eat Right Station**' program.**

The Good Work!

FSSAI has been doing its bit to ensure safe travel for people. Eat Right Station is one such successful initiative that enables the railways and stations to provide wholesome food to its passengers, visitors and officials. FSSAI assesses the station on compliance of food safety and hygiene, availability of healthy diet, food handling at preparation, trans-shipment and retail/serving points, food waste management, promotion of local and seasonal foods and creating awareness on food safety and a healthy diet.

The food ecosystem at railway stations comprises catering cum retail outlets, food plazas, mobile food vendors (on the platforms), base kitchens and food warehouses. Suitable interventions on both the demand side and supply side are carried out. To ensure that consumers are served optimum quality food, the food handlers both in canteens and base kitchens are trained. Railway stations that fulfil benchmark criteria are recognised as "Eat Right Stations" through plaques and/or Certificate of Excellence. This is helping make railway systems across India more efficient by ensuring serving of safe and healthy food.

Do Your Bit

- ★ Be safe. While travelling, the first rule is to avoid eating food that is prepared in unhygienic conditions or drinking water that may be contaminated by viruses, bacteria, or parasites. So, be wary of foodstuff that is uncooked or raw and/or sold open on the streets. Typical symptoms of this infection, which usually last for three to seven days, include diarrhoea, nausea, abdominal cramps, bloating, fever and malaise.
- ★ While ordering from the menu, select food with care. Ensures if ordering salads, raw vegetables, and fruits that cannot be peeled. When you eat raw fruit or vegetables that can be peeled, peel them yourself after washing your hands with soap first. Preferably eat foods that have been thoroughly cooked and are still hot and steaming.
- ★ Do not consume unpasteurized milk and milk products (like curd especially raita, and paneer).
- ★ Avoid eating non-vegetarian food if you are not sure of the source, especially fish, pork and mutton as precautions are required while sourcing raw material, quality of the meat and hygiene conditions while cutting, cleaning and cooking.
- ★ Do not eat anything your stomach is not used to. Stick to foods your metabolism is used to. With new foods, your system may protest in response, leading to an upset metabolism. So, just because you are on a holiday, it is not reason enough to gorge on channa bhaturas or heavy dhaba-paranthas topped with scoops of butter all the time. Follow a balanced diet even while travelling.
- ★ Avoid deep fried food while travelling; as the oil used for frying maybe reused innumerable times and can therefore harm your system in more ways than you can think of.



Drink Safe

- ★ Ensure that if you have any drink that requires addition of water (like fresh lime water) then the source of water is potable. In fact, any drink in a glass that may not be properly washed should be avoided. It is safer to drink from a can or bottle of beverage, after wiping the area that will touch the mouth, than to drink from a container that was not known to be clean and dry.
- ★ Before having juice from a juice shop even if squeezed out freshly in front of you, check for the cleanliness of the machines used.
- ★ In areas with poor sanitation, if bottled water and beverages are not accessible, the only beverages that may be safe to drink are boiled water, and hot beverages (coffee or tea) made with boiled water. Boiling is the most reliable method to make water safe to drink. Bring water to a vigorous boil, and then allow it to cool; do not add ice. Or if you want really want ice, to the ensure ice has been made from boiled water only.

Don't be scared to travel and explore new things.....just be vigilant and enjoy and make your trip a memorable one...





Chapter 11

Stay Safe From Adulterants

Food is a basic necessity for sustenance of life. A pure, fresh and healthy diet is most essential for the health of the people. Food adulteration is a menace one needs to be aware of. Adulteration is the process of adding, substituting or abstracting unwanted substances to the food, which may adversely affect the nature and quality of food. Adulterated food is food that meets any of the below criteria:

1 Contains a poisonous or deleterious substance

2 Exists in a container that is composed, in part or in whole, of a poisonous or deleterious substance.

3 Bears any chemical or pesticide residue that is unsafe.

The only exemptions are if the adulteration is naturally occurring, or if levels are so low, they don't pose a threat to public health. Adulterated food is lower in quality and if non-edible harmful ingredients are added, then it can lead to serious health consequences too. Some of the adulterants are highly toxic for the body leading to heart failure, liver disorders, kidney disorders and more health issues. Adulteration also affects the quality of the product and may lead to nutritive deficiency in our body.

According to the Food Safety and Standards Act, 2006 an adulterant is defined as “any material which is or could be employed for making the food unsafe or sub-standard or mis-branded or containing extraneous matter.”

So how can one Stay Safe?

Knowledge helps. Information about the common adulterants, foods which are likely to be adulterated and simple tests for detection of adulteration, what to look out for in packaged foods can all go a long way to keep one safe from hazardous, adulterated foods.

Know the Source

Buying food from reliable sources is imperative. This reduces the chances of the food being adulterated. Unscrupulous vendors may add inferior quality material or extract valuable ingredients from a food for economic gains.

Information is the Key

Adulterants can be found in almost all kinds of foods - food grains and pulses, edible oils and fats, spices, milk and milk products, meat and meat products, beverages (both alcoholic and non-alcoholic), tea, coffee, sweetening agents like sugar, honey, jaggery and items made from these like mithai.

Foods which are more likely to be adulterated include:

- ★ Foods which are expensive - like edible oils, spices, etc.
- ★ Foods which sell more like wheat flour, oil, etc.
- ★ Foods which are perishable like milk and milk products
- ★ Foods sold loose like milk, spices, etc.
- ★ Foods in which it is easy to mix adulterant like those in the form of powder, paste or mince

Foods that are in a powder, minced or paste form are also more likely to be adulterated, as it is more difficult for the naked eye to detect adulteration in these foodstuff. For instance, when buying minced mutton, it is difficult to tell whether the goat meat has been mixed with meat from other animals or similarly whether sawdust dyed red has been added to red chilli powder.

Adulteration of foods sold loose by the retailer is also more common as compared to packaged foods as labels carry the name and address of the manufacturer or distributor and they can be caught by the regulatory authority if their food stuff is found sub-standard. Consumers should avoid buying foodstuff sold loose even though these are cheaper.

Look Out For

Preservatives and additives: Sulphites (usually added to dried fruits, sauces, bacon, salami and wine) can cause allergic reactions and asthma attacks. Nitrites and nitrates in processed foods tend to form nitrosamines - which can increase risk of cancer. Some other preservatives to look out for are Butylated hydroxytoluene (BHT), butylated hydroxyanisole (BHA) and Ethylenediaminetetraacetic acid (EDTA).

Artificial flavours:

These are chemical substances that are used to mimic the original or natural flavour of food. They can cause chest pain, headaches, dizziness, depression, fatigue and mental health issues.

Artificial colours:

These are added to food in order to make them look more appealing. Candies, cereals, beverages, meat products and mithais (sweets) are foods which are commonly adulterated with them. They can increase hyperactivity and behaviour problems in children and may even cause allergies and increase the risk of asthma.

Toxic chemicals:

Urea, sodium carbonate (washing soda, soda), sodium hydroxide (caustic soda), formaldehyde and hydrogen peroxide added to increase the shelf-life of milk can damage the intestinal lining by irritating it. Use of the Lathyrus pulse to adulterate lentils (masoor) or toor dal or besan, can causes the crippling disease lathyrism. Mustard oil adulterated with toxic argemone oil can lead to gastrointestinal disturbances, glaucoma, respiratory symptoms and congestive heart failure. Mineral oil (liquid paraffin) and castor oil, cheap inedible oils used as adulterants may damage the intestine.



The Good Work!

FSSAI has made strong laws against adulteration. The Food Safety and Standards Authority of India (FSSAI) has been established for laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption. FSSAI has also set limits for the use of the preservatives, additives, artificial flavors and colours, beyond which it can be harmful. Strict actions and penalties are there for the offenders. FSSAI has also developed a simple, illustrated manual to detect common adulterants at home called DART- Detect Adulterants with Rapid Tests. This manual contains more than 40 tests that use simple ingredients such as water to test adulterants in food. This manual can be accessed from the weblink provided at the end of this chapter. These simple tests include physical inspection of food as well as chemical reactions. For instance, artificially coloured pulse grains will leave a colour trail when immersed in a glass of water. Pure silver leaves will crumble to a powder when crushed between fingers whereas aluminium used as an adulterant on mithai (sweetmeats) is not that delicate and will leave shreds. If powdered spices are sprinkled on the water surface, pure spices will not leave any saw dust/powdered bran on the surface of water. In case one finds that any food item is adulterated, one must stop using the food product and report this to the authorities.



Food Safety Magic boxes are being provided to the schools across different states in India. This magic box is a 'Do-It-Yourself' food safety testing kit, which aims to educate school children and frontline workers. Short videos are also available on the FSSAI video library (www.fssai.gov.in/fssaivideolibrary). It contains a small-sized, light-weight portable box that contains a few basic chemicals, a small measuring instrument, safety gadgets and a companion guidebook to illustrate testing across various food products in a pictorial and simplified manner. It can perform simple tests to detect adulterants like:

► **For milk:** Urea, water, starch, detergents

► **For honey:** Sugar

► **For beverages:** Mineral acids

► **For spices and condiments:** Starch and artificial colours

To further facilitate the usage of Food Safety Magic Box, a grade-wise lesson plan food safety guidebook for teachers has also been developed.



Chapter 12

Eat Clean Meat

There is no denying that meat is an important part of diet for many of us, and it helps meet our body's requirements for protein and other nutrients. But that said one needs to be super careful about its overload as too much of it can be bad. But while keeping a lid on the quantity is important what is even more imperative is to ensure consumption of safe meat.

How safe is that chicken or egg that you are eating?



Meat and eggs are high risk foods which get spoilt easily. This sector is highly unorganized. Issues like adulteration of meat, presence of veterinary drug residues etc. are rising concerns in this sector. Indiscrete use of antibiotics /hormones used for rearing of animal and birds - cannot be ignored.

This is happening because the rising demand for food and animal products is leading to over use of Hormones to extend lactation and growth promotion in farm animals to produce more meat for less money, resulting in fatter profits. And this is leading to serious consequences on human health.

So, what's the harm?

The science is solid on the fact that there's a big cost involved. Overuse of antibiotics in animal farms endangers us all as it multiplies drug resistance in the environment and can over time promote the development of hard-to-treat, antibiotic-resistant superbugs that make people sick. So, we are slowly but steadily, thanks to our own follies, becoming an antibiotics resistant race.

Be careful!

Source your meat and eggs carefully from authentic source. Maintain food safety and good hygiene. Temperature plays a key role for maintaining safe food zones, therefore storage and display cabinets at retail stores should be functioning when you pick meat. Maintaining handlers must be trained to hygienically handle the routine operations. If cooked meat is sold, it should be properly cooked and stored at required temperature.

The Good Work!

FSSAI is doing a lot of work in this sector. Its initiative '**Clean and Safe Meat Shop**' aims to uplift safety and hygiene conditions in processing and sale of - Fresh meat/fish. It also aims to help consumers make informed decisions regarding the shops from where they buy meat products, and create a culture of competition amongst meat shops through a ratings mechanism.

FSSAI has set benchmarks on basic food safety and hygiene, which will enable identified meat shops to get recognized and rated. Meat shops are given hygiene rating after conducting gap audits by food safety department or FSSAI empaneled audit agencies. Prerequisite here is: Licensing and Registration under FSSA, 2006 and Training of food handlers under FoSTaC.



YOU CAN KEEP YOUR MEAT SAFE TOO

- ★ Avoid buying meat that has discolouration and don't buy from unhygienic places.
- ★ Always buy firm fish and check that the eyes are crystal-clear, plump, wet, and shiny (when the fish begins to deteriorate, the eyes dry out, become cloudy, and sink in or shrivel away), and the tail and dorsal fins of the fish should be healthy-looking, wet, and intact (older fish's fins will be dry and brittle).
- ★ When buying eggs check that the shell is not cracked, Filthy with excreta or mouldy/ rotten. Cracks can indicate the presence of bacteria, while a rotten appearance on the shell may indicate mould.
- ★ Read the use-by date/ best before date on the carton. Eggs can usually last up to 3 weeks if stored in the refrigerator. The use by date on the carton is usually a good indication of whether the eggs are still fresh.
- ★ Perform float test: Put egg in a bowl of water, if the egg sinks to the bottom, it's still fresh. If the egg sinks but stands upright on the bottom of the container, the egg is slightly stale. If the egg floats in water, it should be avoided as such eggs might be stale or rotten.
- ★ For processed and packaged meat or poultry products, always closely examine the labelling with respect to its ingredients, use by date or expiry date.
- ★ Store eggs separately in the egg tray of the refrigerator.
- ★ Store meat and poultry in the chiller if it is to be consumed within a day, or in the freezer if it needs to be stored longer.
- ★ Store raw meat and poultry in sealed, moisture proof plastic bags/ containers to avoid contamination or dripping into other foods.
- ★ Keep raw and cooked meat separately.
- ★ Store eggs away from foods with strong odors (such as fish, apples, cabbage or onions).
- ★ Frozen meat should be thawed in the refrigerator.
- ★ Cook to the right temperature. In general, meat should be cooked to achieve minimum core temperature of 75 °C or higher.



Chapter 13

Blissful and Hygienic BHOG

Some things are sacred. Prasad is definitely one of those. Prasad signifies an intimate part of our beliefs, our culture, our traditions... it showcases who we are and keeps us rooted to our spiritual being. We feel a sense of connect and completion when we eat traditional food/prasad offered at religious places. That's why no one says no to prasad, ever.

Pilgrim centres are a very important part of Indian society and food served in Places of worship is regarded as pure and sacred. Hence, ensuring food safety in these places is a major component and helps to aid in the health of thousands of the devotees who are visiting these places of worship. FSSAI has implemented BHOG(Blissful Hygienic Offering to God), a unique initiative under the umbrella of eat right initiative to encourage Place of worship (PoW) to adopt and maintain food safety and hygiene while preparing and distribution of prasad or other food preparation along with training to food handlers. FSSAI has set specific guidelines for implementation of food safety and hygiene in such places of worship.

Eat right at place of worship

Under the BHOG initiative, places of worship where prasad or meals is cooked or handled are identified , audit is conducted for identifying gaps in process, followed by basic training of food handlers.

Those places of worship which complies and meets required audit score for certification are certified under BHOG. The PoW are also encouraged to display safe and nutritious food messages at various places to benefit the devotees and to inculcate healthy habits among them.

The FSSAI also encourages PoW to use fortified edible salt, wheat, rice, milk and oil in their Prasad.



The Good Work!

Many places of worships are certified in state of Gujarat, Madhya Pradesh, Himachal Pradesh, Tamil Nadu and Chattisgarh like Ujjain Mahakal, Khajrana temple, ShriSomnath Temple, Shri Swaminarayan Temple, Shri Ram mandir etc.

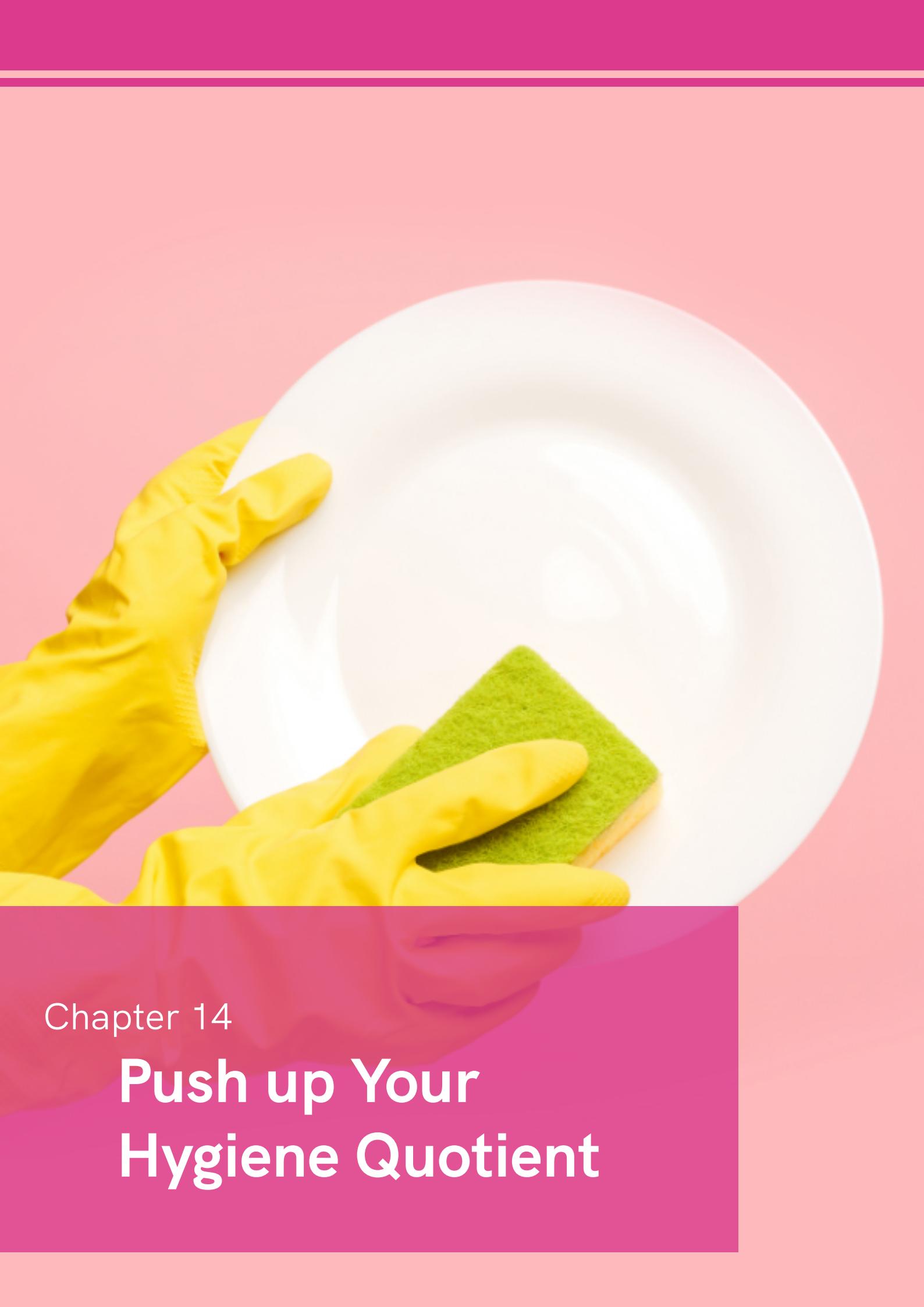
Trainings under BHOG have been successfully conducted for places of worship located in Maharashtra, Uttar Pradesh, Tamil Nadu, Gujarat, Delhi, Madhya Pradesh etc.

In TamilNadu 150 food handlers from 20 major PoWs have been trained under Project BHOG by FSSAI. Maharashtra has covered 63 places and 236 temples under Project BHOG including training of 3500 food handlers. Sensitization workshops have been conducted in Delhi, Bengaluru, Uttarakhand, Kerala, Himachal Pradesh, Assam etc.

The traditional prasad/offering at places of worship will be safe and hygienic with BHOG . A win-win for every- one!







Chapter 14

Push up Your Hygiene Quotient

You know how important is safe food to keep you disease free. Food hygiene is an important part of our lives since ancient times. Today, we understand the importance of living hygienically even more to stay disease free, especially in today's **low immunity** times.

This is why you keep your kitchen at home spanking clean, spray the dust bins with a disinfectant when you change the lining, wash your hands every time before handling food, keep the meat and vegetable cutting boards separate, and wash your fruits and vegetables well before you eat or cook them.

But all these rules go out of the window when you travel, or go out to eat at a restaurant, or stop at a roadside eatery for a spicy evening snack... because then things (hygiene) are not in your control.

This is where FSSAI and Eat Right India steps in. Their Hygiene Rating Scheme is an effective proactive step to ensure that you get hygienic food even when you eat out

The Good Work!

Hygiene Rating Scheme is a certification system for the food service and retail establishments that provide food directly to the consumers. The food businesses are rated from 1 up to 5 smileys as per the level of compliance (see pic) based on food hygiene and safety conditions observed at the time of audit, and is valid for one year. The food establishments covered under this scheme include food service establishments (hotels, restaurants, cafeteria, dhabas, etc.), bakeries, meat retail shops and sweet shops (mithai shop). So next time you go out to eat, look out for the hygiene rating certificate that is supposed to be displayed prominently in the food service area by the certified establishments. Food Hygiene Rating Scheme is implemented online through Hygiene Rating Portal (www.fssai.gov.in/hygieneRating), and the process is very simple.

The purpose of the scheme is to:

- 1 Encourage food businesses to ensure high hygiene standards and continue maintaining them, and to showcase the same to their consumers.**
- 2 Motivate other food businesses having lower hygiene standards to improve.**
- 3 Allow consumers to make an informed food choice about where to eat and cultivate responsible eating habits.**

Let's recapitulate the Do's and Don't when you eat out (as discussed in the Safe Travel chapter)

- 1** First rule is to eat food from a FSSAI licensed or registered food business.
- 2** Avoid eating food or drinking water from a source that may be contaminated as it may lead to Traveller's diarrhoea (TD).
- 3** Avoid cut fruits, salads, raw vegetables from an unhygienic place or those which are being sold in open. When you eat raw fruit or vegetables that can be peeled, peel them yourself after washing your hands with soap first.
- 4** Always prefer foods that have been thoroughly cooked and are still hot and steaming at the time of eating.
- 5** Do not consume un-pasteurised milk and milk products (like curd especially raita, and paneer).
- 6** Avoid eating non-vegetarian food outside, unless you are sure of the source; as these get very easily contaminated, particularly in warm weather.
- 7** Beverages especially cold beverages prepared from clean source of water should be consumed.
- 8** Ensure that the bottled water and beverages you pick are of a dependable brand (Look for FSSAI license number on the label). It is better to avoid ice as it may be made from unsafe water.
- 9** Stay prepared. Always carry your own water, snacks, medicines etc to fall back on if need be.





Hygiene Rating Chart

The score of the checklist is converted in per cent and numerical score (between 1-5). The table below provides detail of percent score wise rating:

Hygiene No.	Hygiene Rating	Category	%Score
5	😊😊😊😊😊	Excellent	81 to 100
4	😊😊😊😊😊	Very Good	61 to 80
3	😊😊😊😊😊	Good	41 to 60
2	😊😊😊😊😊	Needs Improvement	21 to 40
1	😊😊😊😊😊	Urgent Improvement	20 or below

Hygiene Rating Certificate





Chapter 15

Healthy Campus, Healthy You

Let's accept that we don't give as much thought as we should to what we eat at work. Also, often safe and healthy options are simply not available to us. That is unfortunate and worrisome because most of us spend long hours in the office and need to function at our best. So, what we eat at work is actually most important because it directly affects our health, well-being and productivity.

Unsafe and poor diets lead to food-related infections, deficiencies of vitamins and minerals and non-communicable diseases (NCDs) like diabetes, high blood pressure and heart disease etc. all of which compromise the quality of life. But do we and the organizations and companies we work for, understand this? Not always. Secondly do the companies, understand how the health of their employees is directly related to their productivity, efficiency? Again, that is doubtful. The situation is similar in institutions like colleges, universities, hospitals, institutions etc.

Both the employees and the employers need to invest time, effort and money to ensure that 'Eating Right' at work becomes the norm, instead of an aberration , as both stand to gain big! Also, the best way to keep a lid on these food-related diseases, which are becoming an epidemic now, is to catch and reform a captive audience - and we are at our most captive at work, where we spend 8-10 hours 5 to 6 days a week.

The Solution

'Eat Right Campus' (ERC) is a wonderful initiative led by FSSAI that provides solutions to tackle this problem effectively. This initiative promotes safe and healthy food in an environmentally sustainable way in campuses like:



Workplaces/
Corporates



Colleges/Institutes/
Universities



Hospitals/Health
Institutions



Tea Estates



Jails

The Objective

The aim of this initiative is to improve the health of people and the planet and to promote social and economic development of the nation by targeting people at their workplaces, where they spend the majority of their time and consume at least one meal every day.

The **Eat Right Campus** certification recognizes the efforts of the campus, adds prestige and brand value to its name and enables it to inspire others to adopt best practices to promote safe, healthy and sustainable food. In particular, it provides a unique opportunity to workplaces to showcase their efforts around employee health and wellbeing. This serves as a key incentive to attract new talent and top performers and thereby boosting high quality recruitment and employee performance.

Investing in the health and well being of employees also reduces absenteeism and healthcare costs and ultimately serves to build the reputation of the organization. Many workplaces strive to acquire a high rank in global workplace-rating indices. The Eat Right Campus certification similarly aims to create a sense of competition among campuses across the country to motivate them to raise the standards of food safety, nutrition and food sustainability.



The Good Work!

The concept of the Eat Right Campus has been institutionalized based on a five star-rating mechanism with a set of well-defined benchmarks framed on four parameters:

- 1  **Safe Food**
- 2  **Healthy Food**
- 3  **Sustainable Food**
- 4  **Building Awareness**

A detailed checklist has been created based on these parameters, outlining the best practices to be followed by the campus. These practices include mandatory steps such as licensing and registration of food service establishments in the campus and compliance to food safety and hygiene standards as per Schedule 4 of the Food Safety and Standards (FSS) Act, 2006.

It also includes steps to create an environment of safe, healthy and sustainable eating habits such as promoting local and seasonal food, limiting unhealthy food choices and mass awareness activities.





The Process

The certification process for the campuses to get enrolled and certified is simple. They just need to follow these FIVE simple steps:

Enrolment

The campus needs to enroll at www.eatrightindia.gov.in/EatRightCampus/ and appoint a nodal officer for overall coordination.



Self-Assessment

Once enrolled in this programme, a campus first undergoes a self-assessment, examination by the Food Safety Department or a third-party audit by an FSSAI empaneled agency based on the checklist to identify gaps and areas of improvement. The campus administration then takes steps to address these gaps.



Training

A critical step of this process includes training of Food Safety Supervisors and food handlers in the campus through FSSAI's Food Safety Training and Certification (FoSTaC) Programme.



Final Audit

Once the training is complete and improvements are made, the campus undergoes a third-party audit by the same FSSAI-empaneled agency and is given a rating on a five-star scale.



Certification

If a campus is awarded three or more stars based on the final audit score, it is certified as an 'Eat Right Campus'. The certification is valid for two years. In case the rating is below 3, the campus needs to go for the second audit after making improvements identified at the time of the first audit. The Food Safety Department or audit agencies may carry out regular inspections to ensure quality control until the certification is renewed.



Resources

In order to guide and support campuses across the country to adopt this programme, various resources have been created.

A comprehensive resource book, 'The Orange Book', has been developed in consultation with experts in the area of food safety and nutrition. This book explains how to implement the best practices outlined in the checklist and provides various additional suggestions to improve the standard of food in the campus. It also contains useful tips for individuals in the campus on healthy eating habits and making the right food choices.

In addition, an online portal (<https://eatrightindia.gov.in/EatRightCampus/home>) has also been created on which any campus that wishes to enroll in this programme can register, upload its documents and track its progress online. This portal also provides a list of FSSAI-empaneled third-party audit agencies, FoSTaC training information, and awareness material such as posters and healthy recipes.

Early Adopters:

Eat Right Campus has been gaining momentum since its launch in 2019. On the first World Food Safety Day, 7th June 2019, seven campuses were awarded the Eat Right Campus certification by Dr. Harsh Vardhan, Hon'ble Minister of Health and Family Welfare at FSSAI. The following campuses were recognized for their exemplary standards- IIT Gandhinagar, IIT Roorkee, LBSNAA, Mussoorie, Unilever, Bengaluru, Wipro, Bengaluru, HCL Noida and Genpact, Gurugram. At present 23 campuses are certified as Eat Right Campus and several others are in the pipeline

The FSSAI Experience

While this initiative is voluntary, the most amazing aspect of this initiative is that it grows organically depending on the willingness of people to change for better. Therefore, it is an initiative by the people, of the people and for the people. As this initiative grows to include all campuses in the country, it will contribute to the productivity and economic growth of the country while also safeguarding people's health.

The Positives:

- ★ Eat Right Campus covers the entire ecosystem in a campus from the pantry and food area to canteens/cafeteria, catering services, tuck shops and retail outlets- wherever food is prepared, sold, served and consumed.
- ★ Through training, it helps develop a culture of safe and hygienic practices by food handlers at all levels of food operations.

- ★ By encouraging self-compliance to food safety and hygiene standards, it helps reduce the regulatory load of FSSAI.
- ★ It helps preserve our traditional culture by promoting local, seasonal and regional cuisines to residents and visitors in the campus.
- ★ It addresses the major concerns of consumers like food safety, hygiene and nutrition of the food being served.
- ★ It empowers consumers to make the right food choices.
- ★ It gives a sense of pride to the campus and the people associated with it for the efforts to provide better food and quality of life.
- ★ A few simple steps can make a big difference in the lifestyle of people and ultimately their health and well-being. After all- "prevention is always better than cure". This is what Eat Right Campus aims to do

Audit Parameters Chart



SECTION 3

Stressing on Sustainability

"Man was not born a carnivorous animal, but born to live on fruits and herbs that the earthgrows"

Mohandas Karamchand Gandhi



A wide-angle photograph of a lush green field of crops, possibly corn, stretching towards a distant horizon under a vast, clear blue sky. The sunlight creates a warm, golden glow on the leaves of the plants in the foreground.

Chapter 16

Putting the Planet First

What we eat can have an impact on the future of our planet. It can save it, or push it further down the pit.

We all try to eat right for the sake of our health, but we tend to ignore the fact that our environment dramatically impacts our health too. Today we live in toxic, climate challenged times, and just careful eating alone cannot save us. It is imperative to take conscious steps towards our environment via right food choices to avoid messing up our health big time.

Besides this 'save our health' reason, we also need to think about the need to feed the world, and our responsibility towards it. How we eat, and the choices we make directly affect our ability / capability to grow the food, and unfortunately, we have been steadfastly only depleting this asset by our every waking (and eating) moment. Every irresponsible food choice (of ours) contributes big time towards an increasingly hungry world... How's that for your conscience?

About time we wake up to the fact that eating right does not mean focusing on just nutrition, it also means encouraging and consciously practicing dietary sustainability, and ensuring that there's good food available not just for those living now, but also for the generations to come. So, the focus needs to move from just our needs (and health) to eating in a way that is good for the future of our planet and our people.

The 2019 EAT-Lancet Commission report recommends healthy diets that can feed 10 billion people by 2050 from environmentally sustainable food systems. These are essentially plant based with modest amounts of meat, fish and dairy foods. When Indian diets are compared with the recommended diet in the EAT Lancet report it was observed that Indian diets, across states and income groups, are unhealthy. Indians also consume excess amounts of cereals and not enough milk and milk products, fruits, and vegetables. Importantly, unlike many countries, excess consumption of animal protein is not a problem in India. Indian policymakers need to accelerate food-system-wise efforts to make healthier and sustainable diets more affordable, accessible and acceptable.

The Good Work!

FSSAI takes responsibility towards the environmental consequences of our food choices seriously. And that is why the emphasis on sustainability through the Eat Right India movement has increased manifold in the last few years. Amazing initiatives are being launched and implemented; creating awareness on food sustainability across India. The key components of the sustainability pillar of the Eat Right India movement includes production and consumption

of local and seasonal foods which not only help in reducing greenhouse gas effect but also encourages environmental friendly regional trade practices. Further, many steps have been taken to encourage reduction of use of chemicals in food production and preservation, reducing plastic in packaging material, reduce use of water in food processing and also reduce food waste.

The movement has created numerous organically growing platforms to engage with diverse stakeholders and benefit from their technical expertise—a network of professionals in food and nutrition (NetProFaN) to leverage the expertise of professionals in reaching out to consumers with scientifically sound messages and a network of scientific organizations (NetScOFaN) to participate in standard-setting processes. The network is formed to support and expand the outreach of various flagship programmes of the Government on food safety and nutrition, such as the Eat Right India Movement by FSSAI.

One of its kind centre 'The centre for food planet and health' has been set up by the Food Safety and Standards Authority of India in partnership with Centre for Public Systems Management (CPSM)- LBSNAA with the objective to inculcate in officers (the young officers entering the civil services as well as other mid-level and senior officers) the competency to think and act in a holistic manner and promote policies and actions on food that are healthy, for both, people and planet.

FSSAI has also Constituted a Scientific Panel on Packaging to deal with the challenges of increasing plastic waste. FSSAI is committed to achieve a plastic waste free food and beverage (F&B) sector and move towards safer and sustainable food packaging by promoting food that is good for both the people and the planet.





Do Your bit

It's time to begin thinking about the environmental consequences of our food choices, and to tailor our choices based on this very important factor. We need to bring about this attitude change, before it gets too late, both for us as well as the only planet we have. Some of the simple steps that help in a BIG way are:

1

Eat less of the packaged, highly processed foods. They are proven bad for health (saturated fat, trans fat, sugar, salt, preservatives, myriad chemicals), but besides this red flag, the second reason is that the disposable plastic packaging they come in never degrades, and so is obviously bad for the planet. At least look for products with biodegradable or reusable or recyclable packaging, like paper, cardboard, wood, metal, etc. While travelling avoid bottled water too for the same reason. How difficult can it be to carry water from home!

2

Moderate your meat intake, to cut your diet-driven carbon footprint massively. So, try to get your protein more from protein-packed legumes and beans. No one is asking you to go meat free, but just toning down portions and frequency is good enough. Also, fruit is the way to go, as fruit crops yield the highest pound yield per acre, and therefore environment friendly.

3

Go organic. Now this decision may not prove practical or wallet friendly for everyone. But they do offer big pay offs to the environment... so maybe one can begin by making small switches. Find out which foods are most worth buying organic, and buy just those. Every bit counts. Increase in demand of organic foods increases the chance of that food to be grown with minimum pesticide usage and ends up being grown organically.

4

As far as possible go local and eat seasonal. This is possibly the best way to lower your carbon footprint when it comes to what you eat. This way fewer trucks and vehicles would need to travel long distances to deliver exotic, foreign foods to grocery stores in your area. Sabja instead of chia seeds... get the drift. There's enough incentive otherwise too: local food is fresher — and therefore tastes better and retains more nutrients too. Check out what's growing nearby right now and try to plate that more. It costs less too. Also support restaurants that purchase their products from locally-owned markets.

5

Grow some of your own food. Begin with herbs, easy veggies. And finally, strictly reduce waste and also ways to revamp leftovers. Instead of dumping leftovers in the trash, turn them into new meals or make manure out of the peels and non-edible parts of fruits and vegetables .

Every step, however small, counts. Not too much to ask for. Is it? After all it is our own environment and planet we are talking about, not someone else's.



A close-up photograph of several small, vibrant green seedlings with two leaves each, growing out of dark brown soil. One seedling in the center is slightly taller and more prominent, with its root system visible at the base. The background is blurred.

Chapter 17

The Organic Decision

Should you go organic? That's a very valid question in everyone's mind today. And to take a decision it is important to have all the right information available to separate fact from fiction, and find out if this dietary choice is right for you.

There is absolutely no doubt about the fact that investing in health via the food we eat is and should be non-negotiable. After all, both our life's - longevity and quality are at stake. And so, going organic makes sense. But are organic foods truly superior? A blanket statement that going completely organic is the way to go, wouldn't be the right thing to do as there are still multiple challenges. First, we still know so little about the actual difference between organic and conventional foods. Second, most of us don't know how to pick the truly organic foods. Third, the availability is always sketchy and not dependable. Fourth, the cost tends to be prohibitive in most cases.

So even though going the organic way is truly the way to go, the choice is a personal one to make. Demystifying what is organic actually can go a long way in being able to make an informed choice

What?

Organic food is food grown ecologically, without the use of chemical fertilizers, growth regulators, pesticides, weedicides and prepared without chemicals in processing. It is the product of farming systems such as recycling of farm waste, using natural, plant or animal waste, products for soil fertility, pest control and disease, without harming natural resources. Therefore, organic foods are good for both, our health and the health of the environment.

Why?

We need to eat organic for the simple sensible reasons. Organic is healthier for you as well as for the environment; because it has all the benefits that nature intended the crop or the fruit or the vegetable to have in terms of vitamins, minerals, fibre, antioxidants and so on. Plus, the added benefit is being free of harmful chemicals through pesticide and synthetic fertilizer residues, which tend to be destructive when unleashed in our bodies. Further, since organically grown foods are grown by rebuilding healthy soils, they have more trace elements and micronutrients, the deficiency of which leads to many health problems; e.g. iron deficiency leads to anaemia.



The Taste Tests

Of course, there is a question of taste - organic foods definitely tastes better and fresh. Anything grown organically is better in taste, as compared to its inorganic counterpart. Experience the aroma and taste of whole wheat chapattis being made or bread or baingan bharta, chhola, rajma... or bite into raw tomatoes or an organic apple - and decide for yourself!

Cost Factor

Money is of course a concern. Yes, generally speaking, on an average, organic food items cost about 25% to 30% more than inorganic foods. But today, most people eat out about once a week. If they were to just cut down one outing, they would be able to afford buying organic. So, it comes down to a question of priorities, nothing else.

The Good Work!

The organic foods market is growing at a fast pace in India with more and more people getting interested in it and more land being allocated to it. Good regulatory environment in the country will help speed up the process. Plus, it is important to make things more transparent, as only when the ambiguity is rectified, the organic food movement will gather more steam.

FSSAI has regulated that organic food needs to comply with the requirements of labelling under Food Safety and Standards Regulations (FSSR) in addition to that of National Programme for Organic Production (NPOP) or Participatory Guarantee System (PGS)-India. In addition, all the organic foods need to showcase FSSAI's Organic Logo (Jaivik Bharat)

All the certified organic food operators in India are listed at the Indian Organic Integrity Database Portal developed by FSSAI. The Portal (<https://jaivikbharat.fssai.gov.in/>) serves as a good reference point and here consumers can check and access the information about certified operators.

An Expert Committee on Organic Foods has been set up to look after the issues emerging from the implementation of the regulations.



Why Go Organic?

When you eat organic you eat natural, clean food which is nutritious and delicious. Organic milk tastes sweeter, organically grown fruit and vegetables taste richer and fresh as are naturally ripened. Organic eggs are a result of birds that aren't continually fed antibiotics in their regular feed and are fed organic feed. According to research in-organic whole wheat is one of the most heavily pesticide foods, so is best avoided. Organic atta is usually stone-ground, has all the bran intact - therefore the family of B vitamins - and has enough roughage to keep your digestion humming along.

Organic dals are usually not polished, just milled. That is why organic moong dhuli and arhar dal are pale in colour. The fewer chemicals you put into your body the better. Plus, the taste and aroma are very different - more flavorful! Organic sugar is minus all chemicals like Sulphur free which is used as a bleaching agent in most white sugars.

Organic salts don't have any bleaching agents, and anti-caking agents. Switch to cold-pressed organic oils; there is a range available - Groundnut, Safflower/Kardi, Sunflower, Sesame, Mustard, Olive oil.

The benefit here is that the nutrients are intact as the processing method does not use a high temperature that causes nutrient loss. Also, these are high in flavour and fragrance. Spices give us micro-nutrients, and help digestion and metabolism. They are not just flavoring to food, so it is important to choose pesticide free spices. These are best consumed organic.





Chapter 18

The Organic Decision

Plastic sticks are there in the environment since decades, threatening wildlife and spreading toxins. There's a lot of microplastic dumped in our oceans. No one even really knows how long it's going to take to decompose – estimates range from at least hundreds of years to possibly a lot longer.

It also contributes to global warming (almost all plastics are made from chemicals that come from the production of planet-warming fuels like gas, oil and even coal). But we operate in a broken system that's clogged with plastic. Thankfully now there is a global movement gaining steam to reduce plastic pollution - more and more people are cutting down on the amount of plastic they use - to ensure that we can have cleaner streets, oceans, and beautiful communities. Plus, not only will these steps help save our planet but also improves our quality of life.

Moving away from plastic products can be a daunting task, but it is not impossible. All it takes is some thought and some serious will to want to make a difference. So, start small - soon all those small plastic-free changes will add up really big.

Simple steps you can take

- 1 Refuse to use all single use plastics.
- 2 Carry reusable shopping bags.
- 3 Give up bottled water.
- 4 Use glass, metal or bamboo drinking straws or say no to straw.
- 5 Cut out sodas, juices, and other plastic-bottled beverages.
- 6 Buy breads that comes in paper bags.
- 7 Choose milk in returnable glass bottles Or unpackaged but pasteurized loose /token milk.
- 8 Carry lunches in reusable stainless steel or glass containers.
- 9 Kitchens are a plastic magnet. The most environment friendly way to green your kitchen is to use the plastic items you have, and then when they reach the end of their life, replace them with plastic-free alternatives. Use ceramic, glass or metal bowls instead of plastic ones. Wooden or metal utensils instead of plastic ones.

10 Hotels can use paper-sealed glass bottles for captive use in place of plastic bottles.

11 Keep a zero-waste food kit in your car at all times - a container, a reusable straw, a coffee cup, a water bottle, a napkin, and similar stuff that can help you avoid using plastic wherever you are.

The Good Work!

The Food Authority has started a consumer awareness campaign "**Eat Right India for Sustainable Living**" as a call to action for plastic waste management and reduction of plastic footprint in the F&B industry. Accordingly, FSSAI has a Scientific Panel on Packaging to deal with the challenges in the area and to address them accordingly in the regulations.

As mentioned earlier FSSAI has also constituted a Network for Scientific Co-operation for Food Safety and Applied Nutrition (NetSCoFAN), which is the network of research and academic institutions working in the area of food and nutrition to work for safer and sustainable packaging options.

FSSAI is further asking State/UT Food Safety departments to create awareness and to educate the public on use of alternatives to plastics, proper plastic disposal and litter management. It has started work on the process of allowing the use of other food grade packaging materials for packaging of drinking water and has allowed serving drinking water in paper sealed reusable glass bottles for captive use within the hotel premises subject to certain conditions.

FSSAI has also issued guidelines for use of bamboo as food contact material. The guidelines also permit use of liquid nitrogen dosing in PET bottles during the packaging of drinking water. This would help in strengthening the bottle thereby facilitating the manufacture and use of bottles with lower wall thickness.

The process of removing the restriction on the use of returnable bottles for packaging of artificially sweetened beverages has been initiated. The key features of FSSAI's plastic free program include: preparation for collection and disposal of plastic waste in F&B sector, awareness campaign and mobilization of employees massive plastic waste collection drives by all, across rural and urban areas and recycling of collected plastic waste.

In addition, corporations and food companies using plastic for packaging have been nudged FSSAI to find newer ways to get their products to us in a plastic free manner.

NO MORE
plastic



It is time to learn to believe in a world where the land, sky, oceans, and water are home to an abundance of life, not an abundance of plastic and make an effort to reduce our own plastic footprint and recycle as much as possible.





Chapter 19

Save Food Share Food

Answer a simple question: When is the food best? Only answer to this is, it is best when it's on our plate, ready to be eaten. Of course it's good in your pantry too, ready to be used. And it is at its worst when it is thrown in the bin, or in other words WASTED.

Let's not kid ourselves. Food is being wasted at an alarming rate. Along with the grocery stores and restaurants, we - consumers - are the largest source contributing to the wastage. By wastage we mean the last few bites from your plate that you couldn't / or didn't want to finish, or your bread crusts, all the stuff that could have been transformed into food.

On a personal level food wastage costs labor, resources, time and at the end of day a lot of money too, besides impacting the planet in a negative way. Yes, saving food does just save you money, but affects the bigger picture, too. How? Well, reducing food waste is good for the planet, as it helps slow down global warming. That is because organic materials, like food scraps are broken down by bacteria to produce methane.

Methane is a potent greenhouse gas and it has a warming potential of 21 times that of carbon dioxide. That is why it will be a huge help if we can reduce methane emissions - and saving food (and not wasting it) will play an important part in helping reduce methane emissions and combating global climate change.

Wasted food equates with wasted resources. All the water, energy, seeds etc. used to grow, and ensure that the food reaches us are wasted when we waste food.

Save and Share Food

Live by the mantra - my food's not rubbish. There are endless ways you can reduce, reuse and recycle your food waste - just follow this simple rule of JUST not waste even a scrap of food. Some simple ways:

Shop Smart:

Only buy as much as you need. Chuck the greed. Make a point to use up all the food you purchased during the last trip to the market before buying more groceries.

Store Right:

Wrong storage leads to a massive amount of food waste. When you store food correctly, it lasts longer.

Learn to Preserve:

Pickling, drying, canning, fermenting, freezing and curing are all methods you can use to make food last longer, thus reducing waste.

Use Leftovers:

Store leftovers in a clear glass container, rather than in an opaque container, to make sure you don't forget the food and use it soon enough. Also learn new recipes to use all the ingredients smartly.

Check your Serving Sizes:

By keeping your portion sizes within a healthy range will not just help keep your weight down, but also help reduce food waste.

Read about

Expiry dates; use food within the expiry date to avoid wastage.

Learn about composting:

Composting leftover food is a beneficial way to reuse food scraps, turning food waste into energy for plants.

Grow Some Food:

If possible, grow some of your own fruits, vegetables and herbs.

Pack your Lunch:

A helpful way to save money while reducing your carbon footprint is to bring your lunch to work with you.

Eat out right:

when you eat at a restaurant get the leftovers packed and eat at home the next day or give them to a needy person.

Recycle:

use up food scraps and unused food by setting up a compost bin or worm farm, feed the food scraps to your pets and donate unopened non-perishable food you don't need to a local charity before they spoil.

Spread the Word:

word of mouth is a powerful tool. Spreading the word is something everyone can do. Share your top tips, handy hints and favourite leftover recipes with friends and family and social media.



ZERO
WASTE



The Good Work!

FSSAI is working diligently for preventing surplus food waste. Excess food production, changing trends, minor imperfections in quality (shape, size, colour and freshness) and labelling errors leads to wastage of food in industry. Such food could be salvaged by timely withdrawing it from the distribution network, collecting it and then redirecting it to the people in need. That is why FSSAI is running campaigns to end waste at every level of the food system by catalysing reduction of food wastage movements around the country.

Food Safety and Standards (Recovery and Distribution of Surplus Food) Regulations, 2018 specifies that it is the responsibility of the food donor and surplus food distribution organisations to ensure food safety and hygiene while distribution of surplus food. Through the 'Save Food Share Food' initiative, FSSAI is promoting donation of surplus food via a PAN India network of food recovery agencies called IFSA (Indian Food Sharing Alliance). This initiative is also working at bridging the gap between food business operators, surplus food distribution organisation and in ensuring that such food reaches timely to those in need. Simultaneously, the initiative also lays focus on reducing and curbing food waste. For this:

- ★ A PAN India network of 82 Surplus Food Distribution Organisations has been identified.
- ★ A dedicated website to sensitize people on the importance of reducing surplus food waste and hunger in the country has been put in place. The website acts as a repository of information on this initiative. (www.sharefood.fssai.gov.in)
- ★ A 24-hour helpline to help food donors connect with Surplus Food Distribution Organisations is available. Common helpline number and a mobile application for easy Pan India food donation (is in pipeline)
- ★ Guidelines for prevention of food waste at home, school, restaurants and retail have been issued.
- ★ Regulation and trainings for safe recovery of surplus food distribution agencies to ensure safe food handling during collection, transport, storage and distribution of surplus food.
- ★ Campaigns to encourage food businesses and citizens to donate food.

Moving Forward

A strategy to mobilize Food Businesses to donate their surplus food products (processed & prepackaged) is under process and identification and streamlining of the network of Surplus Food Distribution Organizations under the Indian Food Sharing Alliance (IFSA) is being planned.

FSSAI is also working with State FDAs to conduct workshops in the states to create awareness among citizens, sensitize food businesses and retailers to reduce food wastage and donate excess food. A mobile-based application to help donors for easy and quick donations and to connect with Surplus Food Distribution organizations is also being developed.

Using up every edible bit of your food, and saving food is one of the best step that we can all take to save our planet, look after the environment, and save it for the next generation. And it is not that tough to do.





www.eatrightindia.gov.in

@fssaiindia @fssai @fssai_safefood