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Leaf Litter

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Contents

Editorial.....2

An eye on wild food: *Anita Varghese*.....3

Wild food traditions of the Pahari Korwa: *Rohan Mukherjee*..5

Within the world of food collection: *Madhu Ramnath*.....8

Jack of all fruits!: *Pandu Hegde*.....11

Taro: Everyone’s favourite: *Vijay Sambare*.....13

Sankinalu (*Perilla frutescens*): a crop grown by the adivasi of
Enhancing tribal wild food culture: *Kishore Moghe*.....17

Peska Munde/Genth Kanda – A photo essay: *Rohan Mukher-
jee*.....18

Plant names, a few diversions and the curious case of chilli:
Madhu Ramnath.....21

Non-timber forest products – A vital and vibrant part of Euro-
pean culture, cuisine and economy: *Paul Wolvekamp*.....22

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Uncultivated foods and the State

The first lockdown for COVID-19 was announced a couple of days after the Spring Equinox – six months ago – and now we have the Autumn Equinox at our doorstep. The first phase of the lockdown was the worst with migrant workers stranded, or walking across large stretches of the country. Fatigue, fear, anxiety, uncertainty and despair were the moods of a large forsaken section of our people. The promised and intended food distribution did not begin smoothly, also because transport facilities were completely cut off. Many civil society groups had to pitch in with distributing food rations and other essential commodities to people walking home to their homes in far flung villages.

However, what was refreshing to learn is that most of the rural and forest-based communities seemed to be less affected than urban people. In fact, an Adivasi woman I spoke to told me over the phone that she was worried for the city-people; she said she was well off with the usual foods she gathered from the wild. There were tubers and fruit and various greens through the first summer months; mangos, tendu, honey, chironji and mahua were in plenty then. Once the monsoon arrived mushrooms, crab and fish, bamboo shoots and the corms of certain aroids and orchids, and a new range of greens kept the diets tasty and alive: this phase is now coming to an end.

Though the subject of forest foods has become popular in recent years, the ongoing pandemic has highlighted their significance, at least to the vast numbers of rural and forest peoples across the country. Studies show that many plants that are considered useless and viewed as ‘weeds’ are actually edible, providing us valuable nutrients. In addition, it is also seen that wild foods, especially edible plants, are available in all sorts of places: in forests, on the edges of agricultural fields, in wetlands and along streams, in dry lands and rocky terrain and even in urban spaces. Despite the obvious importance of forest and uncultivated foods, some official numbers will put the matter in perspective. According to an FAO report released in February 2020, of the 6000

species cultivated for food fewer than 200 contribute to the global food output. And of these, only 9 account for 66% of the total crop production by weight. The amount of land these cash crops occupy – and which by default wild foods are excluded from – is mind-boggling. Another report announces that of the 4000 species of known wild food species 24% are decreasing.

What is slightly alarming is that in discussions and webinars on wild and uncultivated foods there have been murmurs and suggestions about how the importance of these foods should figure in government policies. In fact, some groups even recommend that there should be a policy around uncultivated foods. At present, there are a few regions where the state government distributes millets/ragi through the PDS – a welcome move – and though millets are not exactly ‘wild foods’ it shows the extent the State can think out of the box. But policies about wild and uncultivated foods? What would that look like? Would the State survey the amount of wild food species available in any area that it aims to forfeit for a dam or a mine and then decide against it as the nutritive potential of that area is too big to destroy? Would the state begin surveying the country for potentially lucrative foods that can be a new industry and attract Foreign Direct Investments, auctioning sites for survey like it recently did with coal?

Wild foods are safe as far as the knowledge and use of them remain among our adivasi and rural people; all we can do is to help them hold on to it and fend off official authority that could meddle with a tradition that is rich and has played such a crucial role in keeping people healthy through troubled times. What would be pertinent in these circumstances is a concerted move that makes the State recognize wild and uncultivated foods as an essential element of landscapes – with as much keenness as it views its minerals and other extractable resources – and gives them the importance that is due. When we run out of food we can’t eat coal.

Madhu Ramnath
September, 2020

An eye on wild food plants

Anita Varghese
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The food systems of indigenous communities across the world are characterised by a high degree of self-sufficiency with regards to procuring and / or producing food in the regions that they inhabit. Across India, many indigenous communities continue to have a rich and diverse diet, made possible by the proximity and access to forests and natural areas with a variety of wild and uncultivated foods. Their traditional farming practises, attuned to their environments, provide them with a rich diversity of crops. This diverse diet has helped ensure the health and nutritional security of these communities. The traditional food systems and knowledge of the forest and other ecosystems they live in, has enabled many indigenous communities to overcome, cope with and adapt to harsh and challenging environmental and climatic conditions and events. The health of farms and forests contribute greatly to reducing the vulnerability of indigenous people.

There is a growing body of research linking landscape diversity to diet diversity. The need to look at the nutritional value of diets as opposed to the quantity of food produced or consumed is important. An often neglected aspect is the origin of food and the cost of its production to the environment. It would also help to look at the role of wild foods coming from forests, seas, rivers, wetlands, ponds etc., i.e. from ‘non-farmed’ areas.

Forests are an important source of wild foods, contributing to the food basket even in the lean season. Several questions come to mind: Which type of forests give more food? Are there certain landscapes

where wild foods are abundant? Is a forest that is important with regard to wild food also better conserved?

Forests around Adivasi hamlets are usually disturbed; however, many vegetables, fruits, mushrooms, greens, insects and wild meat are gathered from there. Most trees retained in agricultural lands have something edible; some trees may support climbing plants or host nests of animals or provide perches for birds which are sources of food. Little is documented about the loss of wild foods that occur when diverse tree crops are replaced by monocultures.

Landscapes offer a direct benefit as nutrition providers. Land use planning and policy needs to recognise these ecosystem services and build them into restoration practises. For instance, while undertaking ecological restoration one can document the number of nutritive wild foods that are available from the site to understand the role of landscapes in nutritional security. One can document the types of wild foods available along forest edges; many light seeking plants are found here, so also colonising and pioneer species.

Documenting baselines and inventories of wild foods is a good starting point, along with the type of landscape they are found in. Local food plant users can help with the density and distribution of the wild foods which can be used to monitor the health of the species. Documenting their seasonal phenology would give us an idea of the changes that are occurring, with regard to leaf, fruit, and flower and seed production. Since women and children are a big part of wild food collection, this kind of a monitoring can be creative and designed to build their interest in it; the elders can throw light on the changes in wild food diets to create a historical record of



diet patterns. Monitoring of the environment through key indicator species is a method that is commonly adopted in conservation. Wild foods are a way of life for the forest dependent Adivasi people and by keeping an eye on the wild food they are keeping an eye on the forest. Given below is a table of what is usually monitored and what it indicates about the social and ecological factors. This table has been adapted from an article on the monitoring practises of the Gitga’at First Nation people (Thompson et al., 2020). For the Adivasi people the difference between environmental and social indicators is usually not separated as in the table above, indigenous ways of monitoring actually are holistic and integrated.

And Thoreau might well have been speaking of the pre-protest, pre-COVID-19 world of 2020 in concluding that the bulk of his people were “closing [their] eyes . . . and consenting to be deceived by shows” so as to “confirm their daily life of routine,” one “built on purely illusory foundations.” January 1, May 25—the earthshaking changes these dates have ushered in are the realities that we have to teach students, and ourselves, if we’re to have any kind of “human character” worth saving.

Table 1 – Factors that are monitored by wild food gatherers and how they can be indicators of ecological and social changes.

What is monitored	Ecological Indicator	Social Indicator
Abundance	Number or quantity per harvest /area	Number of people who benefited from the harvest
Product quality	Disease, Size, Color, Smell	Taste, Texture, Price obtained for each quality grade
Habitat quality	Disturbance ,Cut trees, Burnt grasses,, Presence of healthy plants and animals	Presence of spirits, Good vibes/winds
Harvest	Leaving a portion behind for regeneration; Frequency of harvest	Following traditional practises; Harvest based on traditional territory; Shared/Bartered/Sold
Access	Distance and spread of resource;	Permissions ; Time and cost
Weather	Wind, Sun, Rain, Heat, Cold	
Culture	Traditional boundaries of harvest; Following harvest protocols	Ceremonies conducted
New features	New plants or animals; change in weather; Soil erosion; Water flows; Migratory species	New people in the area; Tools and practises;

Wild foods seen in the context of nutrition and ecology, through dietary surveys, show the role of wild foods in the health of communities. More work on the ecology of such foods, and how their presence in any landscape adds to the biodiversity of that area in needed. A combination of traditional methods of monitoring and ecological studies can help to understand the changes that are taking place and how they impact the health of forests and well-

being of communities that depend on them.

References:

Thompson, K., Hill, C., Ojeda, J., Ban, N. C., & Picard, C. R. (2020). *Indigenous food harvesting as social–ecological monitoring: A case study with the Gitga’at First Nation. People and Nature, December 2019, 1–15.* <https://doi.org/10.1002/pan3.10135>

Wild Food traditions of the Pahari Korwa

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In late September last year I visited the Pahari Korwa hamlet of Amanara in Dharamjaygarh Block of Raigarh District, Chhattisgarh. While there, I accompanied my host Bhawru Ram Hansda and his wife Budh Kunwer to Katel Jangal, a forest patch adjoining Mann Nadi. We searched for wild mushrooms and, despite the monsoon being on the wane, several species were still to be found. Bhawru located a few mushrooms but left the majority of the collection to his wife who wasted little time in filling her and her husband’s gamchas with 5 different species; mushrooms are known as Udh in the Pahari Korwa language.

Budh Kunwer knew exactly where the different mushrooms were to be found, and her harvesting practices were also in tune with their ecology. She mentioned that particular care needs to be taken when harvesting Kumha Udh, as its stalk stretches 6 inches beneath the ground. Kumha Udh is found primarily in the plains, both in open and dense forests. Budh Kunwer said that wherever Kumha Udh is extracted from, it recedes some distance from that spot the following year. A way to prevent this from happening is to hit the ground lightly while collecting it.

In addition to wild mushrooms a rich diversity of different kinds of wild and uncultivated foods continues to form an integral part of the diet of the Pahari Korwa, an indigenous people living principally in the northern districts of Chhattisgarh. Their villages are primarily in the hilly tracts with abundant rainfall and rich and biodiverse forests. The Pahrari Korwa also have a rich agricultural tradition ranging from mixed-crop shifting cultivation (Bewar or Ahal); fields with one crop known as ekal kheti ; and mixed cropping in homestead plots, known as badi. Each of these cultivation practices focus on some crops (though there are overlaps) and range from those used entirely for self-consumption, to those grown primarily for the market. Their cultivated food stocks are supplemented by what they find in the wild.

The wild foods of the Pahari Korwa include a variety of plant-based wild foods, fungi, honey and insects (mainly hornet larvae), and different aquatic species from rivers, streams and other water bodies. Wild food inventories carried out with the villagers of Chui Pahar, Barghat, Amanara and Ganeshpur revealed over 145 different wild and uncultivated foods.

Over 110 different plant-based wild and uncultivated foods are collected and used by the Pahari Korwa people. These include leaves, tender shoots and stems and entire plants; fruits and seeds; flowers; tubers and roots; and bark. Such foods are found in



Budh Kunwer harvesting Kumha Udh

diverse habitats ranging from areas adjoining agricultural fields and habitation plots in the plains to densely forested hill slopes.



Harvesting of Matra Amta / Saroti Bhaji

Matra Amta or Saroti Bhaji (a species of *Antidesma*) is one the most popular wild leafy vegetables among the Pahari Korwa. This tree grows well on ghats/hill slopes, and near water sources. It is found in abundance in dense forests and the availability of Saroti trees was reported to be high in forests with a lot of Sarai/Sal, Dhaura and Saja trees. Saroti leaves are a souring agent and used in a variety of vegetable preparations. If the leaves are prepared as a stand-alone dish then they are first cooked, and the water is squeezed out, after which a dried preparation is made. They are a favourite among pregnant women. The roots of Saroti are made into a paste which is used to treat joint pain. Saroti leaves are available throughout the year except for a brief period in Jeth when the tree is deciduous; the villagers shared that they even collect and consume the fallen leaves during leaf-fall. The Pahari Korwa also have a tradition of drying and storing several varieties of edible leaves, like Saru, Amari, Lakra and Cheench bhaji, for future consumption; these are primarily collected and prepared by women.

The Pahari Korwa also collect and consume over 40 different kinds of fruits and seeds. Several wild and uncultivated fruits or Bele like Ull bele (*Mangifera indica*), Kosum (*Schleichera oleosa*) bele, Tendu bele (*Diospyros melanoxylon*), Ardh bele (*Ficus semicordata*) / Ghui and Makartendu bele (*Diospy-*



Ardh Bele / Ghui

ros montana) are relished by Pahari Korwa children and adults alike. Some seeds like Sehar (*Bauhinia vahlii*) are roasted and consumed while a number of seeds like Mhua (*Madhuca longifolia*) and Char (*Buchanania lanzan*) are used to extract edible oil both for subsistence needs and to meet commercial demand.

Tubers are another favourite among the Pahari Korwa. In periods of acute food shortages like famines and droughts, tubers are one of the major wild foods that help them pull through. There are many different ways of consuming tubers – raw, roasting, boiling, making rotis and vegetable preparations. The collection and extraction of tubers is largely carried out by men.



Nakwa Munde

Plant-based wild food, of some variety or the other, are available to the Pahari Korwa throughout the year. In fact, even in peak summer, when cultivated food stocks are low the high availability of wild plant foods, especially edible leaves, fruits and seed, are a vital source of sustenance for the Pahari Korwa.

The relatively low availability of plant based wild food in the monsoons is compensated by the availability of fungi. With the onset of the monsoons in Asad (22nd June to 22nd July) a variety of mushrooms become available with different varieties available in different months right till Kartik (23rd October to 21st November). The Pahari Korwa people reported that they consume over 18 different varieties of wild mushrooms and during the monsoon



Pio Udh

months some variety of mushroom or the other is consumed in almost every meal. Some varieties of mushrooms like Bhawru Udh are tied over a fire and dried, in order to be consumed over a longer period of time.

The Pahari Korwa people are one of the only Adivasi groups in their region who continue to maintain their traditions of collecting and consuming a variety of wild foods. For instance, the villagers of Amanara have an annual tradition of trekking around 15 km in the month of Mang to Nakna Jungle along the banks of the Kurja river. They take up temporary residence here for around a fortnight to harvest the wild tubers available in this area. Though Nakna village is located close to Nakna Jungle, the Oraon and Rathiya people who reside there do not harvest tubers: they are primarily dependent on agriculture. This annual tuber harvesting ritual in Nakna Jungle continues to be a tradition exclusive to the Pahari Korwas of Amanara with generation after generation of villagers continuing the annual practice.



Sanjhi Bai in her temporary dwelling by the side of Kurja river during the period of annual tuber collection.

As the Pahari Korwa gradually transition from a subsistence based economy to greater market dependence, a new purpose of wild food collection is also evolving. While a majority of wild foods are still collected solely for subsistence needs several foods, like some tubers and mushrooms, are either sold or bartered for rice; the latter which has gradually become the primary staple of the Pahari Korwa people. Though wild foods are integral to the Pahari Korwa diet in villages of Dharamjaygarh Block there is a gradual decline in both availability and utilisation of wild food. As Ratiram from Amanara says, “I’ve been collecting wild foods from the age of four. Earlier we used to get good amounts of wild food and forest produce. But now with changes in climat-

ic conditions the rains are erratic, not on time, and it is hotter, posing major challenges to availability and collection of forest produce and wild food.” As a result of increased resource use and agricultural practices the region has experienced an increase in deforestation and degradation, resulting in a decline in the variety of wild and uncultivated food.

The food and dietary preferences of the Pahari Korwa has also been undergoing considerable change. Greater interaction with other communities and the availability of rice, soya bean, flour, mainstream vegetables through the PDS and the market, and increased paddy cultivation, has made the Pahari Korwa move away from traditional foods. They are less interested in collection of wild foods, especially those that are more labour intensive, like tubers. Knowledge about wild food collection and processing is the next to succumb. An indicator of this is the fact that while the villagers listed over 140 different wild foods it was found that only 20-28% of these foods form a regular part of their diet; the others being consumed only occasionally or sporadically.

In light of the major contribution wild foods make to the health and nutritional security of the Pahari Korwa there is need to ensure that they are safeguarded. This would mean the revival and strengthening of such food systems. This is particularly relevant in the face of current challenges facing communities like the Pahari Korwa which include reduced availability of nutrition and protein rich food through the PDS and the market, food scarcity and challenges to cultivation of food as a result of climate change and associated natural disasters like droughts and erratic monsoons. The scarcity of food items other than rice, during the current COVID-19 lockdown, meant an increased reliance on wild food among the Pahari Korwa. Villagers reported that with markets closed they had no access to vegetables and other food items; they overcame this shortfall by consuming edible leaves, flowers, fruits and tubers in the summer months, and bamboo shoot and mushrooms in the monsoon. It is a reminder that the knowledge and consumption of wild foods are a vital lifeline to meeting food, health and nutritional needs, available to the Pahari Korwa. This is especially true during troubled times, something that is increasing in frequency.

Within the world of food collection

Madhu Ramnath

Hindus in the desert vow never to eat fish.
– Goethe, *Maxims and Reflections*

Several years ago an argument broke out at a shrine in the village where I lived and where we had brought the bear that had been killed on the hunt. Someone wanted a claw of the dead animal and had voiced the desire; almost everybody, including the priest, opposed it, saying that we should not disfigure any offering brought to the shrine after a ceremonial hunt. The general opinion prevailed and the bear was left intact. According to custom, the women and children later filed passed the animal ('to have a good look') and the bear was roasted over a fire, the fur scraped off, the meat cut up and divided.

This year, in the same shrine and after a similar hunt, it was a barking deer that had been brought as an offering. After the ceremonies were over, and after a small discussion between the priests and some of the elders, small circular slits were made just above and below the hind thigh of the deer, and the bit of tube-shaped skin slipped off its leg. This was then fitted on to the ceremonial horn (that is blown during such an occasion and throughout the hunting season) as an adornment. Nobody objected to this, and the animal was duly roasted and later divided up.

Both the ceremonial hunts mentioned above were the first hunts of the season, known in Durwa as the welka kedh. The success of the hunt is believed to foretell the fate of the coming agricultural season and every able-bodied male in the community is expected to participate. While on the hunt – with such a large number of people – it becomes more than obvious that these occasions are not for procuring meat and that the purpose is the assertion of territorial rights which is inextricably linked to visits and offerings at various sacred spots all along the route of the hunt.

The route may be said to be a boundary marker and led through all sorts of legal titles of land, such as protected areas, reserved forests, national parks and wildlife sanctuaries; the composite of all the routes of the ceremonial hunts of a community or clan is the total territory claimed by them. There are instances when a clan may have migrated away from a place but periodically still return to lead the hunt in their area – the area may be occupied and settled by others – to continue to assert their ownership.

Hunts such as these, all of them taking place in the months preceding the monsoon and involving only men, made me first realize that 'hunting' is not syn-

onymous with 'meat' or 'food', and that there were other connotations attached to the activity. They inevitably involved rituals and, often, first fruit ceremonies that commenced the harvest or use of certain plants, and they sometimes heralded specific social and economic actions such as horn-blowing, sowing, or the consumption of mahua distilled from fresh flowers.

To emphasize, not all hunting is geared solely towards meat. The hunts that are pursued for food are usually the more casual ones that people go for in small groups throughout the year. The meat sought is essentially that of small game – monitor lizards, civets and giant squirrels, rat snakes, monkeys – and quite unlike that sought during the ceremonial hunts. It is these smaller casual hunts, often indulged in to break the monotony of agricultural work, that actually bring in the bulk of the protein consumed by forest dwelling peoples in central India. Yet, as most people who go out to hunt know, one often returns empty-handed after a long day in the forest: in fact, that is the usual rule!

Compared to hunting, fishing is more pointedly about food. Though individuals do go out to fish with a net or a rod, the 'idea of fishing' conjures up a group – a family with children, a bunch of women and girls, a couple, or two or more families – and an expedition. It could be far from home where they may need to camp overnight, or close enough to return home before dark. Such ventures may involve dykeing and bailing small streams, the use of plant poisons, and searching under rocks for crab. One important difference between fishing and hunting, as far as food is concerned, is that one almost never returned without at least a minimal catch: in this it was akin to plant food collection rather than hunting. Also, a fishing expedition always involved women – sometimes only women – and often children, the latter learning about the use of plants and plant parts used in stupefying fish. And because of the children involved the mood was one of a family outing or picnic, with noise and splashing and pranks. The gathering of plant foods is an entirely different domain, in the sense of it being an 'all year round' activity and almost entirely a women's affair. Every village has its own 'super-woman', a plant collector par excellence, in whose house one inevitably finds unusual foods. It is with much pride that one is treated to rare forest foods. In my experience it was in the house of Jenka Murtal, a woman in Bastar, that I tasted the smoked fruit of kalla (*Dillenia aurea*; the more commonly known and consumed *Dillenia* is *D. pentagyna*, known as 'musiri' in Durwa) and the sun-dried fruit of gorra (*Bridelia retusa* which is common in the forest but hardly ever dried and stored by the people because of the labour involved in gathering the small fruit) among other delicacies. Some people seem to consider it a duty to collect and taste (and have others taste) the various foods that appear through the year.

As most of the foods, in the form of leaves, flowers, shoots, fruit, seeds and nuts, make only a fleet-

ing appearance in the forest, it is necessary to be particularly attentive to be successful in procuring them. It is common for people to remember a year or a season when they either missed or managed to taste a particular food. A person may recall a year when she had gathered and eaten much termite mushrooms, or a year may be remembered due to the scant amount of wild mangos in the forest and the distance they had to travel to find the few that were available. The flowering of bamboo and the bamboo rice that becomes abundant once in many years is a case in point. Risking generalization, one may classify years when some foods were tasted and years when some were not and, of course, the stories and incidents these food gathering ventures threw up.

What makes plant collection important is the fact that it contributes to a large proportion of the adivasi diet. They are usually available throughout the year (tubers in late winter and spring, seed kernels in summer, greens and shoots during the onset of monsoon and the wet period) and provide a range of nutrients required for a healthy diet. More than fishing, plant-food gathering allows for much freedom: one may make individual forays into the forest or go with a companion, and one may combine it with other chores such as leaf plucking or fuelwood collection. It is an activity that caters to individual moods and situations that may vary each day, demanding solitude one day and preferring company on the next.

More often than not, it is plant food that is traded in local haats in central India (unlike in Northeast India and in Southeast Asia where many animals/animal products are openly traded in street markets), the demand for them coming from people in nearby towns who know the taste of many wild foods and, more recently, those who see health benefits in consuming them.

A quick survey of edible plant foods in some villages in Bastar yielded a list of more than 300 species. However, those that were regularly eaten were far fewer, many species having slipped out of traditional diets as 'there was not enough time' (a common answer to the question, 'Why don't you eat this tuber or that fruit anymore?') It usually pertained to plants that were cumbersome to harvest or process), or because they were difficult to identify for the younger generation, or simply due to a change in taste. Even then, about 200 species were regularly gathered and consumed by a large section of the adivasi populations of central India. This inevitably meant that at least 200 plants and plant parts were recognized and known in an intimate manner, which included their habits, status and ecology, and allowed them to understand any change in their behaviour over the years.

Going out looking for these plants give people an understanding of the forest that is seldom acquired in any other manner (though searching for plant medicine by specialists is another way of understanding

the forest but that, as mentioned, is a specialized activity) and it is this practical knowledge that is the unintended but most prized fruit of a food gathering lifestyle.

In this context I would like to mention a small incident while looking for various yams in the forest. I was accompanied by a young Durwa boy who had been to school and who surprised me with his ability to discern several species of the said genus *Dioscorea*. He would confidently remark that a particular kind would have prickles at the base of the stem, that another would not, that one would form its tubers deep in the ground, that another would have hairy leaves, and so on. And, of course, he was always right. When I asked him how he had learned all this – this being an especially difficult genus even for botanists – he said that he had watched his mother as a young child, as she would carry him along on yam trips. She usually sat him down on a nearby rock and went about digging; later, as he grew up, but was still not old enough to be sent to school, he began to help. Much of what he knew about yams, and indeed about the forest itself, he learned by watching, and not because he had been consciously taught.

Hunting is almost totally banned in India, strictly enforced by policing in protected areas. The Forest Rights Act (2006) explicitly states, while conferring other rights to the Scheduled Tribes and other Traditional Forest Dwellers, that it excludes 'the traditional right of hunting or trapping or extracting a part of the body of any species of wild animal' (ch 2, 3(I)). In most protected areas fishing too faces similar restrictions though the decade old act may bring some relief to this aspect of adivasi life. Yet, within the adivasi tradition, though there are ceremonial hunts – which as earlier mentioned refer more to territory and spirit appeasement – there are very few customary rules that guide hunting per se, in the sense that they are 'traditional management principles.' In effect, though there are rules about not stringing a bow in the vicinity of the village, there is no rule that says that one may not kill a very young or female deer. Most of the prudence exercised in hunting, and to a large extent in fishing, tends to be individual or groups decisions, rather than a general customary rule.

In stark contrast to this 'freedom' in hunting, plant collection is full of rules that guide harvest (time of year and, on occasion, also place), and the method and times of cooking and storing various forest foods. So clear are these rules that they may be said to guide the overall adivasi behaviour in the forest for a large part of the year. The dates of first fruit ceremonies for both cultivated as well as wild foods may vary between villages. Those who have already celebrated the ceremony are free to travel (and eat) outside their homes and villages; those yet to celebrate it are restricted in their movements outside their village as they may not partake of food in homes that have been through the festivities. Restrictions on travel and commensality are

very limiting in forest areas where villages are far from one another and people rely on each other for shelter and food. Yet, plant food gathering hardly faces any legal restriction and is carried out in most forests all over the country.

Just as hunting is also about territory, the actions of food gathering links Durwa culture to language and metaphor to perceptions in ecology, and gives it a unique vantage from which to view a forest based lifestyle. (In sharp contrast we have contemporary societies that have discovered the value of forest foods and are willing to pay for it. Their understanding or interest in such foods seldom goes beyond a food's nutritive value and the perceived benefits it may have in case of specific illnesses. More worrying is their singular lack of concern about the adivasi and forest communities that harvest such foods traditionally, process it if necessary, and make it available to consumers in distant places. When a particular food becomes unavailable, due to a failed monsoon for instance, this disregard about the broader circumstances that had converged to bring such rare foods to their table is striking! Food, in such societies, is disconnected from most of the other aspects of life and is considered in isolation.)

The Durwa people use nine verbs to describe the various kinds of 'hunting', six verbs to discuss the kind of fishing concerned, and nine verbs to denote specific kinds of gathering.¹ These verbs range from (for hunting) chasing, that pertains to going after monkeys, civets and flying squirrels and other arboreal mammals, or searching, that usually refers to rat snakes and monitor lizards that are sought out in the slush along stream banks; for fishing techniques we have bailing, of small streams that are dyked and bailed for fish, or stupefying (fish) in such streams by using one of the many available plant poisons, or feeling (under rocks) for crab or solitary fish; gathering invokes images of searching (among leaf litter) for mushrooms, or digging for yams and other rhizomes used as condiments, or simply plucking leaves that are used as pot herbs. These and the other 16 verbs all have their rules, in terms of time and place, which ensure a prudence in the manner of food collection. The verbs encompass a section of the actions that the human being makes in his attempt to procure food, many of these verbs also being a part of everyday vocabulary, hinting at the full potential of possibilities of an active and healthy person.

In a related manner, natural phenomena are described using observations that are understood by many adivasi people who are tuned into such a way of life, most emphasized by the manner in which they procure their food. A casual remark, in response to my inquiry about the monsoon, was sufficient rain but not strong enough to wash the leaf litter away from the trails. Further discussion held much more information: that if the litter is not washed away down the slopes and eventually to the streams – where they plaster the rocks and form a refuge for the crabs – the crabs will have fewer

nurseries in which to raise their young and which will have an implication on the following years diet. Likewise, a comment that (edible) red ants have made their nests in the lower parts of trees implies that there will be heavy winds. In daily life these observations are shared among people when they meet; the interpretation and inferences are left to the listeners who may extract the precise meaning after discussing the specifics of location, terrain, etc. Compared to this, contemporary modern society relates to food in a manner similar to the way it relates to other utilities that it buys and consumes. In particular, modern society has no rules or restrictions that guide its food related behaviour.

It is understandable that little reliable information is available about wild food collection, especially of meat, as most adivasi communities that are involved in it are aware that it is illegal and that they are looked down upon by 'outsiders' due to some of the meats that they consume. Though some of the animals whose meats are consumed may be threatened or endangered, the bulk of fish and plant foods are harvested in most places in central India according to customary rules that assure their long-term survival. In a few places where these rules have broken down they may be traced to unrealistic prohibitions (like a complete ban on fishing in national parks) that have resulted in the use of chemicals (instead of plant poisons); but these can be set right if there are free discussions between the people and the authorities.

Most forest dwellers venture into the forest mainly in search of food; other reasons, such as medicine, fibre or material for construction, etc., are secondary. Food collection, apart from allowing people to break the monotonic rhythm and mood of cultivation, gives them their particular identity, simultaneously making them the foremost observers of natural phenomena. Despite the advances in the various natural sciences there is no substitute for such daily engagement that the adivasi has with the forest and which rewards him with a knowledge unattainable in any other manner. Regardless of what one believes about the harvest and consumption of wild forest foods, it would be unwise to overlook this reality in much of India; instead, it would be fruitful to see how such practices can help better our knowledge about lesser known aspects of the natural world, aspects that are missed by a science that is guided by a wholly different set of aspirations.

Footnote:

1. M. Ramnath, 'The Role of Wild Food in Tribal Culture in India: as Taste, Identity, Metaphor', in A. Baviskar (ed.), *Nature Today: New Studies in Ecology and Environment*. Oxford University Press, New Delhi, (forthcoming).

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Jack of all fruits!

Pandu Hegde
Prakruti

The Covid pandemic has revived the age old custom of using jackfruit in numerous ways. Traditionally, in the summer months it was the main food served at breakfast. Raw jackfruit is used as vegetable, and it is stored after processing, for the entire year. Tender jackfruit is widely used as vegetable in preparing numerous dishes in south India and has the distinction of being ‘vegetable meat’, due to its unique meat-like texture.

Jackfruit is used in an amazing diversity of ways by the local forest dwelling communities, who have helped identify and evolve varieties suitable for different dishes and purposes. However, one of the biggest challenges is the processing of the fruit: the sticky latex makes it very difficult to remove the edible flesh or flakes. Recently, to address this problem, there is an introduction of grafted ‘gum less jack’.



Jackfruit vender | Photo Credits: Shree Padre

A prominent use of the jackfruit is as ‘chips’, like potato chips; raw jackfruit is used to make chips, which has an enormous demand in cities. Though most of the raw jackfruit is amenable to manufacture the chips there are some specific trees whose fruit, when made into chips, give that special crispiness and enhanced taste. In addition, the crispiness lasts longer, making it a sought after variety in the villages.

Jackfruit’ papads’ are made from the raw fruit. This is very popular and mostly women are engaged in manufacturing these, which they keep for household consumption as well as for sale. It provides additional cash incomes for the women in the forest villages. There are special jackfruit trees marked for preparing ‘papad’, and these have a unique taste and texture.

Raw jackfruit is also processed with salt and kept in large jars to be used as vegetable during the rainy



Jackfruit Papad | Photo Credits: Shree Padre

season. For this too there are special trees whose fruit are only meant for this purpose. These fruit need to be amenable to such processing and yet maintain the freshness. Having tried fruits from different trees, the villagers tend to identify those trees that have fruit that stay fresh longer.

There are numerous dishes prepared with the ripe fruit, the most popular one being jackfruit cake. Traditionally, it is baked in banana leaf with jaggery and rice paste. Once again, there are different trees that provide fruits suitable for making this cake. There are varieties of jackfruit that yield sweet firm flesh flakes and used as table fruit, and sold as street food. There are diverse varieties, with different colors and taste, fetching a high price, but these are mostly cultivated. Once the jackfruit ripens, it cannot be kept for long, as it is perishable and has to be consumed immediately. The short life span of jackfruit results in a huge quantity of it going as waste.



Women prepare these papads | Photo Credits: Shree Padre

The Western Ghats region has hundreds of varieties of jackfruit that is used for chips, to make cakes and to be stored as vegetables with minimal processing. In recent years, with the renewed interest in jackfruit as a high protein diet, new products from raw jackfruit has entered the market. Fruit bars prepared from jackfruit is becoming famous, with least capital inputs, and minimum processing; natural fruit bars is a workable household value addition opportunity available for village women. There is high demand for canned jackfruit, jack-

fruit ice-cream, jackfruit nectar, jackfruit seed flour, pickles and jam.

Kerala has declared jackfruit it's 'state fruit', opening up new avenues for processing and marketing different products made from raw and mature fruits. They are organizing Jackfruit Festivals to create awareness, banking on its abundance to meet the needs of food and nutritional security. As the ever growing demand for jack products increases and many processing units are established, it has posed a problem for the wild life that depend on this fruit as a major source of food. Monkeys and other wildlife feed on the ripe and tender fruits; with the increased demand for tender jackfruit, used as vegetable, large number of young tender fruits are harvested for packaging, leaving very little left for wildlife.

Ironically, the high demand due to the establishment of modern processing units for jackfruit products is leading to overharvesting as well as unsustainable use, both detrimental to the wild life. This highlights the dilemma of converting jackfruit, which is a source of food and nutrition to village communities, into a large market-based product with a high demand. Also, is it morally and ethically justified to deprive wildlife a major food source to earn an income? This dilemma applies to all the NTFPs that become the hype, catering to the needs of the ever-changing consumer whim.



Jackfruit grove | Photo Credits: Shree Padre



Packaged jack | Photo Credits: Shree Padre



A meal full of Jack dishes! in karnataka
Photo Credits: Shree Padre

Taro: Everyone’s favourite.

Vijay Sambare
Lokpanchayat

The Indian sub-continent has a rich diversity of cultivated and wild edible plants. People consume various types of food on the occasion of ceremonies and celebrations for which there are many traditional recipes. Taro (*Colocasia esculenta*), is one of the major root crops used in all parts of India as well as beyond. The origin of the taro is from south-east Asia, but it spread and became popular in the various countries.

In 1769 Captain Cook documented the morphology of taro diversity. The leaves as well as the corms of the plant are edible and are not only delicious but also endowed with medicinal properties. Both poor and rich families use taro as a daily food as well as on special occasions. In Maharashtra, the communities of barbers believe that taro leaves removes any accidentally swallowed hair from the stomach and consume these leaves regularly. Taro is known as Alu (आळू) and in the Northern Western Ghats there are five varieties. The terya(wild variety) is not planted. Rajalu is another one and especially used to make curry and vadi (rolls). Rukhalu grows naturally on large trees very tasty and the Mahadev Koli



Rajalu taro growing in kitchen garden of Mahadev Koli Adivasi

The word taro is believed to come from the Maori language in New Zealand. In the Philippines, taro is known as ‘Gaabi’. In Arabic it’s called ‘Aravi’. The Indian names are as follows:
Kesave (Kannada), Cheppankilangu (Tamil), Venti/ Terem (Kokani), Chembu (Malyalam), Kochu (Bangla), Kosu (Assami), Kachalu (Himachal), Sariyana-Paan / Patarvel (Gujarati).

community believes that good health is assured to those who consume this vegetable regularly. Another native variety found in the northern Sahyadris is believed to be good medicine against scorpion sting.

Taro is a key plant in the context of bio-cultural heritage in the state of Goa. On the occasion of Nag Panchami (Cobra Festival in the month of August) people worship the cobra placed in taro leaves, after which it is released in the taro field. Many folk songs and stories are related to taro. In many local languages there are idioms and sayings that refer to the taro and the plant’s characteristics.

रेसपिज

आळूची भाजी / फदफदः

पूर्वीच्या काळी लग्न समारंभ ते अंत्येष्टी वधी (तेरावा/ वर्ष श्राद्ध) अशा सर्व सुख-दुःखाच्या कार्यक्रम प्रसंगी आळूचे पदार्थ केले जात असे. कालौघात खाण्याच्या आवडी



Black stem taro, another famous variety planted in every house



Rukhalu, absolutely wild taro from the western ghats, growing in the trunk of big tree

बदलल्याने प्रमाण कमी झाले आहे, पण वशिष्ठतः ब्राह्मण समाजात विवाह प्रसंगी, गौरी गणपतीच्या भोजनात व तेरावा व वर्षश्राद्धाच्या दशिवी आळूचे फदफदे आजही केले जाते.



Big-leaf taro too have a high demand in the urban market

आळूची पातळ भाजी करणारे आचारी प्रसिद्ध होते. हरिवेगार आळूचे ताजे दांड्यासह पाने आणतात, दांड्याचे साल सोलून काढतात, पाने व दांडे वळीने बारीक चरितात. भांड्यात थोडेसे तेल गरम करून पाण्याचा शपिका देऊन पाने वाफवतात. पूर्ण शजून झाले की, त्यावर हरभरा डाळीचे पीठ टाकून भाजी घोटून घेतात. शेंगदाणे, खोबऱ्याचे काप व हरभरा डाळ दोन तास भजिल्यावर ते घोटलेल्या भाजीत टाकतात. भजिवलेली चचि कोळून घेतात व ती पण भाजीत टाकली जाते. चवीनुसार गूळ व मीठ वापरले जाते. पुरेसे पानी घालून ते मशिरण उकळून घेतात. खमंग फोडणी तयार केली जाते. त्यात गोडतेल, मोहरी, जरि, हरिव्या मरिचीचे तुकडे, कढीपट्टा, हळद, हगि, लाल तखिट व गोडा मसाला अशी रुचकर चव आणणारी फोडणी उकळत्या भाजीत टाकली जाते. अशीही आळू भाजी पंगतीत ओरपून खातात.

आळूवडी:

आळूच्या पानांची वडी ही पण पातळ भाजी प्रमाणे सण-उत्सवाबरोबरच दैनंदिनी भोजनात पण खाल्ली जाते. अलीकडे परंपरागत खाद्य पदार्थ म्हणून हॉटेल्स व खानावळीत पण मळिते. आळू वडी करण्याची पण एक कला आहे. बऱ्याच आळूची पाने खाल्ली की घश्यात खवखवते. पण वशिष्ठ पद्धतीने तयार केलेली वडी खूपच चवष्टि लागते व खवखवतही नाही. वड्यांना पण ताजी पाने वापरतात. हरभरा डाळीचे पीठ घेऊन त्यात मीठ, हळद, हगि, लाल तखिट, भजिवलेल्या चचिचा कोळ व गूळ यांचे पातळसर मशिरण तयार करतात. हे तयार झालेले मशिरण एका नंतर एक पानांना लावून कमिना ८-९ पानांची वळी कवि गुंडाळी करतात. ती गुंडाळी चाळणीत ठेऊन पातेल्यात उकडून घेतल्या जातात. वाफावलेल्या वळया थंड झाल्यानंतर कमिना एक इंच जाडीच्या वड्या पाडतात. ह्या वड्या कढईत तळतात कवि तव्यावर shallow fry करतात.

जुन्या गोव्यात मालवणी भाषेशी मळितीजुळती 'सत्तरी' नावाची भाषा बोलली जाते. या भाषेतील एक गमतीशीर फुगडी गीत आहे. (Dance song from old Goa related to taro)

“आळवाण कोण गो सळसळता
महादेव दवली आदळता
पार्वती मायेरा जाताय म्हणता
उखलली दवली मारली कपलार
आता चल गो तू मायेरा”

Sankinalu (*Perilla frutescens*): a crop grown by the adivasi of Eastern Ghats

Hemalatha Nalla
Kovel Foundation

Perilla frutescens, commonly called perilla or *Korean perilla*, belongs to the mint family, Lamiaceae. It is an annual plant native to Southeast Asia and the Indian highlands, and is traditionally grown in the Korean peninsula, southern China, Japan and India. Perilla is an edible plant and also suitable for gardens, and attracts butterflies.



Various perilla varieties are traditionally used by the local people: the leaves are used as a vegetable and the seeds supply a nutritious cooking oil. Perilla seeds are rich in dietary fiber and minerals such as calcium, iron, niacin, protein, and thiamine. Perilla leaves are also rich in vitamins A, C and riboflavin. It is believed that Perilla is used not only as a flavor but also as an antidote to food poisoning.

In India, perilla is commonly called silam. Perilla seeds are roasted and ground with salt, chilis, and tomatoes to make a savoury side dish or chutney. In Kumaon region the seeds of Bhangira (cultivated Perilla) are eaten raw, the seed oil is used for cooking purposes, and the oil cake is consumed raw or fed to cattle. The roasted seeds are also ground to prepare a spicy chutney. The seeds and leaves of Perilla are also used for flavoring curries. Manipuri cuisine uses the ground roasted seed in a salad locally known as ‘singju’.

Eastern Ghat’s Traditional crop

In the Eastern Ghats perilla is a traditional crop grown in podu plots, mixed with other crops such as

millets and mustard. Locally it is called as Sankinalu / Sakinalu / Sakkara / Sakidalu and is a crop of 90 to 100 days, mostly between June and September. Harvesting of the crop involves drying of the cut panicles before beating with sticks to separate the seeds. It is said that cultivation of the crop has reduced, compared to the 1980-90s.



Local Uses

The adivasi people cultivate perilla mainly for household consumption. They make a variety of items such as laddus, aviri attu, vada, attu (dosa), etc., which are some of the favourite recipes of indigenous communities in the area.

Cultural importance

“Korra Kottha” is an important festival celebrated between August and September in the tribal areas of Eastern Ghats usually at the end of agricultural activities with regard to Kharif. Offerings of various puddings/recipes made out of the crops grown by them is the speciality of the festival. ‘Aviri Attu’ made from Sankinelu / Sakinelu is one of the ‘must haves’ that are offered to the local goddess’ at agricultural fields. Similarly, during the 3 day celebration of Sankran-

thi across Andhra Pradesh and Telengana, tribal communities have a custom of preparing a dish called “Pulagam” wherein Sankinalu is one of the main ingredients which is offered to cattle and then eaten by people on the first day i.e “Bhogi”. This is one reason for relatively high demand for the produce during the months of December & January.

Recipes

Aviri Attu : Sankinalu seed flour mixed with equal quantity of Ragi flour, made into semi solid paste adding enough jaggery is steam cooked. This has a traditional importance as mentioned above and a favourite recipe.

Sankinalu Vundalu (Laddu/balls) : Dry roasted Sankinalu added into jaggery syrup with medium thickness and made into balls while its hot. Locally these are called Vundalu (Laddu). This is one of the famous local sweets that is offered to guests and preferred during festivals in the area.

Sankinala Vadalu : Sankinalu seed flour mixed with equal quantity of ‘all purpose flour’ (Maida) and enough jaggery made into dough. This is made into shapes like cookie and fried in oil to complete the

preparation. This is usually a snack among adivasi people.

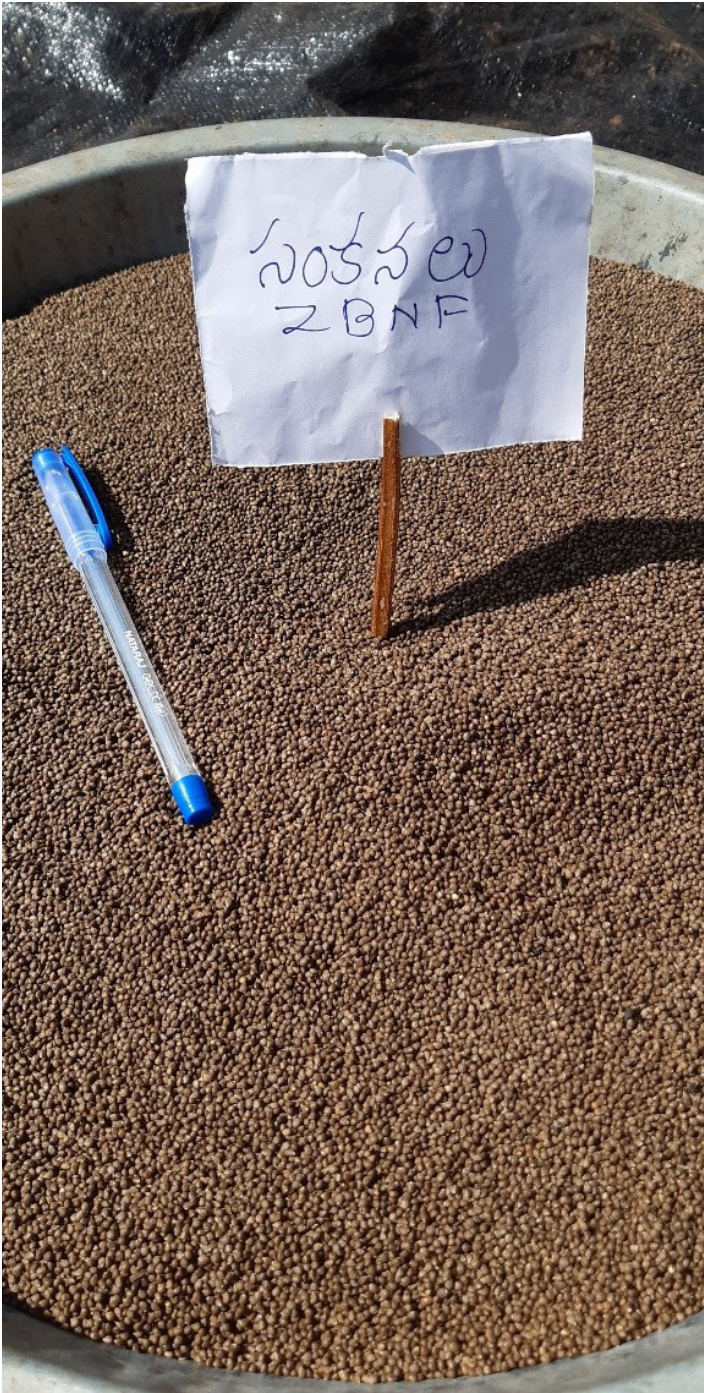
Attu (Pancake) : Sankinalu seed flour mixed with Ragi flour made into thick batter adding either chilli & salt or jaggery as per the preference and made into pancakes which is usually a breakfast dish or evening snack.

Pulagam : Sankinalu seed mixed with freshly harvested rice, cow pea and jaggery is cooked by adding enough water and salt.

Java (Payasam / Kheer) : Sankinalu seed mixed with broken rice, milk and jaggery is cooked as a sweet dish.

Dry roasted : Sankinalu seeds are dry roasted and eaten as an evening snack during rainy season.

Growing of Sankinalu crop is one of the traditional crops that has gradually decreased over the past decades, as is the case of various millets that were once playing an important role in the staple food system of indigenous communities, before the introduction of rice through the PDS. However, keeping the increasing importance for traditional crops across the world these days, it is felt that this is the time for putting some effort into nutritional analysis and other medicinal benefits of the produce so as to promote cultivation of such crops.



Enhancing tribal wild food culture

Kishore Moghe
Gramin Samassya Mukti Trust

Though the practice of eating wild foods is diminishing across many parts of India in much of adivasi Yavatmal district it is still prevalent. Wild foods are a major source of vitamins and micro-nutrients. Gramin Samassya Mukti Trust regularly promotes festivals and events around forest food plants as well as their conservation and management by the tribal community. The following are some of the major wild plants foods consumed by the adivasi people of Maregaon, Zari, Kelapur and Ghatnji blocks of Yavatmal district. Mahua (*Madhuca longifolia*): The tree is considered a boon by the adivasi people. The mahua flower is edible; bharda made from mahua flowers, as well as chapatis, are a regular part of the tribal diet. Roasted mahua flowers in the rainy season are a favorite food. The flowers are also made into a syrup for medicinal purposes by local vaidus. The adivasi women were trained by GSMT to prepare various foods from mahua, which has diversified their diet.

Bamboo shoots: Bamboo shoots or bamboo sprouts are chopped into fine chips and cooked and the water drained off. The shoots are then edible as vegetable. This vegetable is available in the forest in July and August.

Tarota (*Cassia tora*): The young leaves of the plant are used as vegetable and it is relished with meat or fish, or as a mixed vegetable. The leaves, seeds, and roots are considered medicinal and used in skin diseases. This plant grows in the forest as soon as the first rains fall and are eaten by all adivasi families. Kartoli (*Momordica dioica*): Many vegetables, such as takla, kartoli, kohlu and loth figure less in peoples diets nowadays. Kartoli is a relative of karela (*Momordia charantia*) it is not as bitter. It is a medicinal plant that grows in hilly areas. These fruits, which look like karela and covered with soft spines are eaten as a vegetable.

Safed Musali (*Chlorophytum tuberosum*): This is a common herb that grows everywhere on mountain slopes, both in the open or in the shade of large trees. The leaves are eaten fried or as a curry. Ambadi (*Hibiscus sabdariffa*): The ambadi is a small shrub, often planted along fences, whose leaves are mixed with green chillies, salt, some garlic to prepare a chutney. This is served with jowar or bajra bhakri roti. A dry dish or sukhi sabzi is prepare with ambadi leaves.

Mushrooms (*Agaricus bisporus*): The Yavatmal region has forests of highly valuable and endangered medicinal plants, as well as a variety of edible and medicinal mushrooms, a few of which are consumed by local people.

Kardu (*Celosia argentia*): The leaves and young shoots of this plant are cooked and eaten. It is used in soups and stews, and the leaves retain a pleasant odour and are slightly acidic, and cook readily. The taste is very mild and spinach-like without bitterness.

Bahawa flower (*Cassia fistula*): The flowers are consumed fried or cooked by the adivasi people of Yavatmal. The tender buds and cooked and eaten as vegetable. The edible fruit tissue is reported to be rich in potassium, calcium, iron and manganese.

Dhaura (*Anogeissus latifolia*): The adivasi people make various dishes from dhaura gum, especially laddus, which are believed to be good for pregnant women. Through the GSMT women have been trained to make laddus.

Peska Munde / Genth Kanda – A photo essay

Rohan Mukherjee
Keystone Foundation

The Pahari Korwa, an indigenous people, residing in the forested hill tracts of Northern Chhattisgarh collect and consume a rich diversity of food from the wild. The wild foods of the Pahari Korwa are extremely varied and so is the kind and amount of effort involved in collecting and preparing these different foods for consumption. Several fruit, like Tendu bele (*Diospyros melanoxylon*), Kosum bele (*Schleichera oleosa*), and Makartendu bele (*Diospyros montana*) are consumed directly off the tree.

On the other extreme of the spectrum is Peska Munde or Genth Kanda (*Dioscorea daemona*), a wild tuber, which requires long and arduous processing before it is fit for consumption. Peska, like all yams, is climber that is found in both dense and open forests with the tuber being close to the surface. The season of peak availability is from Bhado to Pus (August to January). After the extraction of the tuber the base, which is the growing part, is buried in the soil to ensure regeneration.

water discarded. The slices are then secured in a bamboo container or other porous material and left overnight in running water. At dawn the slices are retrieved and boiled for another 10 to 15 minutes. This process removes the bitterness and the tuber is then ready for consumption and served in leaf bowls to family members and neighbours.

The cooked Peska Munde is also sold in local markets. The Pahari Korwa people often eat Peska Munde for breakfast before leaving for work in the forest or their fields and the tuber is said to have medicinal properties. It is believed that it clears the stomach and keeps stomach-ache at bay. Also, that the consumption of Peska Munde helps keep fever, malaria, and diarrhoea in check. A paste of the tuber is used to treat scorpion bites.



In order to prepare Peska Munde for consumption it is first peeled and sliced. The slices are washed thoroughly and then boiled along with ash, and the

photo essay in the next 2 pages



Bhawru Ram Hansda extracting Peska Munde from an open forest patch adjoining Amanara village. A small iron digger is used for this purpose.

The head of the tuber to be buried in the soil to ensure regeneration of the plant



Bundh Kunwer peeling Peska Munde with an arrow-head.



Bhawru slices the tuber

Washing of the tuber slices under running water prior to boiling



The slices of Peska Munda to undergo the first round of boiling



The cooked tuber slices being immersed in a river at dusk. An old mosquito net is being used for the purpose.



A second round of cooking the next morning after the tuber slices are brought back from the river.



The tuber slices left to cook for a final 10 to 15 minutes in order to complete preparation.



The processed Peska Munde slices being served in leaf bowls

Plant names, a few diversions, and the curious case of the chili

Madhu Ramnath

Much of Indian and Asian cuisine is unthinkable without the chili, a ubiquitous ingredient in most dishes in some form or the other. Green fresh, dry red, fried, roasted, powdered, pickled or in pickles, with or without salt. This is a small attempt to find out a little more about this little fruit, perhaps the

much of Europe the name sticks to the root tomat, though in other parts of the world the double name appears: 'vilayti baingan' and 'mando-banga' along with 'tamatar' and 'takkali' in other parts of India. In fact, Aztec (Nauhatl) plants abound in our lives: chocolate (from cacahuatl), squash or choyote (from choyotl), kidney-beans (etl, Phaseolus sp.), the sapota or chikoo (from zapotl, Achra zapota). And of course tobacco (yetl, Nicotina tobaccum). The various names that this last has undergone is almost unsurpassed: from bakky, bakker, tambaku, makur, poha-ilai (smoke-leaf), dungia, tabak, pogaku, the list goes on.



only one that bites back when we bite it. Botanically, the chili belongs to the genus *Capsicum* of the family Solanaceae (same as tomato, potato, brinjal, datura); there are about 12 species of *Capsicum* in the world, mostly from tropical America. *C. annum* L. var *annum*, is the most cultivated of the chili peppers and is divided into 5 groups which are separated by the thickness of their skin, the pungency and the size of the fruit. These are the *Cerasiforme*, the *Conoides*, the *Fasciculatum*, the *Grossum* and the *Longum*. The first three groups are essentially ornamental; *Grossum* is not pungent and are the popular salad peppers, *Longum* are very pungent and have the chili pepper, the Cayenne Pepper, etc. Although the name *C. frutescens* L. is used for some chilies they are all forms of *C. annum* L.

Another plant which has spread across the world from its place of origin is the tomato, *Lycopersicon esculentum*. The Aztec name xitomatl became 'tomate' in Spanish and tomato in English. The variations of this name across the world is striking. In

Quite like the chili in Asia, the tomato has become essential in Italian and Spanish cuisine. One wonders what their foods – especially the sauces – were before the arrival of tomato. So also in much of south India. In weekly markets in Tamil towns the price of tomato hints at the pulse of the market. The simplest chutney is a combination of tomato, chillies and salt, which is the most common side dish for rice among the poor people. Both the tomato and the chilli have innumerable cultivars and speak of the antiquity of their cultivation and selection, begun around 10,000 years ago in central Mexico.

Usually, a thumb rule to determine whether a plant belongs to a place or not is to check the name. Strong single names (like kathri, baingan: brinjal; murungai, moonga: drumstick) suggest that the plants belong to the place, in this case India and the neighbourhood. When plants, especially food plants, move across from one part of the world to another, the double names are a clear giveaway. Like pine-apple (ananas), ladies fingers (bhendi), simla-mirch (capsicum), bangaluru-kathrikai (squash),

aard-appel (potato), brussel-sprouts (from the cabbage family), and so on. To explain the misleading characteristic of the double-barrelled names let's take the Jerusalem artichoke. Artichokes are from the Mediterranean and the Canary Islands, *Cynara scolymus*, and also known as Globe or French artichokes. The flower buds (chokes) of the plant are eaten and considered a delicacy. However, the Jerusalem artichoke – *Helianthus tuberosus* – which belongs to N. America is a totally different plant (neither from Jerusalem nor an artichoke) and whose tuber is eaten. Similarly, the term bangaluru-kathrikai, meaning Bangalore brinjal, is neither from Bangalore nor a brinjal. However, the name and story behind the common chili is different.

The first mention of chili on record is by Peter Martyr (September 1493) in his Decades of the Oceans when he refers to Columbus who returned home with “pepper more pungent than that from Caucasus”; that was a year after Columbus’ voyage to the New World, and that quite changed our perception of the world. According to Sturtevant’s Notes on Edible Plants there have been no names for capsicum in ancient Sanskrit or Chinese, supporting the claim that the chilli was not known in the Old World before Columbus.

Originating in Mexico the chilli was most probably brought to India by the same Portuguese. It is doubtful whether any plant, anywhere, was welcomed as the chili was! Until then, the only condiment for pungency in Indian cuisine was the pepper, the black pepper as we commonly know it now. The pepper is milagu in Tamil, which is the most extensively used spice across the world, and in all kinds of food. Milagu belongs to south India and the Tamil and Malayalam names for it is milagu, mulaku, or small variations of these, suggestive of their origin. Yet, when the chilli ventured into India and spread across the country, it displaced the importance of pepper. The original ‘milagu’ (black pepper) became karu-milagu, and milaga came to denote the chilli. Across India, the reverse process occurred and pepper came to have a double name: kali-mirich, goti-miri, gol-mirich. The strong sounding mirich, mirchi, miri, came to refer to the stranger in our midst, but we accepted it as one of our own. The etymology of chilli and mirchi are unclear; perhaps they are linked to the native names aji and uchu, mentioned by Cieza de Leon from his travels in Peru (1532-40) or the word atibunicix referred to by Martyr. In Odisha one of the names for the chilli is ‘lanka’, ‘kancha lanka’ being the fresh green chilli, suggesting a journey through Sri Lanka! Other names from some parts of India include moricha, marsa, maras, mirsaa, dhobli, jwala, butki, lavangi, diwani, gavran, bhiwapuri, tejya, bhedki, sipai, dhebri, popati, shevali, butaki, dhabu, kolhapuri, kali, tambadi, ufarati, musalwadi, sanke-shwari, byadagi, menasu, sooj menasu, byadgi, hasiru menasu, etc., referring to their individual quality or specific route to the place.

The pungency of pepper is from piperidine, chavi-

cine and piperittine; the pungency of the chilli is from capsaicin; the former has hypoglycaemic effects (lowers blood sugar) and the latter is used in the treatment of rheumatism and neuralgia. One spread from a small part of south India across the world, the other spread from Mexico. Neither one is a staple like the potato or rice, but both cater to a quality that elevates food beyond the mundane and necessary, allowing us to enjoy what we eat. It wouldn't be farfetched to say that humankind is more united through the luxuries of pungency and spice rather than the necessities of life.

Non-timber forest products – A vital and vibrant part of European culture, cuisine and economy.

The estimated total value of NTFPs in Europe is 2.27 billion euros, of which 83 percent comes from plant products - which shows how vibrant this practice of NTFP collection is.

Paul Wolvekamp
Both Ends, Amsterdam

Non-timber forest products (NTFPs) are, notwithstanding urbanization, still an essential natural resource in Europe. They have been part and parcel of European history – providing the rich and poor with basic food ingredients and delicacies. Rich oak and chestnut forests in the remote Ligurian hills of Northern Italy are testimony how the domestic chestnut (*Castanea sativa*) has traditionally been a life saver, offering a staple food during winter for the rural poor when food stocks were exhausted. It is estimated that some 140 million people in the region collect these products for domestic use, local markets and restaurants and for wider trade and export. In some areas, especially in the Mediterranean region, they may have greater importance than wood. A European survey in 2016 revealed that across all 28 countries, an average of 25% of households directly took part in collecting or using NTFPs.

Some European countries are world leaders as top exporters or importers of products such as chestnuts, cork, wild mushrooms and vegetable tannins. NTFPs supply raw materials in the food, medicinal and personal care sectors. Gathered traditionally for personal consumption, their collection also has a notable role in tourism and recreation. For instance, the age-old tradition of truffle hunting (an underground mushroom, detected with the assistance of dogs) has become a famous source of delicacy in food preparation in Umbria, Italy and parts of France.

Box 2. Mushrooms, Finland

Everyone can pick and collect NWFPs in forests under the concept of “everyman’s rights”, as long as what is picked is not a protected species and the habitat is left undamaged. Recognizing the traditional and economic importance of some NTFPs, such as berries and mushrooms, the Finnish Government also encouraged harvesting and fostered supply chain development. Economic incentives are given: harvesters are tax-exempted and berries and mushrooms can be sold tax-free on a marketplace and to restaurants or wholesale buyers. There are also associations and thematic groups, sponsored by the Finnish Government, directly focusing on berries and mushrooms which provide support for business development.

Source: Bernhard Wolfslehner, Irina Prokofieva and Robert Mavsar (edit. *Non-wood forest products in Europe: Seeing the forest around the trees*, by), 2019

Box 1. European household survey on harvesting and consumption of NWFPs

A European household survey, involving 17 000 respondents, gathered information on harvesting and consumption of NWFPs in the EU28 (except for Malta, Luxembourg and Cyprus), Serbia, Turkey and the European part of the Russian Federation. The study revealed that: in 2015, 90 percent of sampled households consumed NTFPs;

Almost 25 percent of households collected NTFPs;

Wild berries and wild mushrooms are the most picked groups of species;

Most households that pick NTFPs do so 3 to 12 times per year;

Rural households collect NTFPs more than twice as often as urban households;

There is no relation between NTFPs collection or consumption and the income of the households

Source: *Beyond wood. Improving policies to promote sustainable use of non-wood forest products in Europe*. FAO.

NTFPs being gathered include mushrooms, herbs, berries, leaves. (Fishing and wild game: fowl, small game, deer, wild boar etc., is excluded from this overview.) The NTFP value chain involves many domains (forestry, agriculture, rural development, nature conservation, food and product safety, trade) and many stakeholders (landowners, harvesters, processors, traders, entrepreneurs, policymakers, certification agencies etc.). In various countries, we also see an emergence of “food forests” richly endowed with NTFPs, managed by local citizens, often with support from local government. NTFP-gathering involves much knowledge harbored by local elderly people and passed on to new generations, both rural and urban who share a growing enthusiasm for these nature’s treasures.

A number of species are traded in significant quantities with the highest potential in national and international markets – e.g. cork in Portugal, resin in Spain, nuts in Spain and Turkey, berries in Finland, and mushrooms and truffles in Italy and Spain.

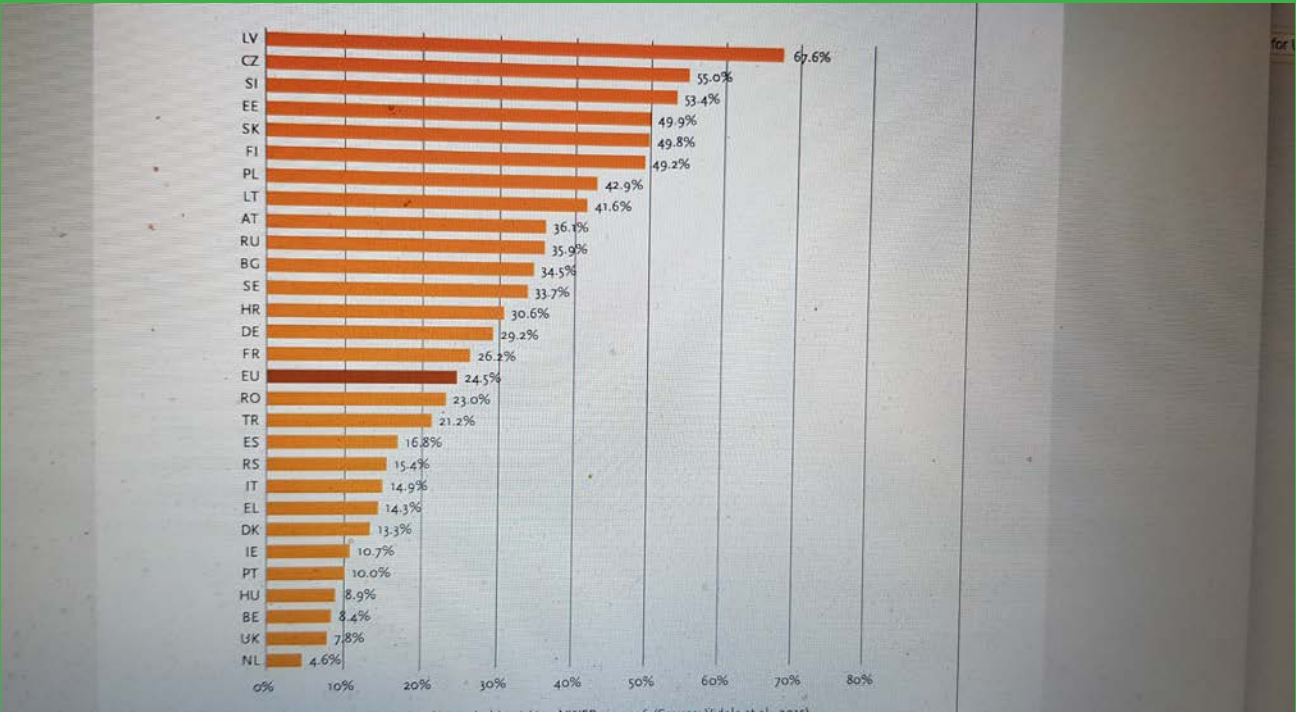
Box 3. Tame chestnut

The use of tame chestnut as a food item is for centuries a widespread tradition in almost all parts of Europe. Cooked chestnuts are a near indispensable ingredient of the traditional X-Mas meal, amongst others Holland. The chestnut was brought to Holland by the Romans some 2000 years ago. During winter one can buy roasted chestnuts from street stalls in Scandinavia and Germany. Cooking chestnuts produces a delicate and slightly sweet flavor in the nut while softening the texture to a potato-like consistency. Chestnuts can also be candied—marrons glaces in French—or ground into a flour that is commonly used in sweets. One will find pancakes made of chestnut flower in Northern Italy, a staple food during winter. Corsicans fry them into donuts, while Hungarians, French, and Swiss sweeten and puree them.

The nutritional value of edible chestnuts differs from that of other nuts. Chestnuts contain less fat and proteins, but more carbohydrates. They also contain folic acid.



The numbers of people engaged in picking NTFPs (See Box 4) suggest that this is a component of everyday life and represents a personal connection with nature and forests for many Europeans. Such activity has been, and continues to be, central to forest culture. This culture is transmitted through experience and stories passed down through the generations. Changes in the relationship between people and forests is, however, happening across Europe. This has led to an erosion of the traditional subsistence-based connection between people and nature as traditional land use and lifestyles are increasingly abandoned. Countering this is a trend towards greater appreciation and use of natural, traditional and wild resources. This is evident in the proliferation of popular culture around ‘wild foods’, ‘survival’ and ‘foraging’, and also in the emergence of ‘back to nature’ lifestyles. This coincides with a revival and growing reappreciation of regional products (‘produits de terroir’). This trend is also commercialized in the resurgence of interest in traditional crafts and foods, and the provision of products and services based on these crafts and foods. Use of traditional medicines is also becoming increasingly popular.



Source: Vidale, E., Dare, R. and Pettenella, D. 2014. Global trade in NWFP and position of EU. In: Wolfslehner et al, 2019

Country abbreviations: AT / Austria; BE / Belgium; BA / Bosnia and Herzegovina; BG / Bulgaria; CZ / Czech Republic; DE / Germany; DK / Denmark; EE / Estonia; ES / Spain; FI / Finland; FR / France; GB / United Kingdom (of Great Britain and Northern Ireland); GR / Greece; HU / Hungary; HR / Croatia (local name: Hrvatska); IE / Ireland; IT / Italy; LT / Lithuania; LV / Latvia; NO / Norway; NL / Netherlands; PO / Poland; PT / Portugal; RO / Romania; RU / Russian Federation; SE / Sweden; SI / Slovenia; SK / Slovakia (Slovakian Republic)

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