



PURNABRAHMA

Special Issue

October-December 2022

Volume-6

Nutritious Traditional Foods



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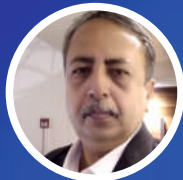
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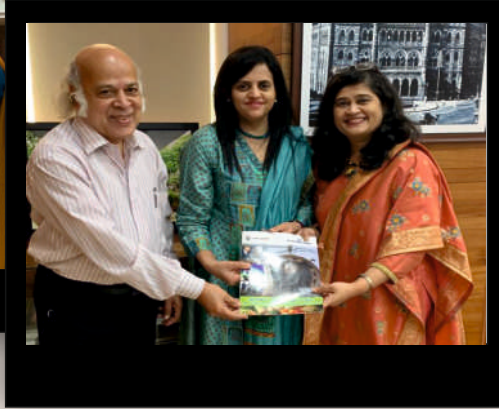
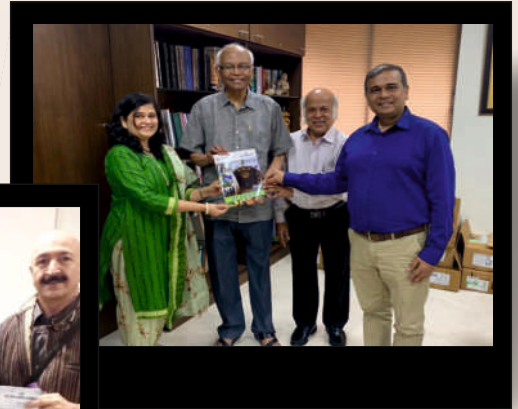
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PURNABRAHMA



Chairman's Address Note

Dr. Prabodh Halde

Chairman
Chamber for Advancement
of Small & Medium
Businesses



उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः।
न हि सुप्तस्य सिंहस्य प्रविशन्ति मुखे मृगाः

We can accomplish various tasks only by making continuous and strenuous efforts and not by merely wishing to do so. By no means antelopes themselves enter into the mouth of a sleeping Lion

I am honoured to take over as the Chairman of Chamber for Advancement of Small & Medium Businesses as Chairman. In past 18 months, this Chamber has elevated many Small and Medium businesses to next level through various programs.

Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and backbone sector of the Indian economy. MSMEs not only play crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complimentary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country.

With mantra of 'Atma Nirbhar Bharat' given by Hon. Prime Minister of India, MSMEs sector can play very

crucial role in Making of New India, a journey from developing country to developed country.

As said by Hon. Prime Minister, data analysis, artificial intelligence, blockchain techniques should be utilised by small companies and agriculture sectors for overall development of Nation. We will focus on these programs for MSMEs.

Our Chamber has been providing unique support to MSMEs, Young & Women entrepreneurs and Start-Ups to convert business ideas and new concepts into profitable business ventures. We will continue working in this area to guide first-generation and second-generation entrepreneurs with special focus on Agro sector so that we will contribute to doubling farmers income.

In coming days, our focus would be on students, young start-ups in order to bring the culture of entrepreneurship at early level for wealth generation.

Since Diwali & Festival season is around, let's take pledge to purchase 30% of our requirements from MSME sector, if we as a citizen do this, we can support this sector and Indian economy in a big way.

As our mission says, make MSMEs more resilient, and make them the backbone of Indian economy, we will strive towards achieving this.

I am looking forward to work with my dynamic team who has in short period of time made our Chamber a national level Chamber.

**Jai Jawan, Jai Kisan, Jai Vigyan, Jai Anusandhan,
& Jai Laghu Udyami**

Dr. Prabodh Halde
Chairman

Advisor's Note

Prof. Smita Lele



India is known for diversity in terms of language, food, clothing and fine arts like music and dance as well. At present there are 29 states, 8 union territories and a population over 1.39 billion eating nearly 5 billion meals a day. Traditional Indian food preparations are influenced by availability of raw materials and climate. People of northern states of India are wheat eaters whereas people belonging to southern parts consume rice daily as staple food. Across India pulses (whole and split), lentils, millets and sprouts are consumed regularly, although some of the ingredients used and method of preparation are quite different in various regions. Since India ranks second in the world in fruit and vegetable production, Indian traditional diets predominantly include plant sources. Although a significant fraction of the population consume fish, meat, eggs, poultry and other non-vegetarian foods, rarely does anyone follow an exclusively non-vegetarian diet. This is perhaps due to limitations in the availability of fish and meat and sometimes due to high cost of these items. Further there are restrictions on consumption of such products due to religious beliefs and traditions. Interestingly, milk although scientifically a commodity of animal origin, is considered as "vegetarian" not just by tradition but also by the Indian Food Law. Perhaps India is the only country in the world where a processed food of animal origin has a red dot and vegetarian food has a green dot used as a symbol on the package, but milk is a "green dot" product!

The combined effect of these factors is that Indians have been consuming lot of fruits and vegetables, drinking water as the main beverage and consuming milk and dairy products in their regular diet. Another interesting fact is regular consumption of yoghurt-like fermented milk product, called *dahi*. Even today, in most rural parts of

India, *dahi* is made in every household and consumed daily during meals. Some prefer to consume it in the form of *chhas* or *lassi* which are beverage forms made from *dahi*. This probiotic food product is rich in *lactobacilli* and forms part of daily diet across India in all states typically consumed during meals. Survivability of the probiotic culture in acidic pH of the stomach and further in conditions prevailing in the gut to reach the colon in an active form is probably aided by consuming these cultures as part of a meal. Most of the Indian festivals and religious rituals are linked with the season and there are traditions which recommend a specific food and diet to mark the celebration. Just to cite one example, in January when the Sun enters Capricorn zodiac it is celebrated as *Makar Sankranti* festival. This day marks the end of winter solstice during mid- winter period in India and is celebrated by different names across India but the commonality is that all the states have a tradition of consuming lot of sesame seeds and jaggery in various formats. For example '*tilgul*' a popular traditional confection of Maharashtra which is sentimentally exchanged by one another during *Makar Sankranti* festival is made from sesame seeds and jaggery which give a good supply of energy from sugar and oil and are suitable for the winter season. Thus Indian traditions nurture both values and good habits for healthy living.

Indian people also follow the dietary recommendations proposed by Ayurveda. The literal meaning of Ayurveda is "encyclopedia of life". There are three main books in Ayurveda written by the great authors Charak, Sushrut and Vagbhat. (<https://www.ayurveda.com>). In addition there are few more documents written over the centuries. All this literature is in Sanskrit language, mostly in poetic form for ease of memorization. The first and largest book is by Charak which focuses on "fire of digestion". It is a collection of knowledge accrued over thousands of years. Ayurveda describes diagnostic methods, botanical extracts in various forms to be used as medicine, body cleansing methods, surgery and many other aspects. Ayurveda is not just alternate medicine but it also talks of personalized food based on constitution of each individual, food based on climate, food for patients with specific ailment and food for different age groups. Main thrust of Ayurveda is on preventing diseases and maintaining health by balancing diet with life style and personal constitution (*Lad*). In fact Ayurveda has also described correct way of cooking food so as to get maximum benefits (*Usha Lad* and *Vasant Lad*). This suggests that although the term nutraceutical is recently coined ancient Indian traditions had similar concept of food being used. ■

Editor's desk



This is our sixth issue of *Purnabrahma* quarterly magazine. The journey of *Purnabrahma* is really a great learning experience for our entire team.

The 5th *Rashtriya Poshan Mah* 2022 was celebrated throughout India in the month of September with various activities conducted on the theme "Nutrition". The aim was to improve the nutritional status of children and women.

Indian traditional food items consist of a combination of grains, oils, spices, nuts which are replete with nutrition. Nutrients in traditional food help in boosting immunity power and brain function. There are regional variations in dishes prepared with generous use of spices to impact flavours. Diverse food provide all the nutrients. Apart from serving as functional foods, the traditional foods of India seem to exert the nutraceutical effect and offer social and economic benefit.

Physical body is called as *annamaykosh* because body nourishes and grows by absorbing energies from food. Awareness created on traditional food system can contribute to create a healthy society which in turn will build a strong nation. So on the occasion of *Poshan Mah* we have brought before you the nutritious feast in the form of 6th issue based on the theme "*Nutritious Traditional foods*".

The current volume is like a *pakwann* or a nutritious delicacy! Be it the lead article by *Ms. Shubhangini Joshi* on traditional wisdom about food processing, preservation or informative article on rarely used nutritious foods by *Mr. Prasad Dhawle* or the article on fermentation process by *Ms. Dhanashree Aole Seth* or the article emphasizing the importance of Indian traditional practices for better lifestyle by *Dr. Joshita Lamba* or the article by *Dr. Prakash Kondekar*, Advisor, CASMB, on regional nutritious traditional foods of India and their therapeutic effects and the article by *Dr. Ritika Joshi* on how we can optimise our own life radius for happier and longer life by rearranging our food platter! One more delicacy of this issue is an article on traditional probiotic foods by *Ms. Trupti Bhat* and very inspirational entrepreneurial journeys of *Pitambari* and *Aaj Pakao* brands and last but not the least "Myths and Facts about packaged foods" article by *Mr. Shashank Joshi* serves as icing on the cake!

Indian traditional food is a treasure of nutrition. The more we hunt, the more are we likely to get benefitted in terms of both health and wealth. At the end, everything boils down to us. We should feel lucky to have born in India where food is considered as God.

“अन्न हे पुर्णब्रम्ह”

Thank You!



Mrs Rupa Kanvinde
Chief editor

Subeditor's desk

This is a global issue. Conventional cuisines are fading away to make a place for fast or junk food. For families, individuals, and society, the impact of these foods is adverse and sometimes very severe.

There are some tangible benefits of fast food such as high popularity, convenience, relatively cheap and time saving.

In many working-class families fast food has become a viable alternative to home-cooked, nutritious food. This is attributed primarily to the large time and energy spend at their jobs and consequently finding less time to cook meals for their children. Also society gets benefited because of the available employment opportunities for struggling individuals.

Nonetheless, the negative impact of fast food is greater and poses irreparable harm to both short and long-term health, because conditions such as heart disease and diabetes are on rise. These same health risks extend to families, with the added admonition that children are forming potentially life-long bad habits. Society also suffers from the growth of the fast food industry as many traditional restaurants lose revenue as most people consume fast food.

Dear Readers and Stake holders, it's high time that we revive the lost magic of traditional and home-cooked food which is associated with cultural code and ties family together. Women, are the protagonist of kitchen and daily meals. When a woman offers herself to the family with foods, she exerts great influence on her family which in turn strengthens family bond.

It is very well said that "A healthy body possesses a healthy mind and a balanced diet yields a healthy body in the long run." In line with this, we at Purnabrahma are determined to revive the vogue of traditional food to Indian homes with the current issue. We are determined to encourage passionate entrepreneurs to discover new ideas and build successful brands so that delicious and nutritious traditional food reaches every busy household. This will additionally boost up employment opportunities and in turn contribute to the country's economy.

Keeping it short and simple. Eating traditional food with gratitude for the timeless wisdom of our ancestors, is just one of the graceful ways of thanking them!

Wishing all the readers, a very Happy Dusshera and Diwali!! Its time to binge on and relish our most loved traditional foods!

Thank you!



Ritika

Dr. Ritika Joshi
Sub editor

"पदार्थांचा मेळ"

लहानपणी आजोळी जाण्याची हौस भारी,
सुट्टी लागताच आई करे, जाण्याची तयारी.
आजोळी खाण्यापिण्याची राही मोठी चंगळ,
लाड आमचे पुरवता आजीची मात तारांबळ.
न्याहारीला असे पोहे, उपमा, उपीठ,
घुसळलेले ताक, लोण्या सवे, खमंग थालीपीठ.
दुपारच्या जेवणात पारंपरिक पदार्थांचे किती करावे कौतुक,
पक्वानांनी भरलेले पान पाहून, वाढे पोटाची भूक.
विविध चटण्या, कोशिंबिरी, वाटली ढाळ पंचामृत,
श्रीखंड पुरी सह वरण भात तूप लागे अमृत.
दिवसभर खेळून दमून कढी खिचडी वर मारायचो ताव,
आजीच्या राज्यात आम्हा नातवांचा लई भाव.
मामी माझी सुंदर, गोड, अन् स्टायलिश,
ती मात करे नवनवीन वेगळ्या डिश.
पाणीपुरी, पावभाजी, इडली, डोसा, समोसा,
एकदा घेतला पानात तरी, पुन्हा वाटे खावासा.
कधी करे पिझ्झा, मंचुरियान अन् थाय करी
बदललेल्या पदार्थांवर प्रेम आमचे जडले भारी.
आधुनिक व पारंपरिक पदार्थांचा त्यांनी घातला घाट,
आम्हा खवय्यांच्या जीवनात असाच राहो थाट.

वैदेही दामले
नागपूर 16 aug 21



"Pitambari" A journey of a thousand miles begins with a single step



"You have to fight the hardest battle which any human being can ever imagine to fight and never stop fighting until you arrive at your destined place that is **UNIQUE YOU**", is a famous saying by late Dr. A. P. J. Abdul Kalam. **Shri Ravindra Waman Prabhudesai(RWP)**, MD, Pitambari Products Ltd., idolizes Dr. Kalam. Shri Ravindra is an office bearer of more than 30 different organizations, including *Laghu Udyog Bharati*, *Sanskar Bharati*, *Kokan Bharati*, *Kokan Bhumi Pratishthan*, *Saturday Club* and others. His contribution to the social sector is immense and important. Dr. Prakash Kondekar (PK), Advisor, CASMB, had a privilege to personally talk to Shri Prabhudesai, in his Thane head office.

PK: How was your childhood?

RWP: We used to follow a praise-ritual at home, as a part of which, my father used to narrate the day's incidents to us quite emphatically. The highlight of the conversations was his analysis and subsequent dialogue around of these topics. Truly my father was like a walking and talking university. This university was silently responsible to create a lasting impact of virtues on me. My mother used to get involved in immense hard work. This has impact on us and we never refused any work that she assigned to us. I used to contribute to many of the family's household tasks because I firmly believed that virtues cannot be taught in a grooming school.

PK: Can you tell us about your education?

RWP: I studied in *Brahman Shikshan Mandal's Brahman Vidyalaya* and later at *Maharashtra Vidyalaya*. I still remember, our Marathi Teacher was Mrs. Datar who used to explain poetry very nicely. She also taught us some of the quotes from

Dnyaneshwari. Yadav sir got me interested in Chemistry which has resulted in getting my graduation in Science.

PK: How you got into the business other than the transport business of your father, late Shri Wamanrao Prabhudesai?

RWP: With my engineering dream unfulfilled, and the hardships that I underwent, helped me grow as a person and to face any difficulty with confidence. I used to work with my father in the family transport business where I learnt business skills especially during my visits to many clients for recovery purpose. But that was only for brief time period. Once my father realized that I was not interested in transport business, without forcing upon me, he allowed me to try my luck in other businesses.

Initially, I had taken a challenge to take over, Mosaic tiles, sick unit business in Dombivali MIDC. So I undertook training in A1 cement factory in Erandwane, Pune. But I was not successful in that business. I believed that failure is the first step of success. At this juncture of my career, I had realized that there is no

substitute for hard work, one should be honest and not cheat, and one should not compromise on quality.

PK: When did you start your own company, Pitambari Products Ltd. and how the name Pitambari clicked into your mind?

RWP: It was in the year 1985-86, the movement has started. More than the regular education, I was interested in sports and business education so I obtained a diploma in Business Management from Thane College. Initially, with the capital of just Rs.5000/-, I started Pitambari Powder business. *Pit+Tambe+Bari* (means, Brass+Copper+Shines) along with, washing powder, Liquid soap etc. All credit goes to my parents and my customers.

In the late 80s, Maharashtra's population was 6 crores with about 1.20 crores families. So my estimated sale of *Pitambari* packets was 60 lac packets. After that, there was no looking back! The door to door campaign with 25 sales persons, we achieved success with a sales turnover of Rs.1 lac in those days (1985-86). Then with new plant and machinery at Ganapati Pada, Near Old Belapur Road, first year turnover was Rs. 10 lacs. With 11 divisions including one Goshala, 82 products, in 29+8 Indian

states and in 26 countries, all Pitambari products were available for sales.

At present we have 124 super stockists, 2489 distributors, 1081, direct distributors and 3,10,487 shops are involved in Pitambari sales. The 2021-22 turnover of *Pitambari* touched a landmark of Rs. 300 crores with an export turnover of Rs. 5 crores.

PK: What message you would like to give it to our young entrepreneurs?

RWP: First five years of your business you have to follow your Intelligent Quotient (IQ), next five years IQ plus Emotional Quotient (EQ), thereafter, IQ+EQ+Social Quotient (SQ). If one follows these principles, then he or she can celebrate Silver, Golden and Diamond Jubilee. This is the key to success. If one product is not making profit, switch over to new innovative products.

Now my son Parikshit and daughter Priyanka have also joined me in the business. My wife Sau. Vrushali, is with me in the business since our marriage.

Thanks Dr. Kondekar.



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Indian Traditional Foods

Shubhangini A Joshi

Author of "Nutrition & Dietetics",
5e, 2022
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Traditional wisdom about food processing, food preservation techniques, and therapeutic effects of foods have been established for many generations in India.

The nutritional importance of traditional foods needs to be recognized and popularized. Traditional food products are socially, culturally, and economically important. They play an important role in ensuring food security and hold tremendous potential in combating malnutrition to a significant extent. It is essential that the knowledge about traditional food should not be lost, rather ventilated to next generations.

Ayurveda, one of our ancient health sciences, has classified foods according to the results they produce in our body, namely *Satvik* (cooked vegetables, milk, fresh fruits, and honey), *Rajasik* (foods that give enough energy to carry out daily work) and *Tamasik* (meat, liquor, garlic, and spicy and sour foods). Consumption of certain foods bring out the qualities with which those foods are associated.

The question that now arises in the minds of the readers is "Are traditional foods healthy? We have 28 states in our country. Every state has its traditional foods, cooking techniques, spices, oils and fats suitable to the region, and the seasons when certain foods are eaten. Festivals are characterised by foods which are eaten only during fixed time of the year. *Til laddos*, *til papdi*, *Pinni*, *Dink laddoo*, dry fruit *burfi*, are eaten in winter, Neem leaves ground with rock salt, cumin seeds, tamarind, jaggery are consumed on the first day of the Hindu New Year denoting the beneficial effects of the 5 tastes on the human body.

A few examples of traditional foods and their beneficial effects are outlined below:

1. **Fermented foods:** The prominent examples includes *idli*,

dosa, *ambil*, *dhokla*, *chakuli*, *ambali* (ragi). The processing techniques of soaking, grinding and fermentation leads to the formation of live organisms acting on the starch and forming a leavened product full of active probiotic material. It also enhances the digestibility and B-vitamins like Vitamin B12, in the product. It also removes the anti-nutritional factors found in these foods. Several of these recipes involve mixture of grains with pulses thus improving the biological value of the protein in it. Complementing is one of the best ways for enhancing the quality of the protein in food. *Idli/Dosa* is made using rice and *udad dal*. *Adai* is made with a mixture of dals and rice. *Dhokla* uses rice and chana dal. Ragi is a wonder millet used in making *Ambil* which is a fermented cooling drink commonly consumed in Konkan and Goa regions.

The widely-consumed fermented rice, popularly known as *poita bhat* in Assam, *panta bhath* in Bengal and *pokhalo* in Orissa has cooling properties and produces a soporific effect. Besides this the lactic acid bacteria isolated from *poita bhat* has the potential of removing anti-nutrients from fermented food. This process is accompanied by an increase in the calcium, iron and potassium levels, and a reduction in sodium levels. Such changes in the micronutrient levels can be initiated even after slight fermentation. This practice has been seen in many farming communities in India.

2. **Vegetable & fruits:** India is bestowed with many fruits and vegetables owing to its varied climates, soils, altitudes, etc. Indian gooseberry (*Amla*), Banana, Jackfruit, *Bael* fruit, Mango, *Jamun*, Papaya, Bitter gourd, Leafy vegetables, *Bathua*, Drumsticks (including its leaves), all the gourds, Beans etc. are a substantial source of anti-oxidants, carotene (an invaluable source of Vitamin A), vitamins C, to a predominant vegetarian population. Despite this, Indians consume far less amounts of vegetables and fruits than the recommended quantities. Benefits of consuming fruits and vegetables are immense as they contribute to the diet in terms of high amounts of fibre and water, probiotics, micronutrients, and minerals. Recipes do incorporate vegetables in them. Few examples include *parathas*, *chillas*, *pulaos*, *biryanis*, and curries like *dal methi/dal palak*. Berries are found in abundance in our country, but their consumption is limited to very small regions, e.g. *karvanda* or *karonda*, *jamun*, *ber*, etc.

3. **Milk based:** *Dahi* (Indian yoghurt), *Lassi*, Buttermilk,

Basundi, Sandesh, Kharvas, Rabdi, Rosogolla, Paneer, Chhana, Khoa, Mawa, etc. are the predominant milk products popularly used in making sweets without which any festival in India is incomplete. The benefits of curd made from live culture and set at home are well known. The same benefits are carried over to *lassi* and buttermilk made from it. This is a practice since ancient times. Today a lot is known about curds and gut health. Milk and its products in our Indian dietaries contribute a large amount of good quality protein. Cheese, a relatively new addition, is favourite of many consumers. However, per capita consumption of milk and its products is relatively less, its cost being the important factor.

4. **Millets, Cereals and pulses:** Wheat, Rice, *Jowar, Bajra, Ragi*, Corn are grown in various parts of the country. Products made from cereals and millets are also widely used. Earlier millets dominated our diets which have been gradually superseded by grains like wheat and rice. High in fibre, better in protein quality and gluten free, millets were inherent to the diets of Indians. Rice in its unpolished form was consumed. Today processing and ultra-processing has replaced unrefined and unpolished grains, thus reducing the fibre, iron and B-vitamins in our diets. Millets which were once looked down upon as a poor man's food are today being sold at premium prices in super markets!

Pulses and legumes are the primary source of protein for the vegetarian population. Popular dals are *tuvar, masur, moong*, and *udad*. Soya bean and its products namely granules and chunks is a relatively new addition to the list. A wide variety of legumes like *chawli (lobia)*, variety of grams (brown, green, white) and peas (yellow, green, black) are popularly consumed and more during the rainy season help to tide over the poor availability of vegetables.

A variety of recipes are made using mixtures of cereals, millets, pulses and legumes to yield tasty yet nutritious and quickly made products. Be it *Thalipeeth* in Maharashtra, *Muthia* in Gujarat, variety of *Parathas* in the north, *Adai, Puttu*, variety of *pakor*s and *bhajias, kachoris* all of them utilise a wide variety of cereals and pulses. Vegetables were incorporated in such a manner that every family member relished them.

Sprouts are an important part of Indian dietaries. An interesting form is "*Misal Pav*" which is a mix of sprouts mixed with some *farsan* (savory snacks), onions and

tomatoes commonly eaten with *pav*. Sprouts may even be used as a filling. *Batata Wada* is a popular snack made using potatoes, spices and coated with a batter made using besan (chick pea flour). *Batata wada (alu wada)* ranks at the top of the list of popular snack foods in India.

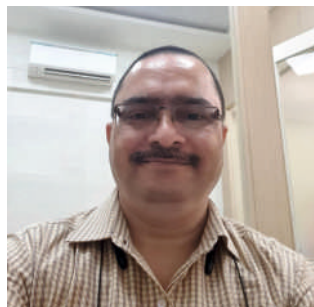
5. **Nuts and Oilseeds:** These were part of our dietaries, being used to enhance the aesthetic value of Indian recipes. Ground nuts (pea nuts), raisins, cashewnuts, almonds, walnuts, apricots, cardamom, saffron, *charoli*, poppy seeds (*khuskhus*) are some examples. Sesame seeds (*til*), mustard seeds continue to be a part of the *masala dabba*. Products like *Gajak, tilchikkis, til laddoos, chikkis* made from ground nut, cashewnut, almond, coconut are popular among young and old alike. Generally made with jaggery, they are an important source of carbohydrates, protein and iron, besides the omega fatty acids. Coconut consumption had declined since it was believed to be linked to cardio vascular diseases. However, with the knowledge of coconut being an important source of medium chain triglycerides has led to coconut being abundantly used. Flax seeds in earlier dietaries was an ingredient of mouth fresheners and chutneys, but now it is widely used in several recipes due to the benefits of omega fatty acids that it contains. Its oil is also now used widely. *Aleev*, a galactagogue oilseed, was and still is a part of a lactating mother's diet!
6. **Spices and condiments:** History bears testimony that due to abundance of multitude spices available, India was invaded several times. Today's 'Functional foods' are a multicore industry for Nutraceuticals. Curcumin in turmeric was recognised since ancient times and has a variety of applications in the food and pharmaceutical industry. The buzz word of immunity was synonymous with Turmeric in Covid times recently. Every spice is a store house of essential oils which impart its colour, flavour and health benefits. *Masalas* (mixture of several ground spices) are an integral part of our Indian kitchens. Today, some spices foreign to our traditional culinary practices are being used. However, care must be taken to not allow them to usurp the traditional spices and condiments.

A lot can be said about Traditional Indian foods. Today due to globalisation, new technologies, ideas to experiment with new foods, access and affordability of certain ingredients, new recipes are coming into vogue. However, no festival in India is complete without traditional foods prepared to appease the taste buds and complete the celebration! ❑

Myths and Facts about Packaged Foods - Emphasis on Sweets and snacks

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While walking, I took a small halt at my friend's shop who sells all packaged food. He said, "Have a cup of tea and then go home!" Thinking about my nagging wife, most reluctantly I agreed to his tea offer. Just like any other meeting, nothing different happened over a cup of tea.

A young lady accompanied by an old gentleman came to purchase few food products including milk. This young lady happened to be a journalist and was passing remarks, "Biscuits are bad for health in general." Hearing this, immediately I got involved in the conversation and we started to discuss about food and food products.

What is the current scenario regarding information about food products?

Now a days every information is accessible through internet. The social media like Facebook, WhatsApp, Instagram, TV channels are playing major roles in influencing thoughts and actions of an individual in general.

Every individual can have different perceptions about the food, its appearance, taste, and packaging, how healthy or unhealthy it can be and even the claims regarding health on the food products. With people becoming more conscious about their health and appearance, weight loss or weight gain programs/ businesses are gaining popularity among the youth and even the elderly. However, the question to ponder remains: how much information available on the food packets are authentic or are they misleading?!

How do you choose to buy a product in the market?

The young lady replied, "Invariably, we pick up a product from the market either due to its packaging, some claims on it, or its price or the product taste itself."

The claims can be exaggerated at times, and the customer usually falls prey to false claims!

The old man had a different view as he was preferring products which were fresh and easy to carry. It is very likely for any consumer to have a preconceived biased understanding about a product, or industry as a whole.

Which is most affected industry of false information?

Packaged food industry is one such badly affected industry which is ill-treated due to pressure from various groups or peoples or organization to clear their goals.

In between she introduced herself as Neha Mahajan working in an IT firm, who is currently working from home due to pandemic. The old man introduced himself as Mr. Manohar Chitnis, who retired 5 years ago from Indian Railways.

Are consumer aware about nutrition levels?

She replied, "Yes, I am well versed with how to read about the nutritional levels printed on packaging, however I get confused with sugar or other contents."

Consumers find it difficult to understand nutrition levels and often fall prey to products that give false nutritional information. Various new rules/regulations are being launched which confuses the consumer further on what exactly one should do.

Then I gave few examples of most leading/common errors:

The young lady was happy that now she has understood a bit about packaged food industry and she will start ignoring the misleading and common phrases that we usually find on packaged foods. The old man was still doubtful and continued to ask on additives/preservatives and how they impact our health.

1. **Packed Products are bad and contains lot of preservatives /additives.**

No. Packaged products are created for easiness, and as per needs of customer. They come with good shelf life, good packaging and taste. Often the main ingredients or their taste/ usefulness is kept aside and presence of an additive/or preservative in parts per million concentration is directly linked to cancer or some health impact. Packaged food may or may not contain any preservative/or additives. A mango pickle is a packaged food and has reserved a space in Indian homes. Milk pouch to pickle to a Fizzy drink to Noodles all are packaged foods.

Positive points:

Easiness

Packaged hence good shelf life

Same taste as a freshly made product

Comes in various pack sizes

Milk is available in loose as well as in packaged form. Loose will have a shelf life of few hours and even after boiling we need to keep it in fridge. Packaged milk pouch can stay for at least 72 hours in chilled conditions and doesn't require boiling. Packaged milk is available with six months shelf life without any added preservatives. Then why to blame packaged food for all these fuss!

Then my shop keeper friend, Manish Shinde, started enquiring about the myths on packaged food? Like they contain lot of sugar, or fats, or unhealthy things etc.

I responded, "There's a myth that pre-packaged foods are loaded with added sugar which can have a severe effect on the metabolism. It can lead to diabetes, high cholesterol, heart disease, obesity and tooth decay. Pre-packaged foods also contain high fructose corn syrup, the evil twin of sugar etc."

This is completely wrong: Every packaged food comes with a label and some declarations. Various governments are framing stern rules for food packaging. Packaged food gives us a choice to eat the product whenever we want. We can even enjoy seasonal fruits like mango throughout the year. In view of the product stability, most packaged food might contain some preservative or additive but those are added in parts per million which does not harm human body.

Neha continued, "Can packaged food be healthy?"

Canned foods are often thought to be less nutritious than fresh or frozen foods, but research shows that this is not always true. In fact, canning preserves most of food's nutrients in their active state without the use of any additives.

Mr. Mahajan was skeptical and still asked, "What are the effects of consuming packaged food?"

Heavily processed foods often include unhealthy levels of added sugar, sodium and fat. These ingredients make the food we eat taste better, but too much of them leads to serious health issues like obesity, heart disease, high blood pressure and diabetes. They even lack nutritional value.

I said, "This is again a false statement based on assumption or generalization. There are processed food which has no or little

added sugar, or sodium or fat. We Indians are used to a hot tropical climate. Rules for sodium content in food are different for tropical and non-tropical countries. In the former, because we sweat a lot, sodium content is generally higher. While in the latter, reverse situation is prevalent."

In the mean time we again had a cup of tea and some snacks from the same shop. I had to call my wife and give her excuse for getting late. It was interesting to explain the facts to enthusiastic questioners and we continued our discussion further.

I said, "Let's take few examples of Indian Packaged foods:"

- Namkeen/ Snacks - Often they are termed as bad, unhealthy, without any nutrients etc.

Often, we have seen such negative publicity given to potato wafers, then be it Indian or western style Lay's chips. Any spicy/savory products which contains salt/or any type of oil or fat is often termed as bad/or causes damage to our health/causes obesity etc.

Our country has a tropical climate and we should follow different nutritional requirements for our body and not what WHO says. Males need around 2500 calories in a day to maintain weight. Average salt and oil consumption is around 3-4 g as per WHO which has set this limit based on studies in cold climate countries like Europe. We are tropical country, and we lose more sodium ions through sweating than other countries. Hence the salt content in the product does not pose a threat. Our per capita consumption for such product is miniscule i.e. one such packet per week or so hence this won't impact much.

Chivda's or Murukku's or similar snacks are also available in packaged format with good packaging which can give a shelf life of 9 months. These are our traditional products and have been eaten for centuries. They are made from whole grains/or mixed grains which gives proteins/nutrients as well as carbohydrates/fat needed for our bodies. They are snacks and have no harmful effect of their own.

- Sweets:
- Be it an Indian traditional sweet or a Turkish delicacy of Baklava, "Health watchers" have coined sweet food products as bad because of their cancer causing property, damaging effect on teeth and overall health of an individual.

Indians are habituated to the traditional sweets since last 5000

years. Traditionally those were eaten only on specific occasions and specific sweets were made on specific occasions. During the Indian festival of Diwali when most sweets are relished, is believed to be a time where agricultural crops are harvested and its price (Laxmi) is received in return. This festival is usually celebrated with great pomp across the country. In the olden days, the dependency on machines was negligible as all work used to be done manually. Due to cooler climate during that time of year, lighting the lamp would keep all insects at bay. People used to throw bait at each other over food. This simply meant, sweets were healthy, otherwise our ancestors wouldn't have relished them!

Here both Manish Shinde and Mr. Mahajan agreed that sweets are integral part of the Indian diet but were afraid of getting diabetes if excess sweet was consumed.

I immediately replied, "Look, sweets do not cause diabetes. As diabetes is caused by anomaly in insulin producing cells due to factors such as heredity, stress, heavy smoking/drinking or any other habits. We are actually targeting the product but not targeting our sedentary life style. Our ancestors used to eat lot of sweets but used to exercise a lot."

Fructose, the sweet molecule in sugar, contains calories that you can burn for energy, but it's not nutrition, because there's no biochemical reaction that requires it. In excess, it can fry your liver, just like alcohol... Too much sugar causes diabetes, heart disease, fatty liver disease and tooth decay.

Again a myth or false statement: 'Sugar does not cause diabetes. It's the ability of the human body to make insulin required to burn/digest the sugar in the food.' Insulin creation in body is due to following reasons:

- What causes type 1 diabetes? Type 1 diabetes occurs when your immune system, attacks and destroys the insulin-producing beta cells of the pancreas. Scientists think type 1 diabetes is caused by genes and environmental factors, such as viruses, that might trigger the disease
- We know that sugar does not cause type 1 diabetes, nor it is caused by anything else in your lifestyle. In type 1 diabetes, the insulin producing cells in your pancreas are destroyed by your immune system.
- Type 2 diabetes is primarily the result of two interrelated problems: Cells in muscle, fat and the liver become resistant to insulin. Because these cells don't interact in a normal way with insulin, they don't take in enough sugar. Pancreas is unable to produce enough insulin to manage

blood sugar levels.

All sweets are full of protein, fat, sugar and carbohydrates. They are prepared seasonally and for a reason. No one eats kilos of mithai. Mithai is eaten for happiness. Our ancestors have been relishing sweets and but were healthy, as they used to exercise a lot. During those days, a lot of work was done manually without relying on machines.

Where do Indian sweets come from?

The origin of sweets in the Indian subcontinent has been traced to at least 500 BC when, records suggest, both raw sugar (gur, vellam, jaggery) and refined sugar (sharkara) were being produced. By 300 BCE, kingdom officials in India were acknowledging five kinds of sugar in official documents.

Soon Neha realized our discussion was shifting towards sweets. Despite being a gulabjamun lover, she stated, "We Indians eat lot of sugar and should reduce our sugar consumption."

Top Sugar Loving Nations in the World*

Rank	Country	Average individual sugar consumption (g)
1	United States	126.40
2	Germany	102.90
3	Netherlands	102.50
4	Ireland	96.70
5	Australia	95.60
6	Belgium	95.00
7	United Kingdom	93.20
8	Mexico	92.50
9	Finland	91.50
10	Canada	89.10

*Source: <https://www.worldatlas.com/articles/top-sugar-consuming-nations-in-the-world.html>

As per the above tabulated data, India is not even in first 10 sugar loving countries still we blame sweets/or sugar for diabetes in this country.

Manish showed an article published on internet that India has been ranked most unhealthy country. Especially when it comes to consuming packaged foods and drinks, as per a global survey.

According to a survey published in the journal Obesity Reviews, India was ranked lowest among 12 countries. The UK occupied the top spot while the US and Australia were ranked 2nd and 3rd respectively. This conclusion was drawn after the researchers analyzed more than 400,000 food and drink products from 12 countries and territories around the world. The survey highlights the high levels of sugar, saturated fat, salt and calories/kJ in several of Indian food items. Based on these values, the products are categorized as dangerous, or obese causing products. If a product is having high sugar e.g. a ripened mango, then is it bad? No, it's not the case.

Are Indian sweets bad for cholesterol?

Avoid sweets: Indian sweets made of "khoya or mawa" like burfi, rasgulla or jalebis are made in reused or hydrogenated oils and are concentrated source of so-called slow poison known as bad or LDL cholesterol. Avoid them as much as possible.

Again, a false statement: Not all Indian sweets are made of Khoya or mawa. Jalebis are not made using khoya or mawa. It is possible that few people in India are using reused cooking oil/hydrogenated oils which might contain LDL cholesterol, however after 1st March 2019, all users of oil /hydrogenated oil are required to check the Total Polar Count (TPC) of the oil. If the TPC is found to be >25%, it must be discarded. Hence such oils i.e. reused oil is not used to make the products.

We had almost been talking for an hour or so and soon realized that we must go on to our routines even if it was a Sunday! We departed after exchanging contact number with each other. Neha was thrilled to spend the time (which she in fact initially said is waste of time) in knowing something new and Mr. Mahajan was also happy to become aware about food products and food packaging. I was asked to share our discussion in the form of an article for their better understanding and becoming a Knowledgeable Consumer rather than just believing in what is published in media.

Here are my conclusions:

- ✓ There are myths about the packaged food and especially Indian mithai/snacks items hence it is wise to check the information before sharing it with anyone
- ✓ Indian mithai's or snacks are good for health and are for enjoyment/happiness
- ✓ Sugar alone or sugar in mithai does not cause diabetes
- ✓ Ghee is good for health as compared to any other oil
- ✓ Indian mithai is made with appropriate procedures/oil usage and follow strict norms, and based on one odd example, entire industry should not be blamed for wrongdoing. ❑



DECLARATION



- The contents of this issue is referred and compiled from various sources and Purnabrahma doesn't claim it's authenticity.
- The contents given in the article are the views of the respective authors.

Rarely used Nutritious traditional foods of India

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Traditional foods are the foods, recipes, or dishes that have been prepared and consumed by people over long periods or generations. Such foods are normally believed to have a high level of nutrients that support health. Such foods are normally derived from natural resources or ingredients present in nature and in most cases, these were not available in packaged form. There are different types of such foods which are consumed in different regions of the world over generations making these foods a tradition of the specific region.

Food is a basic necessity of life. Food, clothing, and shelter are considered to be the basic requirements of human beings. Apart from providing nutrition, food also spells security, power, hospitality, emotions, and culture. The nutritional requirement of every individual is different and depends on his physiological condition. Various global organizations like UNICEF and WHO have stressed the need of developing supplementary diets based on locally available ingredients. 'Think global act local' practice is the best way forward.

Grains are believed to provide us with the maximum part of our energy requirements. Grains form a major portion of vegetarian diets. The grains consumed majorly in India are cereals like rice, wheat, corn, sorghum, and other millets; legumes (popularly known as *dals*) like pigeon pea (*arhar* or *tur*), green gram (*mung dal*), red gram (*masoor*), black gram (*urad dal*) and on a small level moth beans (*matki*), kidney beans (*rajma*), and cowpea (*chawli*).

Cereals: Cereals form an integral part of the diet for most Indians. That is the mainstay of energy for us. Cereals contain 60-65% starch, 8-12% protein, fibre, B vitamins, and minerals.

Rice: It is the most widely consumed cereal in the central, southern and coastal regions of India. Rice is mostly consumed after milling and polishing. However, these processing steps reduce most of the vitamins and minerals. Unpolished rice however cannot be stored for long. Parboiled rice consumed in some coastal regions is better from a nutritional point of view.

Wheat: It is also a widely consumed cereal in India. It has higher protein content as compared to other cereals. The wheat protein "gluten" is having elastic properties and is thus finding wide use in making baked products like bread, biscuits, pasta, noodles, and various types of '*chapatis*'.

Corn: Its consumption in India is mainly in northern states- Punjab, Haryana, Rajasthan, Uttarakhand, etc.

Oats: These do not have their origins in India but are becoming popular due to their high protein, fibre, and energy content.

Millets: These are nutritious coarse grains with plenty of protein, fibre and minerals. They are considered as "super foods" and have many benefits like reducing obesity, risk of diabetes, hypertension, and heart-related diseases. It is also helpful in preventing stomach and liver ailments. Millets are currently the focus of attention and the UN has declared 2023 as the International year of Millets.

The millets include - *Jowar* (Sorghum), *Bajra* (Pearl millet), *Chena/Barr* (Proso millet), *Sanwa* (Barnyard millet), *Ragi* (finger millet), *Korra* (Foxtail millet), *Arke* (Kodo millet), *Sama* (Little millet).

Millets have been consumed as a major part of diet in some parts of India (south, central and northern parts) since ancient times. However, it took a back seat after high-yielding wheat and rice varieties became the highlights of the Indian kitchen. Lack of nutritional awareness could be one of the reasons for this.

Legumes: These contain 2 to 2.5 times more protein than cereals and are also rich in B vitamins, minerals, and fibre (the whole grain). Bengal gram (*chana dal*), green gram (*mung dal*), red gram (*tur dal*), and black gram (*urad dal*) are the commonly consumed legumes in different parts of India. Various recipes are prepared which make use of these legumes.

The Golden bean - Soyabean also belongs to the legumes group. However, this bean contains 38-40% protein. It is an excellent source of calcium and iron as well. Soya proteins are an excellent supplement for a vegetarian diet.

Some lesser known traditional nutritious foods from India:

India is a vast country with diverse cultural habits and so are the food habits and the types of foods consumed. The common thread in these foods is the nutrition they provide in various forms. Some of the lesser-known traditional foods from different regions of India are below. These are taken only as examples to bring forward the nutritional properties hidden in them.

(A) Rice: It is consumed as a staple food in many parts of India. However, different states grow different types of rice possessing unique qualities.

1. Chakhao black rice:

The *Chakhao* Amubi is one type of sticky black rice that is indigenous to Manipur. 'Chakhao' means delicious while 'Ambui' means black. In Manipur, it is generally served on special occasions and festive events. After cooking, the black hue turns purple and it has as lightly nutty flavour.



The black color of the rice is due to the presence of coloring pigments called as anthocyanins. Anthocyanins are well known for their impressive antioxidant activity adding to the health benefits of this rice. Chakhao rice is also rich in vitamins, minerals, iron, and fibre. The consumption of black rice is believed to protect the body against heart disease, obesity, inflammation, and cancer.

The Chakhao rice has bagged the Geographical Indication (GI) tag, according to official sources. The GI tag has great potential in trade and the possibility of preserving traditional skills.

2. Red rice:

Red rice is grown in three different states in India. In Himachal Pradesh it is known as *Chhohatru*, in Maharashtra, it is called *Patni* whereas in Kerala it is termed as *Matta* rice. Its red color comes from anthocyanins. Usually, it is eaten unpolished or partially polished. It has a red bran color and a nutty flavor. It provides the highest nutritional value among the rice eaten with bran intact. This rice has good antioxidant properties and is a rich source of iron, zinc, magnesium, and calcium as



compared to white rice. Some red rice has a low glycemic index which results in slow digestion of the rice and slow release of energy. This will cause a lower increase in blood sugar levels making it a good option for diabetics.

3. Navara rice:

Navara rice is one of the many types of rice grown in India. It originated somewhere in the state of Kerala. *Navara* rice is either used as it is or often combined with various herbs to treat different diseases. Navara rice bran oil is believed to provide relief from various painful conditions like rheumatoid arthritis, cervical spondylosis, back pain, and stiff joints. *Karkidakakanji* is a traditional drink made from decoction of water left over boiling the rice and mixing it with other herbs. This drink is consumed in the monsoon season (July-August) and is an ayurvedic immunity booster with good medicinal properties making it good for persons with diabetes or arthritis. The *Navara* rice has bagged the GI tag.



4. Diana rice:

Diana rice is grown in Karnataka. It is par-boiled rice rich in vitamins, minerals, and fibre. It also has a low glycemic index which releases sugar slowly into the blood stream. Thus, this rice is also good for diabetics as so is referred to as "the diabetic rice".



5. Bamboo rice:

Bamboo rice like any other rice is rich in various nutrients including carbohydrates, fibre, and protein. It is believed that bamboo rice has a low glycemic index compared to other varieties of rice, and so is considered to be a healthier option for diabetics. The rice has low or no fat and is rich in vitamin B. The kernels of the rice are actually the seeds of bamboo flowers collected by the tribals of Karnataka. It has a light wheat-like taste. It provides relief from rheumatic pain and also detoxifies the body.



(B) Wheat**1. Bhalia wheat:**

Bhalia wheat also known as *Dadukhani* wheat and is grown in the Bhal region of Gujarat. Bhal region is situated between Ahmedabad and Bhavnagar districts and includes Ahmedabad, Anand, Kheda, Bhavnagar, Surendra nagar, and Bharuch districts.



The unique characteristic of this wheat variety is that it is grown in rain fed conditions without irrigation. This wheat is rich in protein, carotenes, and low water absorption capacity. It has a sweet taste. This wheat is widely used for preparing semol in a which is used for making pasta, macaroni, pizza, spaghetti, vermicelli, noodles, etc. The *Bhalia* whea thas bagged the GI tag.

(C) Rajma**1. Munsiyari rajma:**

Munsiyari rajma receives its name from *Munsiyari* situated at the doorway of Johar valley in the eastern Uttarakhand. This place is also known as "Little Kashmir." Indeed growing under such climatic surroundings gives it a subtle and unique taste. This state is the home ground to rajma because nearly two hundred varieties of rajma is grown widely across this region. It has a massive amount of vitamins and other minerals. *Munsiyari rajma* is a virtuous mixture of protein and carbohydrates. Due to it sun paralleled and ingenious savor, high fibre content, texture, and color, this rajma is a favorite for all age groups. *Munsiyari rajma* has a sweet, earthy taste and needs less time to cook compared to regular rajma. Rich in protein and soluble fibre, it helps in lowering cholesterol levels and encouraging cell repair. The *Munsiyari rajma* has bagged the GI tag.



The foods mentioned above are just a few examples taken as samples of nutritional traditional foods. There are plenty of other traditional foods in India which provide excellent nutrients which we can explore. □

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Why Indian food is considered to be nutritious?

India is one of the oldest civilizations with diverse religions, cultures, traditions, socioeconomic strata, and agricultural practices. Indian food is relished worldwide because of its multicomponent and diverse nature. Each state of India has its own unique cuisine that reflects the culture and their tradition. There are various cooking methods used which preserves the nutrients contained in the fresh vegetables used. Indian food is mostly free from preservatives and usually prepared fresh and from scratch. The combination of fresh and preserved ingredients in a traditional Indian thali from different regions of India is a gastronomic delight and it also fulfils requirement for balanced wholesome diet. Ancient Indian Ayurvedic treatise charaksamita suggests that one should consume foods belonging to all six tastes (sweet, sour, salty, bitter, astringent and pungent). Food specific to season is always recommended. India has six different seasons, namely vasantaritu (spring), grishmaritu (summer), varsharitu (monsoon), sharadritu (autumn), hemantaritu (fall winter), and shishiraritu (winter). Knowledge about seasons is important to make an efficient utilization of all the food products. The traditional food practices of Indians not only ensure nutrition but also emphasize on the food safety aspect as well. According to our ancient Indian science, Ayurveda, Indian food is complete and enough for our bodies.

Where are we going wrong?

Recent studies from National Family Health Survey- 5 (NFHS-5) provides evidence about a marginal reduction in stunting rate

among children, below five years of age, from 38.4% to 35.5% since last four years. The prevalence of overweight or obesity has increased in most States/UTs in NFHS-5. The prevalence of anaemia across age-groups and gender has increased than the previous survey. Among women of reproductive age group, anaemia has increased by almost 7 percentage points (from 49.7% to 57%). India is undergoing a situation of severe triple burden of malnutrition i.e. undernutrition, over-nutrition and micronutrient deficiencies. There are many underline factors that are accountable for the existing state such as globalization, urbanization, change in dietary and lifestyle pattern. In the last few decades, both developed and developing countries have been experiencing many changes in their ways of living which has led to an increased demand for convenience and processed foods. Fast food like pizza, burger, French fries has gained popularity in India along with fusion cuisine e.g. a pizza dosa or samosa with cheese. There is an increase in demand of the processed foods and people usually forget to enjoy fresh, local, seasonal foods.

What are the Indian traditional practices which needs to be revisited for a better lifestyle?

- The traditional Indian thali comprises of all food groups in the proportion required by the body. Not only are these thalis flavour packed, but they are also scientifically healthy, as they keep in mind various factors like portion control, nutritional balance, food pyramid, and more. The accomplishments we are consuming in our Indian diet, not only enhance taste but have health significance as well. The most important fundamental to enjoy a thali is to monitor the portion size of each dish for maintaining a healthy weight. Traditionally lunch is the main meal of the day. Dinner is traditionally light, early and low on starches and dairy. Traditionally each meal is freshly prepared.
- The immunity box in our kitchens with so many spices and herbs are commonly used in Indian household for daily cooking such as turmeric, ginger, garlic, clove, cumin, tulsi, coriander to name a few. These ingredients provide anti-cancerous, antimicrobial and anti-inflammatory benefits.
- The use of local-seasonal foods. Traditionally each food is related to a particular season. Local seasonal foods provide variety in all seasons, they taste better, fresh, are nutritious, cheap and also cost less to the environment. There is a direct correlation between eating what's in

season and keeping illnesses at bay. Interestingly the festivals of India are influenced by their food too. For instance, during January, when Makar Sankranti is celebrated, sweets made of sesame and jaggery as well as pearl millet bread known as Bajra rotis are served. These foods are beneficial in maintaining body temperature during winters.

- The combination of cereal and pulse, when combined in the ratio of 3:1, complement one another, providing complete protein with all essential amino acids and also has a low glycaemic index which helps in maintaining blood glucose levels.
- The art of food preservation through fermentation. Fermentation is an ancient method of food preservation. Interestingly the traditional household practice which people usually follow in making foods has a scientific basis. The fermented products which we commonly consume are probiotics and provide various health benefits, besides only taste. Making yoghurt/curd, seasonal pickles, kanji, mattha etc. at home has been practiced for long time. It has always been known that our traditional fermented foods are nutritious, self-compliant and contain probiotics.
- The tradition of family meals is practiced in all parts of the country but due to hectic lifestyle this practice is losing interest. Sitting down to a family meal has a positive experience for the whole household rather than eating in front of the screen.
- Eating with hands. Indians consider eating food as sacred and wash their hands thoroughly prior to dining, then eat with their fingers, with the use of minimum cutlery. It is believed that touch is part of the experience along with the taste, aroma of the food. Eating with your fingers helps mind connect with the food better and one tends to

eat less and more mindfully. Food tastes better when eaten with the fingers in a hygienic way.

- The no wastage practice. Traditionally it was a practice that one should not leave anything on the plate as leftovers. By keeping the portion sizes within a healthy range, will not just help keep one's weight in check, but also help reduce food waste.
- The traditional concept of kitchen gardens. People used to grow fruits, vegetables, herbs, spices in their own homes. This practice of growing one's own food will provide fresh seasonal ingredients for one's meal.
- The traditional practice of personal hygiene is embedded in our traditions. It is always suggested to keep footwear outside the kitchen, take bath and wash hands before cooking. These personal hygiene habits are practiced as traditional rituals but actually they have a scientific basis.

These are some of the practices and there are many more yet to be re-visited. Going back to our roots and understanding the scientific rationale behind these practices is an urgent need to combat the triple burden of malnutrition. Over the past 4 years, a people's movement for safer and healthier food and sustainable diets is shaping up in India. This movement, the Eat Right India of Food Safety and Standards Authority of India (FSSAI) has the vision to transform the country's food environment through a systems approach. People are encouraged to shift largely to local, regional, seasonal, plant-based, whole-foods. Traditional Indian food, infused by the ancient Indian wisdom of Ayurveda is being popularised. The nutritional importance of our traditional foods needs to be recognized and popularized. Traditional food products are socially, culturally, and economically important. Traditional foods play an important role in ensuring food security as well. This is a shared responsibility of each individual to practice 3A's i.e. appreciate, assert and adopt these traditional practices to ensure a safe and healthy lifestyle. □

Traditional Nutritious Foods to Future Foods

Dr Prakash Kondekar

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India is a land of diverse cultures and different climatic zones. Hence traditional food also differs from place to place. We will see some of the representative traditional foods along with some future foods.

Maharashtrian food mainly consist of *Varan(Daal)*, *Bhat(Rice)*, *Bhakari* or *Chapati(Roti)*, cereals, leafy vegetables, papad, pickle, chutney and curd. Occasionally sweets like, *Shreekhand-Puri*, *Puran-Poli*, *Sakhar-Bhat (Sweet Rice)*, *Sheera-Poli*, *Gulab-Jamunare* relished.

Kashmiri food is highly influenced by the traditional food of the Kashmiri pundits. It has now adopted some of the features of the cooking style from Central Asia, Persia and Afghanistan. Kashmiri food makes an extensive use of turmeric and yoghurt. Superb preparation and fabulous aromatic flavor of the Kashmiri food is so alluring that even those who are not feeling hungry end up yearning for more.

Punjabi food is especially preferred in Northern parts of India. Some of the Punjabi dishes have Muslim names such as *biryani*, *pulao*, *kebabs*, *kofta*. This is suggestive of the strong influence of Muslim cooking style.

Rajasthani food is primarily vegetarian & offers a fabulous variety of mouthwatering dishes. The spice content is quite high in comparison to other Indian cuisines, but the food is absolutely scrumptious. Rajasthan is use ghee for cooking most of the dishes. Rajasthani food is well known for its spicy curries and delicious sweets.

Southern India is known for its light, low calorie appetizing dishes. The traditional food of South India is mainly rice based. The cuisine is famous for its wonderful mixing of rice & lentils to prepare yummy lip smacking *dosas*, *vadas*, *idlis* & *uttapams*. South Indian dishes are not just delicious but also very easily digestible. The best part is that South Indians do not use much of oil for cooking their meals. Sambhar is like a must in the

main course. It is usually a companion to most of the food items then be it *idli*, *vada* or *dosa*. Most of the South Indian dishes consist of *sambhar*, *rasam*, vegetable curry & *pachadi(yogurt)*.

Bengali food is appreciated for its fabulous use of *panchphoron*, a term used to refer to the five essential spices, namely mustard, fenugreek seed, cumin seed, aniseed, and black cumin seed. The specialty of Bengali food lies in the perfect blend of sweet and spicy flavors. For Bengalis, food is one of the most essential aspects of their day to day lives. Ladies spend lot of time in the kitchen cooking delicious feast for the family. The staple food of people in Bengal is rice & fish.

Gujarati food is primarily vegetarian & has a high nutritional value. The typical Gujarati thali consists of varied kinds of lip smacking dishes. Gujarati cuisine has so much to offer & each dish has an absolutely different cooking style. Some of the dishes are stir fry, while others are boiled. Gujarat is use a combination of different spices & flavors to cook their meals & this is what makes their food truly exotic. The traditional Gujarati thali mostly encompasses *roti*, *daal* or *kadhi*, *sabzi*, *dhokla*, *khandvi*, *patra*, *fafda*, *jalebi* and much more.

Traditional Indian fermented foods: Throughout history, fermented foods gave our ancestors the option of prolonging the freshness of grains, vegetables and milk that were available to them during different seasons.

Studies suggest that some of the many ways these foods support overall health include:

- improving digestion and cognitive function
- boosting immunity
- helping treat irritable bowel disease
- providing minerals that build bone density
- helping fight allergies
- killing harmful yeast and microbes

It's relatively simple to make a large batch of fermented foods to have ready-to-eat in our house without refrigerator and now with refrigerator sometimes - plus they should last a pretty long time due to the beneficial bacteria they contain. In fact, eating fermented (or "cultured") foods is the most convenient way to obtain a daily dose of probiotic bacteria that support gut health and more.

Pickles: Fermented pickles contain a ton vitamins and minerals, plus antioxidants and gut-friendly probiotic bacteria. Most store-bought pickles are made with vinegar and cucumbers and although this makes the pickles taste sour, this

doesn't lead to natural fermentation. In India, fermented pickles are made with cucumbers and brine (salt + water) since thousands of years.



As a customer when choosing a jar of pickles, look for "lactic acid fermented pickles" made by a manufacturer that uses organic products and brine, refrigerates the pickles and states that the pickles have been fermented.

Whether one realizes it or not, fermentation is a process that's used to produce some of the world's favourite foods and beverages. What are some foods that are fermented? Popular fermented foods include things like wine, beer, yogurt, certain cheeses and even chocolate and coffee.

One of the most popular fermented foods globally is yogurt (*dahi* in India) which is consumed in all over India and certain parts of the world for thousands of years, along with closely related *kefir*. Throughout history, fermenting foods gave our ancestors the option of prolonging the freshness of grains, vegetables and milk that were available to them during different seasons. It's relatively simple to make a large batch of fermented foods to have *ready-to-eat* in your refrigerator - plus they should last a pretty long time due to the beneficial bacteria they contain. In fact, eating fermented (or "cultured") foods is the most convenient way.

Top traditional Fermented Foods:

Miso is created by fermenting soybeans, barley or brown rice with *koji*, a type of fungus. It's a traditional Japanese ingredient in recipes including miso soup. It's been a staple in Chinese and Japanese diets for approximately 2,500 years.

Sauerkraut is one of the oldest traditional foods, with very long roots in German, Russian and Chinese cuisine, dating back 2,000 years or more. Sauerkraut means "sour cabbage" in German, although the Germans weren't actually the first to make sauerkraut (It's believed the Chinese were). Made from fermented green or red cabbage, sauerkraut is high in fiber, vitamin A, vitamin C, vitamin K and B vitamins. It's also a great source of iron, copper, calcium, sodium, manganese and magnesium.

Is store-bought sauerkraut fermented? Not always, especially the canned/processed kind. Real, traditional, fermented sauerkraut needs to be refrigerated. It is usually stored in glass jars and the label reads "fermented".

Kefir is a fermented milk product (made from cow, goat or sheep's milk) that tastes like a drinkable yogurt. Kefir benefits include providing high levels of vitamin B12, calcium, magnesium, vitamin K2, biotin, folate, enzymes and probiotics. Kefir has been consumed for well over 3,000 years. The term kefir was started in Russia and Turkey and means "feeling good."

Kombucha is a fermented drink made of black tea and sugar (from various sources like cane sugar, fruit or honey). It contains a colony of bacteria and yeast that is responsible for initiating the fermentation process once combined with sugar. Do fermented foods like kombucha contain alcohol? Kombucha has trace amounts of alcohol but too little to cause intoxication or even to be noticeable. Other fermented foods, such as yogurt or fermented veggies, typically do not have any alcohol at all.

Kimchi is a traditional fermented Korean dish that is made from vegetables, including cabbage, plus spices like ginger, garlic, pepper and other seasoning. It's often added to Korean recipes like rice bowls, ramen or bibimbap. It is more of a spicy kick.

Apple cider vinegar that is raw and contains "the mother" is fermented and does contain some pro-biotics. It also contains certain types of acids like acetic acid, which supports the function of probiotics and prebiotics in human gut. However, most vinegars available in the supermarket do not contain probiotics.

Add one tablespoon of apple cider vinegar to a drink twice a day. Before breakfast and lunch or breakfast and dinner, add one tablespoon of apple cider vinegar in your meal, and then start consuming more fermented vegetables like sauerkraut and kimchi or drinking kvass to really boost probiotic levels.

Kvass is a traditional fermented beverage that has a similar taste to beer. Much like kombucha, it goes through a fermentation process and contains probiotics. It's made from stale, sourdough rye bread and is considered a non-alcoholic beverage because it contains only around 0.5 percent to 1 percent alcohol. The longer it ferments, the more susceptible it is to becoming more alcoholic. If one has never tasted kvass, it has a tangy, earthy, salty flavour and can be an acquired taste. Sometimes it is brewed with flavours from fruits (such as raisins and strawberries) and herbs (such as mint) to make it more appealing.

Functional Foods

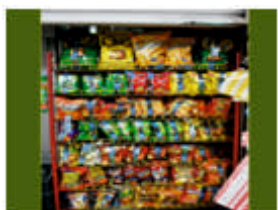
Any food that has positive impact on individual's health, physical performance or state of mind in addition to its nutritive value is a *functional food*.

Probiotics have traditionally been consumed in the form of food supplements like yoghurt (*Dahi* or butter milk). But now probiotic-fortified Yoghurt, buttermilk, Omega 3-fortified health drinks and baby foods are becoming more and more popular day by day.

Organic foods are foods that are produced using methods that do not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers. Mostly compost manures were used for such agriculture produce.



Fast food is the term given to food that can be prepared and served very quickly. While any meal with low preparation time can be considered to be fast food. In earlier years, roti prepared without use of water but milk as the base known as "Dashami", was a very popular traditional fast and convenience food, due to its easy preparation method and very good shelf-life. Now youngsters want McAlloo Tikki, McEgg, McVeggie and such other fast foods.



Convenience Food... Food that needs little preparation and it is pre-cooked food.

Traditional Festive foods:

Future Foods: Consumers are increasingly adopting "prevention over cure" approach. Flavored milk drinks and fortified juices are fast gaining popularity as alternatives to carbonated drinks, due to combined benefits of taste and health. India has the highest volume sales of malt based hot drinks in the world. Increasing focus on 100% fruit juice category.

There are a few projects focusing on the possibility of replacing animal products with other sources of protein. Energy & sports drinks is the fastest growing segment. Plant based milk alternatives have been shown to mimic cow milk and yogurt for taste.

* Man made meat can be a reality soon. Plant-based meat is not a typical vegetable patties. But this food is made to **look, taste, smell, feel and appear like meat**. A replica of the non-

vegetarian food options is created - chicken, mutton, beef, pork, and fish - but made entirely with plants & vegetables

- * Onion waste can be a source of good fibre food because of quercetin as phenolic ingredient in it
- * Grape-seed polymers can be a preventive food for Alzheimer's disease
- * Large quantity of human-derived gelatin can be a substitute for some 3,00,000 MT of Animal-based gelatin used for candy and deserts
- * Double layer Fibre from Oats

Space Foods....



Food Pills-Potatoes, ChickenPie, Sugar etc.

Ayurveda, considered as a natural system of healing wisdom, originated in India more than 5,000 years ago. This Sanskrit word *Ayurveda* translates as "the knowledge of life" (*ayur* means life, while *veda* means science or knowledge). **Ayurvedic medicine** is still practiced widely today in modern India and now also extends its influence worldwide, including the practice of following an Ayurvedic diet. As one of the oldest medicinal systems in history, Ayurvedic principles and foods work with the body's innate intelligence in order to promote natural self-healing. Ayurvedic diets are customized depending on someone's specific body type (or "constitution"), called a *dosha*. Because Ayurveda is based on rhythmic changes found in nature - including the rise and fall of the sun each day, the changing seasons, and the phases of life (birth, aging and death) - foods included in an Ayurvedic diet change throughout the year and can also fluctuate throughout someone's lifetime.

In Ayurvedic medicine, health is defined as a state of equilibrium with one's self (*svasthya*) and is also closely linked to one's environment. While following a nutrient-dense, **personalized diet** is very important in Ayurvedic medicine. Ayurveda is said to address the whole person - the body, mind and spirit - which means that diet, stress management, sleep, use of herbs and/or supplements, and movement all come together to support overall health.

Some of the main benefits associated with Ayurvedic diets include:

- Improved digestive and metabolic processes
- Improved health of the **gut/microbiome**
- Weight management
- Enhanced detoxification
- Less anxiety and more inner calm

- Improved fertility and sexual/reproductive health
- Improved efficiency in the excretion process (help passing bowel movements)
- Improved functionality and range of motion due to **decreased inflammation**

CASMB, is determined to work on the improvement and enhancement of SMBs, including the selection of nutritious foods too. 



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Nutritional Traditional Food

Dhanashree Aole



Author's Bio

Dhanashree (M.A.Sc., B.E) stepped into the field of Health and wellness Foods after 10 years of being a Metallurgical Engineer. The founder of [Kultured Vitality Foods LLP](#) (2021), she earned a title of "Detoxification Specialist" (Dt. Sp.®) from Academy of Natural Health Science in New Jersey. As a slow food enthusiast, she is obsessed with exploring slow-foods and detoxification therapies for wholesome living and longevity.

History of Food Culture

Traditional wisdom underlines the simple truth that food is the heart of our wellbeing. Historians believed that food is not simply meant for body nourishment but a gift from God. With multitude of crops growing, India, has a long continuous tradition of nourishing wholesome food. Historical events such as invasions, trade relations and colonialism have played a major role in introducing certain foods in India. Indian food is influenced by long standing vegetarianism within India's Hindu, Buddhist, and Jain communities. These food ideologies have been influenced by Aryan beliefs and practices from Vedic period. Traditional eating principles were focused on seasonally restricted and local food consumption [1].

Moving on from the Harappan phase, merging into the Vedic times and the Mahajan pada phase of the past, Indian cuisines have evolved and new food and cooking techniques were introduced. Agriculture became the mainstay and source of the dietary staple. Different eras describe different food ideologies that establishes strong heritage of traditional foods. Many cuisines that are still enjoyed today, first emerged during the Vedic period. Dating back to Indian civilization, in ancient literature- Bhagavad-Gita, Ramayana, and Manu smriti, every community that lived in India had a clear and separate food

belief system.

History of medicines is a fascinating subject. The dietary habits changed significantly with the emergence of Ayurveda- the natural medicine system. The origin of Ayurveda is attributed to *Atharva* Veda. This dietetic system is concerned primarily about the energetics of food as means of balancing the biological humors (Doshas). From centuries, its principles are greatly influencing the choice, taste, and texture of traditional foods. Ayurveda explains the benefit of eating according to season and describes traditional recipes combining six major tastes- Sweet, Sour, Salty, Astringent, Pungent and Bitter.

Later, with the invasion of Central Asia, Arabia, Greeks, the Mughals and Europeans, these communities made major contribution to the Indian cooking. With the intermingling of various cultures and communities, Indian cuisine absorbed new foods such as tomato, squash, chilli, and potato as staples, dry fruits, aromatic spices, meat, poultry etc. Thus, new cooking styles and cuisines were welcomed in Indian tradition [1].

Evolution of Traditional Recipes

Aryans set-up the idea of agriculture and domestication. Cows were domesticated for obtaining milk, that's how milk recipes became the part of Indian culinary. Aryans classified food materials based on their nature and use such as Sukhdhanya(cereals), Samidhanya (pulses), phala (fruits), shakna (vegetables), payovarga (milk products), Madhyavarga (alcoholic beverages) and Mamasavarga (animal products).With the entry of agriculture and rudimentary animal husbandry, cereals like barley and wheat were made available; and fruits such as ber (wild berries) and dates were also made available. In addition, Pulses such as peas, chana, kulthi, mung have been found before 1500 BCE. These people also knew oilseeds such as sesame, mustard, and linseed. In addition, some traces of fruits such as dates, melon, pomegranate, lemon, and banana have been noted.

All four Vedas have described different cereals and their use in our daily life. Some texts in Rigveda mentions consumption of wheat, lentils, millets, and sugarcane. Other most popular lentils used were red lentils, green lentils, and black lentils. In Vedic times, Barley was the staple food eaten by Aryans. For instance, "*Apupa*" was a form of cake prepared by frying barley, dipped in ghee and honey. The modern eastern *Malpua* are direct descendants of *Apupa*. Yet another delicacy was "Kheer or Payasa" means rice cooked rice with milk and sugar (2).

Aryans and other invaders influenced the Indian culinary and introduced the modern cooking techniques. The traditional

food processing techniques such as malting, germination, soaking, puffing, fermentation, were introduced to remove anti-nutrients and make the grains more digestible. Apart from this, some traditional cooking techniques include- Dum Pukht, Tadka (Tempering), Bhapa (Steaming) Achar (pickling), Tandoor cooking (clay oven cooking), Dhungar (smoking technique), Talna (Frying), Sekna (dry roasting), Ubalna (boiling). These techniques offered delicious flavours and unique aroma to the culinary recipes.

Later, Mughals brought new foods to the subcontinent from central Asia including dried fruits, plum, apricot, melons, and peaches, kebabs, pilaf, leavened wheat bread, stuffed meat, poultry etc. The Portuguese and British introduced new modern vegetables such as potatoes tomatoes and introduced baking technique. Moreover, the literature of Buddhist and Jains reveal the extensive use of rice and its gruel. Of the spices, turmeric is native to India. Ginger is native to South Africa, but wild forms have grown very early in India too. Garlic and onions are not mentioned in Vedic literature till the second century CE where they are forbidden to those seeking an austere life [1,2].

Foods consumed in Different Region of India

Given the diversity of soil, climate, culture, ethnic groups these cuisines vary substantially and use locally available spices, vegetables, and fruits. Different cultures treat their foods differently. Traditional recipes are rich in flavours, textures, and functional benefits.

Northern region and Western Region

Wholesome meals in this region mostly consists mostly of chapatis (rotis) accompanied by dal, vegetables (raw and cooked form) and yogurt. Rice is also consumed but in lesser quantity. Other side dishes consists of chutneys and pickles(preserves). People from these regions consume lot of milk base sweets. Ghee is extensively used in making sweets, parathas, or served during the main meal over rice or roti.

There are Mughalai and Kashmiri cuisines which shows central Asian influence. In Maharashtra, people relish both vegetarian food and fish & meat. Beaten Rice flakes (Poha) is also a traditional recipe, very popular breakfast in central region. On other hand, Punjabis savour paratha served with fresh makkhan (fresh butter), sarson ka saag, lassi (yogurt drink) and some meat from lamb and chicken.

Southern Region

Mostly rice-based cuisines are enjoyed in this region. Ideal

meal includes rice with dal, vegetables, chutneys, and pickles. Coconut is also a key ingredient in most of the chutneys and vegetable recipes. Fermented recipes (made rice and dal) such as Dosa, Idli, Medu vada is very popular. In addition, millet upma, sambhar, variety of vegetables is also enjoyed by the residents. Sweets are consumed in moderation.



Deserts Areas

In Rajasthan and Gujrat, plenty of dals and pickles (achar) are consumed as not many vegetables are available. Mostly vegetarian cuisines are consumed in these regions. The staple grains are wheat and millet. Pulses are heavily consumed; kichadi is also popular amongst the residents. Chikki made of puffed rice, peanuts, and sesame seeds is quite popular.

Eastern region

In west Bengal fish is the staple food. Rice and fish curry is famous combination. Sweets are consumed in plenty and is mostly milk or cheese based. Traditional recipes in this region use mustard oil as cooking medium. Odisha use less oil and spices and rice is the staple food. Traditional Odia food is *Dalma*. In Bihar, *Litti Choka* is a popular wholesome meal. Sikkim traditional food includes rice and vegetables such as bamboo shoots, *cheuw* (mushroom), *Nakima* (wild lily). Popular foods also include fermented vegetable soups and fermented soyabean.

Traditional Drinks-For centuries, sugarcane juice, *bael sharabat*, buttermilk, *nimbu pani*, Coconut water etc. are savoured. Other drinks Lassi, *kokam sharbat*, *jaljira* are recent additions consumed for hydration and good digestive health.

Traditional Sweets-From ancient times, *sweets/mithais* are integral part of Indian cuisines. *Laddus* and *kheer* originated in ancient India and are offered in temples or eaten in festivals. *Peda* is native to Mathura and like *laddu* it is offered to God. Another indulgent deserts recipe is *Jalebi* which is found in many ancient cookbooks, dating back to the 15th century. *Gajar ka halwa* became popular during the Mughal period and today also it is savoured in festivals and weddings. Few more authentic sweet delicacies from different regions include- *Puran poli*(Maharashtra), *Rosogulla* (West Bengal), *Mohanthal* (Gujarat), *Ghevar* (Rajasthan), *Malapua* (Bihar), *Mysore pak* (South India), *Soan papdi*, *Gulab jamun* etc.

Traditional Food- medicinal function

From the golden age of Indian medicine- *Sushruta* and *Charaka* set down the principles and practice of Ayurveda that preaches the well-being of body, mind, and spirit. In *Rigveda*, adds about diseases and medicinal plants. According to *Charaka*- without proper diet, medicines are of no use". Thus, several traditional foods are endowed with multitude of medicinal properties [2].

According to the ancient belief, sattvik food is savoury, soothing, nourishing, and conducive to spirituality. Ayurveda dietetics also preaches the right combinations of food that doesn't create imbalances in the body's function. Most popular traditional food - "*Khichadi*" (mix of rice and dal) is highly nutritious and was consumed by Aryans as healing food. Germinated ragi based recipes improves bioavailability of iron and zinc. It can be used as geriatric food or for treating anaemia.

Neem flower chutney is a traditional prebiotic recipe that supports healthy gut bacteria and kills the parasites. Ancient recipes encourage the use of many traditional grains that are rich source of resistant starch and promotes healthy gut bacteria. "*Sunni undalu*" (made of jowar, barley, rice) is curative of urinary tract infection. *Idli* is believed to work as antacid. Other vegetable and fruit-based traditional recipes include, *neem flower chutney*, *banana flower sabzi*, *kadamb fruit sabzi*, *moringa leaves roti or chutney*, *Solkadi* (Kokam fruit drink). These foods serve as prebiotic foods that maintain good intestinal health.

For centuries, fermentation is the major food processing technique used to preserve, make the food digestible (to break down the protein) and increase micronutrients in the food. During fermentation, *Lactobacillus* bacteria increase the acidity of the product; offers a sour taste and a rich flavour. Yeast that grows during fermentation gives the batter a spongy texture and add nutritional value to it. The antioxidant property of the fermented batter is very high. This food has good amount of digestible protein, vitamins and contains healthy microorganisms such as *Lactobacilli*, *Pediococci*, *Enterococci*, and *Leuconostocs*. For instance, *Dosa* & *idli* (South India), *Dhokla* (Gujarat), *Enduri Pitha* (Odisha) use fermented mixture of dal (urad dal, chana dal, black chana etc.) and rice. *Selroti* is a rice based fermented food using a local variety of rice, which is spongy and ring-shaped. It is consumed in Sikkim and Darjeeling. In northern part of India, *Kanji vadai*s served in festivals and weddings, during winters, to boost digestion. On the other hand, fermentation of millets is also commonly

practiced in Maharashtra and southern region. *Jowar Ambil*, *Ragi Hurihittu* etc. are popular millet-based cuisines. They are rich in dietary fibre and vitamins & minerals. These foods can be used as geriatric foods.

Jungles in India are full of variety of herbs (giloy, arjuna, milk thistle, punarnava, gymnema etc) which are added to the traditional foods for medicinal purpose. Spices such as cardamom, ginger, cloves, bay leaf, cinnamon, saffron, anise are used in tea, and other culinary recipes. These herbs and spices not only offer rich taste and aroma to the food but also has medicinal properties. Commonly used to treat, cold, viral flu, bacterial infections, liver disorders etc.

Time to re-adopt Traditional Foods

In ancient times, there were no ready to eat or frozen foods, and thus fewer lifestyle disorders existed. Earlier slow cooking was preferred for grains, pulses and even for some vegetables to extract the nutrients in right way. Later, with the invention of refrigeration, our eating habits and choices of food changed drastically. Now a days, people are more inclined towards time-saving cooking techniques such as microwaving the food or opting for ready-to-eat meals. These eating habits are interfering with body's natural healing mechanism. These modern practices are more common in urban areas than in villages. Moreover, the soil is losing its nutrients due to urbanization and excessive use of pesticides and chemicals in agriculture.

Efforts are being taken to adopt the foods as per yogic wisdom and modern nutrition science. It is interesting to know that the era of slow food has comeback as many food companies are using traditional fortification techniques for packaged food. Food and beverage industries are more concerned towards customer's health and using clean & natural raw materials to make functional products.

In essence, traditional food and cooking techniques possess strong fundamentals of how food nourishes each cell of our body and how it impacts human behaviour. As Hippocrates say- "We are what we assimilate". We must adapt the dietary guidelines on traditional and ayurvedic foods strictly to avoid life-threatening lifestyle diseases.

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Press Release

04/Final/September 2022, Mumbai

Global Food Processing Industry Deepens Ties with India Through ANUTEC International FoodTec India

As 16th ANUTEC - International FoodTec India 2022 Sees Nearly 21000 Visitors from 52 Countries networking with 450 Exhibitor

Glimpse of many success stories while setting guidelines for a roadmap For Country's food manufacturing hub.

Mumbai,September 2022: India's largest International Exhibition for Food & Drink Technology - **16th ANUTEC - International FoodTec India 2022**, came to a successful conclusion with over 21000 unique visitors with over 450 Exhibitors from 52 countries along with a series of seminars, workshops and full house conferences discussing sustainability of food industry challenges & solutions, food wastage, nutritional value of food, policy makers' involvement - to a broader audience, thus making the conversations more engaging and wider in scope.

The Expo was marked by the presence of high-profile dignitaries, from ministers to associations and media from Food Processing Industry and saw various industry bodies discuss innovative solutions suiting to India's agroclimatic & socio-cultural requirements.

Inaugurating 16th ANUTEC - International FoodTec India 2022, Shri Prahlad Singh Patel, Hon'ble Minister of State (MOS) for Ministry of Food Processing and Jal Shakti of India underlined the need of right techniques & machines for food processing sector said "Reducing compliance is important but alone it will not suffice to ensure the growth of Food Processing Sector, as there is also an urgent need to adopt the right techniques and momentum for processing our farm outputs particularly items like fruits and vegetables with short shelf life. Happy to experience the Innovative technologies at the display that will help create a modern infrastructure which can help in efficient supply chain management across MSME large and small segments. We will do all that we can to simplify the food policy and support the Food processing Industry."

Commenting on the success of 16th ANUTEC, **Mr. Milind Dixit, Managing Director, Koelnmesse India YA Trade Fairs** said "Not only did we have an increased number of visitors, but 16th ANUTEC also had many success stories, UNIPACK Engineering Private Ltd closed a bulk order from a single customer, Siddhivinayak Agri Processing Pvt Ltd announced a joint venture with its Netherlands partner Kuipers for their engineering division business. And success stories are still pouring in."



The Event witnessed participation from leading domestic players including Heat & Control, Clearpack, Syntegon, Hassia India Pvt Ltd, Mamta Machinery, Nichrome, Kanchan Metals, Vedic Pac Systems, Keron Food Processing Technologies, etc.

The conferences also saw various industry bodies discuss innovative solutions suiting to our agroclimatic & socio-cultural requirements as well as relaying the Food Industry's concerns to **Shri Prahlad Singh Patel**, ANUTEC International

FoodTec India
14.09.-16.09.2022
www.anutecindia.com

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Hon'ble Minister of State (MOS) for Ministry of Food Processing and Jal Shakti of India.

Conferences & Seminars at the 16th Anutec included:

- **'Central Government's Ministry of MSME Schemes and Support to Food Industry' organised by Chamber of Advancement of Small & Medium Businesses (CASMB)** on Day 1, where Shri Praful Umbre, Assistant Director (Grade-II), Office of Development Commissioner (MSME) spoke about the growing MSME sector in India and discussed measures to strengthen it further. Shri Praful also highlighted the benefits and financial & training support that Government of India extends to the MSME sector.
- **'Intelligent Intralogistics - Experience The Flow'** conducted by Ashwinkumar Inamdar, Manager of Business Development, Siemens on Day 1, was aimed at enhancing knowledge about the need for digitalization or a digital twin. Shedding light on the problems faced by manufacturers, such as the changes or disruptions in technology brought about by artificial intelligence and robotics.
- **'Star Awards & Conference'** starting off with a talk on **'Packaging at Crossroads'** organised by **IFCA** on Day 2, concluded with the Awards ceremony - 'IFCA Star Award' a prestigious award for the flexible packaging and carton packaging industries that serves as a platform for encourage creativity and drive continuous improvement.
- National Seminar on **'Sustainability of Food Industry Challenges & Solutions'** hosted by **All India Food Processors Association** on Day 2 focused on technical and policy requirements that can elevate the Indian food industry to global benchmarks. While raising Industry's concerns & challenges to **Shri Prahlad Singh Patel, MoFPI**, Dr Subodh Jindal, immediate past president, AIFPA highlighted "We request the government to help by letting adjudications take place within the State of Registration of the Entrepreneur that will give him more time to attend to production rather than running to distant locations and getting stressed under unnecessary harassment and exploitation, which kills sustenance."
- This was followed by a panel discussion on **'Ease of Doing Business'**, chaired by Dr. Prabodh Halde, Chairman, West Zone-AIFPA & head-Technical Regulatory Affairs, Marico, which discussed the need of adequate training and benefits of right policies & measures required for an optimal business operation.
- The **'Technical session'** organised by FSSAI, chaired by Dr. Ravishankar CN, director & vice chancellor, ICAR - Central Institute of Fisheries Education, Ministry of Agriculture & Farmer Welfare, Govt of India, focused on consumer quality and brand building tools. M A Tejani, former president, AIFPA & managing director, Gits Foods Products spoke about the challenges of extended producer responsibility (EPR) & central ground water authority (CGWA) issues.
- **'Plant-based: A Canvas for Innovation'** a conference by **Innova Market Insight** on Day 3, focused on the innovation in the plant-based sector. Talking about myriad ways of how brands could garner and retain the interest of Indian consumers, Padmaja P.B., Research Analyst presented major insights and identified future trends to drive this ever-evolving category.

Concurrently, there were also on-going:

- **Guided Factory Tour-** a technical live demonstration of various latest technology & innovation in the food & beverage processing, packaging industry displayed live & running at the exhibition show floor, aimed at giving buyers a feel of visiting a factory premises, evaluate/experience the live machine & gather technical insights from the experts of the respective booth.
- **Packaging Theatre-** where Innova Market Insights displayed India's top trends and concepts in sustainable and innovative packaging by setting up product examples to inspire manufacturers to develop their own innovative packaging. Mr Bhushan Patil, lead consumer insights, Innova Market Insights added, "The aim is to drive packaging innovation, and as well as approach them in terms of helping them develop their brand and their packaging."

Having asked about his experience at the event, **Mr. Michiel van Erkel "Agriculture Counsellor, Council General, Netherlands Embassy**, shared "I think it's very impressive to see the size of the exhibition, the number of companies being represented here; You see a lot of high-quality equipment being exhibited. I'm impressed. Overall, a very positive atmosphere with lot of companies, and fruitful discussions with the audience. So yeah, Positive at all.

Talking about the arrangements and the footfall at the exhibition, **Uday Kshirsagar, Managing Director, PIAB** comments, "Coming here made us feel that we are on the right track. We are focussed towards understanding the fast-changing dynamics in the market and getting along with it and delivering at that level the output which in sync with our five-year plan,".

Mr. Anant Chitale, Chitale Group said "I think ANUTEC - International FoodTec India has been a grand success. This is a really big event after long time, and it's good to see and meet lot of people here. When you visit such kind of events, you meet a lot of people in one platform, which would otherwise take months to visit. Apart from meeting, you also learn about the latest trends and ways to grow your business".

Mr. Sunil Kumar Marwah, CEO, Sector Skill Council for food Processing FICSI. said "I think the ANUTEC & ANUFOOD are taking place at the right time; with industry getting restarted in the positive frame of mind, such an event is most welcome. I could see so many new things, new machineries and foreign suppliers displaying their solutions. This is a constant process, a new technology means efficiency, effectiveness, and cost reduction".

The event was supported by All India Food Processors Association (AIFPA), Association of Food Scientist & Technologist of India (AFSTI - Mumbai), Chamber for Advancement of Small and Medium Businesses (CASMB), Indian Flexible Packaging & Folding Carton Manufacturers Association (IFCA).

About Koelnmesse

Koelnmesse-industry trade fairs for the food technology sector: Koelnmesse is an international leader in organising trade fairs in the field of food and beverage processing. Anuga FoodTec and ProSweets Cologne are established, world-leading trade fairs, hosted in Cologne/Germany. In addition to the events at its Cologne headquarters, Koelnmesse also stages further food technology trade fairs with different sector-specific areas of focus and content in key markets across the world, including India, Italy and Columbia. These global activities enable Koelnmesse to offer its customers bespoke events and leading regional trade fairs in a variety of markets, thus creating the foundation for sustainable international business. Koelnmesse is also ideally positioned in the field of food and beverages with its leading international trade fairs Anuga and ISM and its

global network of satellite events.

About Koelnmesse YA Tradefair Pvt. Ltd.

Koelnmesse YA Tradefair Pvt. Ltd. is an Indian Subsidiary of Koelnmesse GmbH, Germany a leading Tradefair organiser's in the world. KMYA is one of the leading Tradefair Organiser in India through their offices at Mumbai (HO), Delhi and Hyderabad with expertise in Food, Food Processing, Dairy, Foundry & varied industries.

Koelnmesse India is the most preferred partner by leading trade bodies & Industry Associations like: Ministry of Food Processing Industries (MoFPI), Federation of Indian Chambers of Commerce & Industry (FICCI), The

Institute of Indian Foundrymen (IIF), Indian Dairy Association (IDA), India Trade Promotion Organisation (ITPO among others. For further details please visit <https://www.koelnmesse-india.com>

The next events:

Cibus Tec Forum, Parma, Italy 25.-26.10.2022 ProSweets, Cologne, Germany, 29.01.-01.02.2023

Cibus Tec, Parma, Italy 24.10. - 27.10.2023

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Millets: Powerhouse on your plate!

Prepared by,
Sanjay Yenugwar

**Mtech (Food Sci.&Tech)
Twiga Enterprises (Partner)
CASMB Core Team Member,
Ex-Technical committee member of
Kenya Bureau of Standards.**



Do you know the rest of India's Millet Family: Kodo Millet, Foxtail Millet, Little Millet, Proso Millet and Barnyard Millet. In addition to Sorghum(Jawar), Pearl Millet(Bajara) and Finger Millet (Ragi),that's eight in all. Meet the Millets that could save your lives.

In a country wracked by lifestyle diseases, Millets are powerhouse of easily accessible and affordable nutrition. A rich source of minerals (Calcium, Iron, Manganese, Phosphorus and Magnesium), they're high fiber, low fat and gluten-free.

Their low Glycemic Index makes them ideal for diabetics. They lower cardiovascular diseases, bring down the incidence of colon cancer and enhance the body's resistance to chronic diseases.

Four decades ago, Millets were India's staple food. Now they're being replaced by Rice and Wheat to an extent that people have forgotten how to incorporate them into their daily diet. Millets have much more Calcium, Protein and Iron than Rice and Wheat.

Now they're slowly being re-introduced into the urban scenario, as a millet flakes, millet noodles, breakfast foods, millet ladoos, millet breads, Millet chiwda, millet sweets. Unfortunately, in rural areas they have been sidelined- the current generation has forgotten how to cook them.

Hyderabad based Millet Chef company has made exclusively millet based bakery products and opened "Millet Chef" bakery outlet.



➤ Reviving sustainable agriculture:

The Millet Network of India(MINI) unites civil society groups working on reviving traditional and sustainable systems of agriculture. Millets are suited for the harsh climate. They need less water and no chemical inputs. We are living in times of climate change: Under these circumstances millets are one answer.

Nevertheless, thanks to the many resources online, and organic shops sprouting in every city, it's not difficult to add them to your daily menu.

➤ **Powerhouse Nutrition:**

Explaining why millets are as good for the country as they are for your health, you need 5,000 liters of water for 1 kg paddy, millets require less than one fifth of that. They are the best option since they have minimal requirements, need no pesticides and can grow in multiple soil conditions. With their extensive root systems they improve soil fertility and thrive in stressful conditions.

India's eight different millets produce fodder for cattle and rich food grain for people. They have a long lasting shelf life and not affected by pests. They drought proof the country.

Millets are complex carbohydrate, providing people with slow digesting and normalizing sugar.

➤ **Compare Nutrition:**

Nutritional comparison of Ragi, Rice and Milk:

1. 100 gm Sprouted Ragi flour:

- i) 350 mg of Calcium
- ii) 4 mg of Iron

- iii) 8 mg of Protein

2. 100 gm Rice:

- i) 28 mg of Calcium
- ii) 0.8 mg of Iron
- iii) 7 mg of Protein

3. 100 ml of Milk:

- i) 115 mg of Calcium
- ii) 0.1 mg of Iron
- iii) 3.5 mg of Protein

➤ **Ragi Butter milk making process:**

1. Ingredients:

1 tbsp of Ragi flour, 1 cup Water, ½ cup Buttermilk and Salt to taste.

2. Process:

Bring the water to boil. Mix Ragi flour in cool water. Add to boiling water. Stir well to remove lumps. Simmer till the mixture thickens. Once it cools completely add salt and buttermilk. Mix thoroughly. This cooling drink, rich in Protein, Calcium and Iron is ideal for a hot summer day. □

Unbelievable achievements in Traditional Foods, of a Village Girl, Ms Prachi Patil



Coming from a middle-class Maharashtrian family with no history of entrepreneurship, **Prachi Patil (Ms PP)** Co-founder, Suzu Agro LLP Ltd, spoke to **CASMB Advisor, Dr Prakash Kondekar (Dr PK)**.



Dr PK - Ms Prachi, tell us a about your journey from Education, Corporate experience to Entrepreneurship.

Ms PP - I studied in Maharashtra only, until I completed my engineering and then joined Texas State University, where I did a course in engineering and an MBA. I aspired to become an astronaut like Kalpana Chawla during my early years. Still, due to the lack of any learning opportunities in the field of aeronautical engineering, I had to choose an alternative career.

After finishing my US studies, I joined Schaeffler, a leading automotive company. I worked with the company for three years and traveled all over the USA. Later, I had a chance to work at the company's headquarters in Germany as a project manager. Those were beautiful years when I traveled, explored new food and cultures, and met people. Subsequently, I returned to India just before the pandemic, married, and launched Aaj Pakao.

Dr PK - Tell about your entrepreneurial journey.

Ms PP - After returning to India, I had a lot of discussions with my husband Aditya, and we were both looking at various business ideas. One day, I asked him a simple question about India's lack of ready-to-cook canned food options. We explored the local markets and found very few costly or unpalatable options. That's when we decided to launch a business in this field. We bootstrapped and launched Aaj

Pakao using our savings of about 10 lakh rupees.

The first year was quite difficult as we spent most of the time and money building the products and getting necessary licenses and approvals from FSSAI, ISO, USFDA, etc. we earned a nominal revenue of about 3 lakh rupees in the first year and had to live very frugally to cut costs as far as possible. In the second year, the business took off, generating a revenue of about 40 lakh rupees. Our perseverance paid off, and Aaj Pakao is now manufacturing 15-20 tonnes of products each month, and apart from clients in India, we are exporting to the US, UK, UAE, and some African countries. We plan to set up a manufacturing facility and scale the brand into offline markets all over India and abroad. Now, the company is in its third year, and we are aiming to generate a revenue of one crore plus rupees.

Dr PK - What service(s) or product(s) do you offer?

Ms PP - We offer various authentic ready-to-cook packaged foods hand-picked from different parts of India. We currently offer a product portfolio comprising six beans and seven curries, of which three are sprouts based. We have also introduced new products such as the famous Misal pav from Maharashtra, Pav Bhaji, and Mangalorean ghee roast.

Dr PK - What is unique about your label brand?

Ms PP - Aaj Pakao is a unique brand with its roots in Indian cuisine. We focus on families where cooking is a significant part of the daily routine. The aim is to make cooking less time-consuming by offering a range of products that are quick to make and accessible to all, including men who prefer to cook. We have built a people-centric brand that focuses on customer delight and convenience. At Aaj Pakao, we constantly innovate and create new products to expand our offerings. For instance, we started with beans and introduced sprouts, as these are items that require several hours of soaking and sprouting

before being ready to cook. Through our products, the cooking time is significantly reduced, and using Aaj Pakao; one can enjoy a sprout salad almost instantly.

A core differentiator of our products is that each gravy represents a food region, not just a state. We have introduced authentic regional (Traditional) flavors such as Pav Bhaji, Mangalorean Ghee Roast, Goan Xacuti gravy, and Chettinad gravy. Our tech-driven manufacturing processes offer our customers the best taste, hygiene, and nutritional value.

Dr PK - What made you choose this type of business?

Ms PP - During my days in the US, I relied extensively on canned, ready-to-cook food items. These used to be of incredible help as they were easy and fast to cook. After returning to India, I realized there was a lack of quality products in the ready-to-cook segment in the country. With millions of urban families spending a lot of their time cooking, my husband Aditya and I realized that a venture in this field had immense potential, and we launched Aaj Pakao.

Dr PK - What was your mission at the outset?

Ms PP - Our mission was to create products that help cook better Indian dishes without spending long hours on preparations. Each household has a unique cooking style and modification of recipes. We aim to create products that preserve this uniqueness and allow users to add their tastes or spices to best use our offerings.

Dr PK - How many employees are there in your organization?

Ms PP - We have a team of about 15 people with a mix of full-time on-premises, contractual and part-time workforce. We have people taking care of verticals such as production, marketing, sales, finance, PR, etc. So far, we have adopted a lean approach wherein we operate core functions and processes in-house and engage agencies or part-time workforce to outsource specific tasks.

Dr PK - What are your company's goals?

Ms PP - Our goal is to create an extensive range of ready-to-cook products that simplify cooking by reducing the preparation time alongside offering the flexibility of customizing taste and ingredients. We are building an inclusive range of products for the global audience that is easy to cook and accessible to all.

Dr PK - What have been some of your failures, and what have you learned from them?

Ms PP - We had some failures due to our inexperience in the field and the lack of due diligence, but we have learned from

each. One of the biggest learnings is that running a startup is a massive challenge with some inevitable setbacks. No matter how qualified and experienced we are or how strong the vision and idea are when a start-up goes to the market, there are bound to be hurdles, and one has to be resilient and patient to overcome those.

Dr PK - What was the inspiration behind turning into an entrepreneur?

Ms PP - I have known my husband, Aditya, since my school days in Dhule, Maharashtra. We remained connected despite choosing different career trajectories and going to the US for education and work. There came a time when we had a serious discussion about how we wanted our future to be. Aditya knew he didn't want to spend his life utilizing his talent for others. He convinced me to consider entrepreneurship. When I returned to India after quitting my job before the pandemic, he did the same and decided to embark on our entrepreneurial journey.

Dr PK - Key things to consider before starting a startup?

Ms PP - In my opinion, the most significant consideration has to be the hardships and the economic costs of launching a startup. When in a corporate job, one is assured of a fixed salary at the end of the month. However, with a startup, you have a vision in mind, and the earnings might take months or even a year. There would be a lot of sacrifices in terms of lifestyle, family time, or financial wellness, and often startup founders give up in the face of such daunting challenges. If one is sure about the vision and committed to hustling, then there is no reason to stop.

Dr PK - What are some of the biggest mistakes you've made?

Ms PP - We encountered a major setback right in the early days of our operations when we launched our initial range of products. We had a clear concept and design in mind, and we launched our products based on our assessment without a thorough market analysis or adequate due diligence about trends and practices. Thus, when we launched, we faced issues with the packaging, and eventually, we struggled to get buyers. We had to revamp our packaging design, etc., which cost us significant time and money.

Dr PK - Your success tips for young and aspiring entrepreneurs

Ms PP - My advice would be to pursue your goals with confidence. If you have an idea or a solution to an existing problem at scale, go wholeheartedly for it. Self-belief is key to entrepreneurial success.

Dr PK - Why you focused on traditional Indian food?

Ms PP - Well, even though market is growing with multiple options in fast food or junk food, after Covid people have started recognizing importance of healthy and home cooked meal. And when it comes to home cooking what is better than something that your grandma or your mother used to make? In those time cooking food was like a spiritual process – doing 'sanskar' on the particular type of food, which was enabling maximum nutrition and taste in the dish. There were certain rules about heating process, adding spices, steaming, etc which was making the food more digestible. E.g. sprouting to the beans has been an old long process, where it makes the beans more nutritious overnight and adds vitamins and makes the protein consumable. Considering our rich history in traditional cooking we decided to bring back the culture in a modern way which will appeal the new generations and will keep the importance of food values.



Dr PK - What are these Nutritional Traditional products those you have chosen?

Ms PP - Our retail products include two major types. Ready to Eat (RTE) & Ready to Cook (RTC). RTC has beans, sprouts and gravies. The speciality of beans or sprouts is that they are high source of protein and are soaked for more than 12 hours to release complex protein. Along with that great source of mineral and vitamins like calcium, iron, manganese, phosphate, vitamin B1-B9, etc, which are essential for everyday functioning of a body. The gravies are made with fresh vegetables with lots of fibres, and original spices which include turmeric, chilli powder, etc and herbs, which have great medicinal and digestive properties. Gravies like Goan and Chettinad are made with fresh coconut which is good fat source. Our RTE is focused on different cuisine from India like Chole, Pavbhaji, Misal because they are very popular in terms of taste but they are a great power pack combination of nutrition like proteins, fibres, fats, etc. Our future focused will also be to bring more variety of Traditional foods from all regions of India.

- Interview by Dr. Prakash Kondekar



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Health Ingredients

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Gourd etc.



Ready to Cook Ingredients

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Need to Reconsider Rearranging Your Platter?

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Food for thought!

When we were young, for us home-cooked food was healthy food. Then in the 90's came the breakfast revolution with the advent of cornflakes to our breakfast tables. This was a new healthy! Then, came green tea, which was followed by quinoa, oats, smoothies, muesli, seeds, ready-to-heat and ready-to-eat food. They occupied your dinner tables and cluttered it and gradually substituted the traditional home-cooked food.

This is your platter of Indian homemade food! There is vegetables, lentils, carbohydrates, cereals, legumes, dairy and pickles. Do you know pickles are probiotics? They do just what your little bottles of probiotics do! What about your popular snack food: packet of protein bar? Can it replace this plate? You have been made to believe, it can! Protein bars have become a convenient source of nutrition. Many people enjoy them because they are a quick way to add protein, micronutrients, healthy fats, high fibre and other nutrients to a busy and active lifestyle. Protein bars you think are healthy. Think again, because they are not! Anything that is packed, processed and preserved cannot be healthy!

Do you know the determinants governing life expectancy? According to the reports, only 20% of the average lifespan is governed by the genetic factors and rest 80% by the potentially modifiable lifestyle and environmental factors. Do you know who are the healthiest people in the world and live measurably longer? People who live in the blue zones. I am talking about Okinawa in Japan, Icaria in Greece, Sardinia in Italy, Nicoya Peninsula in Costa Rica and Loma Linda in California. These are five regions around the world with the world's highest number of centenarians. So the people living here must be doing something right. What do you think they must be doing or eating?

Low fat almond milk or soy milk or ready-to-eat breakfast,

smoothies, instant noodles, or yogurt cups and packaged oatmeal? Well none of the above! People living in these blue zones live in close co-ordination with nature by intertwining their daily chores with natural resources. They know their sense of purpose, have their own innovative ways to deal with stress. They eat their smallest meal in the late afternoon or early evening, and then, they stop eating when stomach is 80% full. People living in these blue zones have dietary habits focussed mainly around natural and seasonal grown vegetarian foods. They prefer eating home-cooked food. They stick to time honoured recipes: food that is passed on to them from their ancestors.

Are we eating healthy to support longevity? Can the concept of healthy living in the blue zone be explored in the Indian context? A detailed study done by the medical journal, The Lancet mentioned that we Indians, irrespective of our socio-economic status, tend to consume more of carbohydrates, sugar, less of protein and plant protein than what is recommended, despite having access to diversified dietary sources. Thus the average Indian diet is unhealthy, and devoid of essential nutrients.

Can you think of optimizing your own '*Life-Radius*' for a happier and a longer life? Well, you must be wondering what '*Life-Radius*' is! It's the area close to home, usually within 8-10 km, where we spend 90% of our lives. If you and I can design our '*Life-Radius*' it can improve our life expectancy. We can do this by engineering our kitchens, so that we eat about 100 fewer calories, by engineering our homes, so we burn a couple of hundred extra calories through physical activity. This can be achieved through small changes such as putting a bowl of fruit on the counter, serving food at the stove and not the dining table, using hand tools wherever possible rather than relying on small tools.

In our country, there are several food-related traditions, passed down from our ancestors. Do you remember what these are? Not eating after the sunset, eating jiggery with neem leaves on the Hindu New Year, having meals on the floor, using hands to have meals and serving food on banana leaves are few of the traditions pertaining to food. These traditions may seem archaic and irrelevant to those who value only modern and glitzy methods. But it is you and I who need to revive these traditions in pursuit of healthy living, not only because it closely resembles the habits of the people residing in the blue zones but also because of the scientific relevance it holds.

In India, traditional food could be *daal-chawal* or *roti-sabji* or *sarso-do-saag* & *makki di roti* or *idli-sambar* or *shrikhand-puri* or *fish-rice* or *jhunka-bhakar*. They are made from locally sourced ingredients and they complement the local weather conditions. In short our traditional foods is our health food.

There is no need to consume healthy fat from packaged foods when coconut oil and ghee already charge your home-food with healthy fats.

Our traditional food is replete with medicinal qualities. Yogurt for example is a source of calcium and is a low fat alternative to dips made of mayonnaise. Spinach and tomatoes are the super-foods that provide antioxidants, vitamins, and minerals to strengthen our immunity. Garlic features greatly in Indian cooking which is good for your heart, immunity and metabolism. The active compound, gingerol, found in ginger has an anti-inflammatory and anti-oxidant effect. Whole grain cereals provide the necessary carbohydrate for energy and fibre for our gut health. Legumes are rich source of dietary fibre, healthy fats, folate, vitamins and minerals. The flat, disc-shaped seeds, known as lentils, come in a variety of colours and flavours and are a great source of plant-based protein and soluble fiber.

Indian food is made using plenty of spices that satisfies our taste buds. The golden yellow spice, turmeric, is an anti-oxidant, cardamom- anti-oxidant & cancer fighting properties. It also prevents cavities. Another spice, cinnamon-reduces cholesterol levels, also the risk of heart diseases. Cumin helps lower blood sugar levels, and its continuous use significantly reduces weight and body fat. The coriander seeds have antifungal properties. Cinnamon spice comes with a plenty of health perks as it improves blood glucose and help with insulin sensitivity. Fenugreek herb help lower blood sugar levels in diabetics or pre-diabetics. Asafoetida or *hing* which has the power to uplift the taste of any Indian dish functions as an anti-viral, anti-bacterial, anti-inflammatory, sedative and diuretic. All of these spices are commonly used in Indian cooking.

The Indian meal is a close-knitted delicacy involving harmony amongst all the above condiments, giving a delightful taste experience, yet not losing their unique flavour and aroma at the same time. Indian meal uses locally available and seasonal fruits and vegetables and hence reaps in maximum nutritional benefits. A traditional Indian meal will provide you a balance of carbohydrate from cereals, proteins from legumes, pulses, animal food or dairy, vitamins and minerals from vegetables and fruits that you need for a balanced diet making Indian cuisine a healthy one around the globe.

Can packaged and processed foods replace traditional food? The answer is no! I will tell you, why. The ingredients are questionable, the hygiene is questionable and the packaging itself is often harmful. Although the research fraternity across the world are making efforts to design, fabricate and launch sensor embedded or biodegradable or edible packaging systems in the market to monitor food freshness, but the research is still in its infancy!

Let me explain this by taking the example of the most common packaged foods used in our kitchens.

Let's start with ingredients. Most packaged food have three most common ingredients: Preservatives, excess salt and color. And let me tell you all three are bad for you. Preservatives end up killing the good bacteria in your body. They can trigger breathing problems, also make children hyperactive and in extreme cases cause cancer. Which food items have preservatives? Almost everything that is packed! This includes your cereals, biscuits, crackers, bread, cheese, ready-to-eat meals, sauces, soups, everything.

Ask yourself a question. What is the shelf-life of home-made baked cookies? Two-three weeks maximum if kept out of fridge. Then how is it your biscuit packet stays intact for several months, even years? Because it comes with chemicals which extend their shelf-life, but reduce yours. Same is with these heat and eat meals. A lot of us resort to them these days and understandingly so, our lives are busy, and there isn't enough time to cook all three meals a day. So microwave meals have become a common. They have replaced the traditional meals.

India's frozen food market is worth \$1.2 billion. You know what's amusing? A lot of ready-to-eat meals can be kept at room temperature for months. Imagine keeping a home-made *daal* or curry outside the fridge for months. What do you think would happen? Now imagine the amount of preservatives go into making these package meals. Same with packaged bread, cakes and everything else that is industrially packaged! Salt too is a preservative. Most of the packaged items including chips, noodles and fries are loaded with salt. It extends their shelf-life, it enhances their taste, but at what cost?

Salt has sodium and what happens when you consume too much sodium? Consuming too much sodium increases the risk of stomach cancer, heart diseases and premature death. For a lot of you instant noodles, bread, ready-to-eat and microwave meals, has replaced your traditional breakfast. But is this habit sustainable? Should you continue eating packaged food even after knowing its downside? Is it worth risking your health?

So what do you do? Cook three meals a day while you also juggle work life. That's far from what I am suggesting. The point is to become more aware and reduce the intake of packaged and processed food. Realize how some of the most common items in your kitchen can be harmful for you. Those colourful cereals that you eat every morning, their food color, the color has acrylamide and causes the danger of cancer.

You know what else has food color? Packaged bread, cakes and biscuits. How do you think some of those biscuits are unnaturally dark or orange or pink or how is it that they come with colourful creams? Sure, your home-made snacks may

look dull, but they are safer. How many of you munch on microwave popcorns? Do you know the popcorn bags are lined with Per fluorinated compounds (PFC's) that prevent oil from seeping through the popcorn bags, which is good, but when heated, these compounds degrade into chemicals that can cause cancer.

You see, we are told very little side of the packaged food because they save time. They are tasty because they come to our rescue, we conveniently assume that they are safe. A samosa, we say, may be a better snack followed by a workout of course than munching on microwave popcorns without any idea about what's going inside your body.

It's better to eat that ghee laced paratha than preservative filled cereals for breakfast. We know very little about the ingredients that go into making these packaged foods. And I am talking about the real ingredients not the ones that are listed on the packet. We know very little about the hygiene situation of the place where these food items are made and processed. In June 2022, *Salmonella* bacteria was discovered in the world's biggest chocolate factory, following which

production was stopped. This factory was producing one of the finest Swiss chocolates.

Well, everything boils down to our choices. While we know how healthy Indian food is, where we often go wrong with is our over-indulgence in fried Indian snacks. These are usually consumed after 6 pm and result in bulging tummies and high fat percentages. This is the first step towards all kinds of lifestyle issues like diabetes, thyroid, obesity, PCOD etc. So, what really hurts our nutrient quotient, our grandmother's recipes or new modern living techniques?

Long story, short. It is time to rethink what we take for granted. It's time to reconsider the food in our kitchen and on our platter. I know it's easier said than done. I know it's not possible to throw out every possible packaged food item, preservative laden food items or processed food products from your kitchen. But you can always limit their consumption. So if you are looking to stay fit, it is your goal to take care of your body then do what people in blue zones do.

Maximize the intake of home-made food. ☐



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Traditional Probiotic foods

By: **Trupti Bhat**



Let us discuss about Traditional Probiotic foods today! What are they exactly?

Probiotic is neither a new term nor a new technology, it has been a part of the ancient history and traditional wisdom of our Indian Culture! Probiotic also means "for life" and it is currently used to name bacteria associated with beneficial effects for humans and animals.

Probiotics are live microbes that can be formulated into many different types of products, including foods, drugs, and dietary supplements. Now this statement often comes across to many as unbelievable or contradictory because, most of the times "microbes" have been discussed as well as heard of as trouble makers and organisms of concerns causing diseases, especially during the pandemic, then how is it that they are being considered in so many formulations? To ease out on the confusion in the minds of common people- just like good and bad people, we have the useful probiotic microbes and the harmful pathogens as two separate categories and very relatable to the Indian concept of *good karma* and *bad karma*.

Probiotic organisms can be termed as "*sookshmajeeva*" with "*good karma*" i.e. microbes that are helpful for the guthealth. Probiotics are often used traditionally in Ayurveda but they are not limited to just the medicinal Ayurvedic treatment. Infact, foods with probiotics have been a part of our Indian traditional diets with fermentation being used as the most common food preparation technique! The practice of consuming fermented foods has prevailed across civilizations and strata of societies over centuries. One can, therefore, safely assume that there is an obvious tangible benefit to the consumers from such products. As we now understand, the virtues of these foods are attributed to the probiotic organisms associated with them. The organisms that are best studied and generally regarded as probiotics are species of the

bacteria *Bifidobacterium*, *Lactobacillus*, and *Streptococcus*, and also including yeast such as *Saccharomyces boulardii*.

Bacteria are normal inhabitants of humans. Half of the wet weight of colonic material is due to bacterial cells whose numbers exceed by 10-fold the number of tissue cells forming the human body. Normally the stomach contains few bacteria (103 colony forming units/ ml of gastric juice) whereas the bacterial concentration increases throughout the gut resulting in a final concentration in the colon of 10¹² bacteria/g. Bacterial colonization of the gut begins at birth, as new-borns are maintained in a sterile condition until the delivery begins, and continues throughout life, with notable age-specific changes (Mitsuoka, 1992).

Bacteria, forming the so-called resident intestinal microflora, do not normally have any acute adverse effects and some of them have been shown to be necessary for maintaining the well-being of their host. The mechanism used by bacteria for their survival in this environment and to avoid colonization of the same intestinal sites by freshly ingested microorganisms, including pathogens. Therefore, it could be assumed that dietary manipulation of gut microflora, in order to increase the relative numbers of "beneficial bacteria" could contribute to the well-being of the host.

Fermentation is said to be one of the oldest forms of food preservations in the world. It is said that during the process of fermentation the microorganisms convert the chemical composition of raw materials. Fermented foods contain many microorganisms that are present as natural indigenous micro biota in uncooked plant or animal substrates, utensils, containers, earthen pots, and the environment. Fermented rice products like *Sura*, *Sidhu* not just give the desired therapeutic effect but also nutritionally enriches the body. The fermented drinks with curd, buttermilk and the Ayurveda dietetic preparations from the same like *Dadhi kurchika*, *Takra* and *Takrakurchika* also give the same benefit. *Dadhi* is said to be rich in lactic acid bacteria and has the probiotic effect, which helps to maintain intestinal health and helps in controlling diarrhoea in children. The lactic acid bacteria produce bioactive compounds such as diacetyl, hydrogen peroxide, and *Reuterin* that suppress the normal growth of undesirable flora, especially *E. coli*, *Bacillus subtilis*, and *Staphylococcus aureus*. The *Dadhi Kurchika* mentioned in dietetic preparations of Ayurveda will also have a probiotic effect.

Species of *Lactobacillus* and *Bifidobacterium* are most commonly used as probiotics, but the yeast *Saccharomyces*

cerevisiae are used as probiotics. Lactic acid bacteria including *Lactobacillus* species, which have been used for preservation of food by fermentation for thousands of years, can serve a dual function by acting as agents for food fermentation and, in addition, potentially impart health benefits.

Traditional foods can be categorized as non-fermented or fermented foods. But it is implicated that mostly fermented foods have been the centre of attraction while the non-fermented ones still remains unexplored. Fermented foods are categorized as (i) vegetable-based (ii) cereal based (iii) meat based (iv) milk based (v) legume based and (vi) other fermented foods. When it comes to traditional foods especially of probiotic importance the most common is *curd*, *chhaas*, *lassi* which is dairy based. The rice based fermented products are believed to confer more health benefits over dairy-based products

In India, fermented foods which are usually consumed are categorized based upon their base material. Traditional foods such as *dahi*, *dosa*, *inziangsang*, *iromba*, *fermented rai*, *kanji*, *gundruk*, *sinki* and *handua* were reported to have significant medicinal properties (Satish *et al.*, 2012). Some fermented products such as *lassi*, *kanji*, *koozhu* and *dahi* are consumed unknowingly as, probiotic drinks, by local people (Satish *et al.*, 2012).

Lactic acid bacteria play important roles in many Asian fermented foods, especially in non-dairy fermented vegetable products. In fact the probiotic functions of lactic acid bacteria (LAB) in non-dairy fermented foods in Asia remains to be fully investigated. Also, there are limited reports regarding isolation of LAB from Indian fermented foods available in the past; however, due to growing consciousness about potential health benefits of LAB, we now have scores of reports in this field. Recently, LAB isolated from *dosa* was shown to inhibit pathogens such as *Bacillus cereus*, *Pseudomonas aeruginosa*,

V. parahaemolyticus, *Staphylococcus aureus*, *Listeria monocytogenes* and *Aeromonas hydrophila* through their antibacterial protein bacteriocin (Pal *et al.*, 2005). Further, type, stability and applicability of such bacteriocinogenic cultures need extensive investigation.

Indigenous or traditional fermented foods are part and parcel of a specific culture since these are intimately intertwined with the life of local people. Fermentation processes employed in the production of these indigenous fermented foods often rely entirely on natural microflora of the raw material and the surrounding environment; and procedures are handed down from one generation to the next as an inheritance process. Since traditional food fermentation industries are commonly home-based and highly reliant on indigenous materials without the benefit of using commercial starter cultures, microbial assemblages are unique and highly variable per product and per region.

Perhaps with more amount of scientific basis, it is probably difficult to visualise the simplicity of preparations of the recipes from traditional wisdom. It is also believed that after cooking, the probiotic organisms will not survive. However since it is traditional wisdom, it is my personal belief that it does have scientific basis and perhaps the concept of endospore forming lactic acid bacteria and specific beneficial bacterial strains have not been adequately researched in the traditionally cooked recipes. It is also a scientific fact that endospores survive the harsh conditions and grow when the appropriate conditions are again available. Perhaps the use of traditional utensils, equipment and methods may be a wise choice and a method to only allow beneficial endospore to survive and grow in our gut when we consume the traditional recipes. In order to simplify the understanding, below are a few traditional probiotic recipe images with the use of traditional tools that can help simplifying this topic!

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Dodakkas - Place of Origin -Mangalore Karnataka



Chandoda panavarchi Feni

Place of Origin - Konkan-Maharashtra



Traditional Steamer Modak Patra made from COPPER



Anarsa

Place of Origin believed to be: Konkan Maharashtra



Colocasia, a traditional Delicia of nutritional importance

Snehal S. Gaikwad

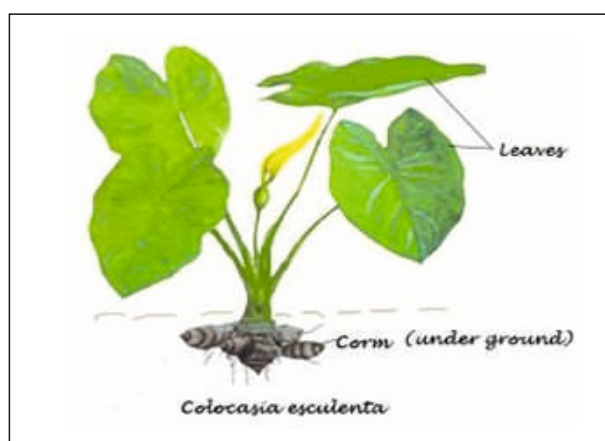
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Introduction:

Colocasia *Colocasia esculenta*, a wild edible traditional plant belonging to family Arum (Araceae) grown majorly in tropical and subtropical regions of the globe. Colocasia is a considered to be sacred foods and hence known to be 'The Gift of Ancient Gods.' Colocasia, generally known as elephant ear for its large-sized leaves, are the perennial crop. Cocoyam, Dasheen, Elephant's ear, Arvi, Arbi, Patra, Alu, Kimo, Dalo, Saru, are some of the other names of Colocasia.

The origin of this plant is believed to be of Southeast Asia, especially the Indo-Burman hotspot region. Colocasia is one of the crucial crop natives to northeast India, where it is found mainly in cultivated and wildy grown habitat. According to FAOSTAT, the data states that Colocasia ranks fifth for being the most consumable tuberous crop. Due to immense potential and ethnic value among the folks, Colocasia is thought to be a crop of nutritional security to the rural residents. The newly developed breed of Colocasia is recognised as Black Elephant ear plant or Black magic plant.



Nutritional value:

Colocasia leaves are a good source of nutrients as mentioned in the table below. These nutrients helps in health-beneficial and nutraceutical properties.

Nutrient	Value
Water (g)	85.66
Energy (kJ)	177
Protein (g)	4.98
Carbohydrate (g)	6.7
Fat (g)	0.74
Total Dietary fiber (g)	3.7
Sugar (g)	3.01
Calcium (mg)	107
Iron (mg)	2.25
Magnesium (mg)	45
Potassium (mg)	648
Phosphorus (mg)	60
Sodium (mg)	3
Zinc (mg)	0.41
Vitamin C (mg)	52
Vitamin A (IU)	4825
Vitamin E (mg)	2.02
Vitamin K (µg)	108.6
Niacin	1.513
Folate	126

Reference: USDA)

Table: Nutritional value of Colocasia leaves

Ethnicity of Colocasia:

Colocasia was the most significant food crop throughout the islands of Hawaiian. The roots of these plant were boiled and used as a starchy vegetable to make poi. Even the pacific islands contemplate Colocasia as the esteemed food crop over the processed foods. Lap lap (Vanuatu), Palusami (Samoa), Faikakai (Tonga), Baseisei (Fiji), Rourou are the popular delicacies of the Pacific Island.

Colocasai is reviewed to be the traditional heritage of India. Different region of India has its traditional recipes utilizing the corms (tubers) or the leaves to cook to delicious items. Kosu aru hukoti (Assam), Patrode oggarane (Gujarat, Maharashtra),

Aluche fatfate (Maharashtra), Rikwach (Uttar Pradesh, Bihar, Punjab), saru magura (Odisha), chembila curry (Kerala) are the tempting dishes made from Colocasia leaves. Similarly, arbi (the corms of Colocasia) are utilized in preparation of masala arbi, arbi fry, dalma (Odisha), chembu puzhukku (Kerala) etc.

Patrode, as its name derives from the two Sanskrit words, Patra means leaf and vade/vada means dumplings. Patrode, a signature traditional dish of Maharashtra as well as Gujarat. But referring to its originality and popularity, it is a Mangalorean- Malnad cuisine of coastal Karnataka, Kesuvina patrode (Patrode oggarane). The Himalayan state, Uttar Pradesh, and Bihar restyled the dish and made a part of their diets as well. This delicious cuisine gets its unique name and method of preparations varying with the states and localities. In Northern states it is known as Rikwach, while in Gujarat it is Patra, Maharashtra- Alu wadi, Konkan and Karnataka - Patrode/ Pathravade. Patrode let's say, Alu wadi, is a seasonal item, especially during monsoons. The hot crispy fries in monsoon are just lip-smacking to the taste buds. These crispy items are prepared by Colocasia leaves, stuffed with spicy Bengal gram mixture, rolled, steamed and cut into the thin wadis. These wadis are further shallow-fried and served hot crisped.

Alu wadi, an authentic item of Maharashtrian culture is prepared during occasions and festivals. The leaves of Colocasia are generally available during monsoons at the month of Hindu Calendar, Shrawan. Moreover, it is made at the festivities of Ganesh Chaturti, Dusshera, Gudi-padwa, Akshay Tritiya and many other occasions. Alu-wadi takes a significant place in the Maharashtrian thali when served with Puran-poli or Kheer-Puri.



Figure : Alu-wadi (Patrode)

Patrode has been recognised as one of the traditional food recipes by Ministry of Ayush. The recipe of this traditional food has been mentioned in the book named, 'Traditional Food Recipes' by Ayush system of medicine i.e., Ayushman Bharat, under the Union Ministry of Ayush. Due to presence of

good amount of nutrients and health-giving, functional properties, Colocasia leaf roll has been selected as the nutritive traditional food recipe. It is loaded abundant with beta-carotene, ascorbic acid, calcium, iron, fiber, iron, zinc, Vitamin A, etc. This dish is low with fat and cholesterol content and high amount of fibers. Colocasia leaves itself helps in improved digestion, reducing inflammation, lowering blood pressure, prevent diabetes, strengthening immune system, promote good eye health and vision and many more. The leaves due to rich in dietary fibers helps in bowel movement. The leaves are rich in other bioactive components as polyphenols, tannins, flavonoids, glycosides which helps in reducing chronic inflammation such as rheumatoid arthritis.

Patrode recipe (As mentioned in 'Traditional Food Recipe Book' by Ayush)

Ingredients	Quantity
Colocasia (Colocasia esculenta) leaves medium sized	30 g
Rice	120 g
Red chilies	5 g
Coriander seeds	20 g
Turmeric powder	5 g
Grated coconut	30 g
Tamarind - lemon sized ball	10 g
Jaggery - lemon sized ball	10 g
Salt	1-2 g
For tempering	
Grated coconut	15 g
Powdered jaggery	20 g
Mustard seeds	5 g
Red chili	3 g
Curry leaves	5 g
Oil	20 g

No. of Pieces (Patrodes): 15- 20

Procedure:

1. Soak rice for 8 hours, grind it along with grated coconut, chilli powder, turmeric powder, asafoetida powder, tamarind, and salt.
2. Take 12 -16 colocasia leaves, wash thoroughly, drain water, flip them over on the non-shiny side and remove the veins with a knife if they are hard.

3. Smear the paste evenly on the entire non shiny side of the leaf, place another leaf over the previous leaf and smear the paste.
4. Similarly add 5 to 6 leaves and smear the paste. Fold the sides and roll them over to a cylindrical shape, apply paste on all sides and fold the edges in. Once done, tie with a thread to hold them together, steam cook for 30 minutes.
5. Once done and completely cooked, cut to circular pieces and serve hot with coconut oil or ghee or chutney.
6. Roast on a frying pan sprinkling oil or deep fry after coating with bengal gram flour to get fritters.
7. Prepare tasty spicy patode stir fry by cutting it into small cubes and stir frying along with mustard seeds, red chilies, curry leaves, grated coconut and salt to taste (a little jaggery powder is optional) and use it as a side dish.
8. Instead of the rice batter, leaf rolls can be prepared using spicy tangy bengal gram floor batter containing coriander, powder, red chilli powder, turmeric powder, cumin powder, tamarind water, gram flour, a little jaggery, salt and water.

Future Prospects:

Colocasia, a miracle plant with nutraceutical value and functional properties is known for its medicinal valuables. This creates a need for utilizing the corms, stem and leaves into food products. The corm flour, dried leaves powder can be incorporated into different food items. It has been reported that the Colocasia flour has been added to the infant food. The scientific review also states the utilization of Colocasia in processed foods such as cereals, bread and cake, beverage powder, Colocasia corm flakes, Colocasia meal, canned Colocasia, and extruded food. Also, the leaves powder has been utilized in fortification of snack-items such as khakras, mathris, bhakarwadi, etc. Moreover, the colocasia has been used as a fillers and modifiers in plastics.

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