USING DIVERSITY

WILD FOODS of the **PAHARIA**

OF SUNDAR PAHARI, GODDA DISTRICT, JHARKHAND

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NOTE FROM THE AUTHOR

The food systems of indigenous communities across the world have historically been characterised by a high degree of self sufficiency with regards to procuring and/or producing food in the regions that they inhabit. In India, many indigenous communities across the country continue to have a rich and diverse diet. They procure a variety of wild and uncultivated food from the forest and other ecosystems in which they live. Several of these communities still carry out a variety of traditional agricultural practices, uniquely attuned to their environments, which 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 traditional 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 Using Diversity (UD) Network was established in 1996 to promote agricultural biodiversity and stress the importance of uncultivated foods for Adivasi people. The UD network enables civil society groups and community leaders to revive and promote uncultivated foods and traditional mixed cropping systems in different parts of India. The UD Project (2017-20) was aimed at promotion, conservation and sustainable use of traditional agriculture, indigenous crops, crop genetic resources and uncultivated foods for enhanced food and nutritional security of marginalised Adivasi communities across India. The project was implemented through partner NGOs, CBOs and individuals in different parts of India.

Alongside implementation of a variety of different initiatives like the promotion and establishment of community seed banks, revival of cultivation of traditional crops and planting of uncultivated food plant and trees; the project has undertaken participatory research focussing on the principal thematic areas of the UD network. This series of papers is aimed at sharing the findings of the research carried out in different areas, long term research of partners and experiences working and learning from these indigenous communities.

Wild food has historically been a vital element of the food systems of the Paharia people who continue to practice the traditional shifting cultivation based agricultural system of Kurwa on the hill slopes of Sundar Pahari. Several wild foods like wild tubers enabled the Paharia to survive long periods of food scarcity and famines. This paper provides a detailed analysis of the different wild foods currently consumed by the Paharia Korwa people in the hill villages of Sundar Pahari. The paper and its' findings are based on an inventory of wild foods compiled through participatory research with men and women villagers of Bada Palma village; consultations with villagers; observations while accompanying villagers for wild food collection in different seasons; the literature, knowledge and experiences shared by Soumik Banerjee (UD partner).

The aim of this paper is to provide an insight into the rich diversity of wild foods still collected and consumed by the Paharia people, the multitude of benefits wild food provide indigenous communities like the Paharia and their continued significance especially in the wake of challenges posed to food availability as a result of Climate Change and associated natural disasters like droughts. The paper also explores current changes and challenges being experienced by the Paharia with regards to collection and consumption of wild food; and also presents and encourages discussion on potential mitigation strategies and initiatives to address issues being faced. Our objective is to highlight the benefits of wild food to the communities for whom wild food has been an integral part of their diets; the ever increasing importance of wild food in the face of modern challenges like climate change and associated food scarcity; the threats to the ecosystems that ensure the availability of a rich diversity of wild food; and to promote safeguarding, revival and adaptation of wild food collection and consumption practices alongside protection, conservation and community led management of the associated forest ecosystems.

Rohan Mukerjee

Introduction

The Paharia, one of Jharkhand's indigenous tribal groups, were once distributed across all the hills of the Rajmahal, currently the Santhal Pargana region of Jharkhand, and were exclusive owners of the land.

They practice a traditional form of shifting cultivation known as Kurwa on the hill slopes which involved the cultivation of a variety of crops that included maize, a variety of millets, pulses, oil seeds and vegetables. The forest ecosystems of the region which supported and sustained the traditional cultivation practice of Kurwa also provide the Paharia with a wide diversity of wild food that made an invaluable contribution to their nutritional security. The wild food collected and consumed by the Paharia people comprised of a variety of plant based food – green leafy vegetables; fruits, seeds and flowers, mushrooms; roots and tubers; as well as animal based foods. Wild food provided the Paharia people with much needed proteins, nutrients and minerals and also helped build immunity and combat illnesses. Wild food has historically made a vital contribution to building the resilience of the Paharia people to withstand environmental and climatic pressures like droughts, famines and floods. Their knowledge and access to wild food enabled the Paharias to survive the Bengal Famine which resulted high mortality among other communities whose food systems did not include wild foods.

Hills of Sundar Pahari

The dense forests, hills and overall inaccessibility of the region enabled the Paharia to remain isolated and independent from external influence for a considerable period of time. This enabled the continuation of their traditional food systems which revolved around the practice of Kurwa and wild food collection. Even during the Mughal period, the Paharia were largely independent and were on friendly terms with the rulers.

However, the period of British colonial rule in the region, which commenced around the middle of the 18th Century, saw the Paharia people having to negotiate restrictions to their self-rule after an armed struggle. With Santhals being encouraged to settle the plains the Paharia people were restricted to the hills and accepted the legal method of revenue demarcation and settlement put forth by the British.

By 1916 all the hill areas were settled and brought under private property which was in marked contrast to the earlier custom where land was used based on the needs of domestic groups and the rights enjoyed based on the same. Even today, the forests of Sundar Pahari are privately owned with villagers possessing documents dating back to British rule. The inequality of land divisions and preferences given to headmen had disastrous consequences on Shifting Cultivation which was the primary livelihood of the Paharia people. With reduced acreage, the very nature of shifting cultivation gradually changed from

Harvesting of Osra/Barbatti/Cowpea in Chamdade village

Harvesting of wild tubers in the forests of Bada Palma village

long rotational tree-based fallows to bush fallows and even no fallows currently. This gradual decline in shifting cultivation had serious impacts on the forest ecosystems of the area resulting in their deforestation and decline in their quality. This further impacted the Paharia as they depended on these forest ecosystems, that had been sustained by long fallow periods, for a rich variety of wild food and NTFP both for subsistence and sale.

The 20th Century witnessed the ever-increasing control of markets in the plains over cultivation in the hills which brought with it an increased intensification of resource use, appropriation of products from Paharia people at throwaway prices and the subsequent degradation of natural resources and further marginalisation of the Paharia people. The post-independence period has seen the ever-increasing influence of traders, middlemen and money lenders in the hills inhabited by the Paharia, resulting in increasing indebtedness with villagers often being forced to mortgage their land for loans. The market also exerted its influence on the agricultural practices of the Paharia as well as collection of NTFPs that had commercial value. The increased commercialisation of agricultural practices resulted in a major modification in the traditional shifting practice of Kurwa. In the 1960s Barbatti (Cowpea) became commercially important and traders from the plains encouraged the Paharia people to cultivate this crop on a commercial scale.

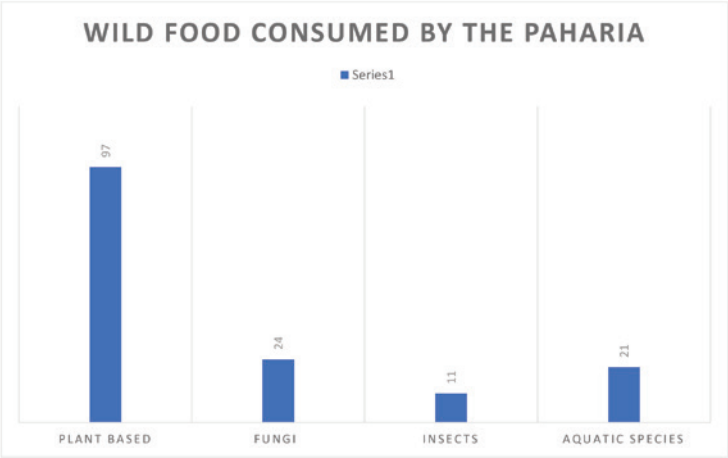
The shift from a purely subsistence oriented system to one that also catered to the demands of the market involve the Paharia commencing a practice known as Jara which involved monocropping of Osra (Cowpea), to meet market demand, for one year followed by the traditional mixed cropping Kurwa cultivation for their subsistence requirements, after which the land was left fallow. As the intensity of cultivation increased the region experienced a steady decline in the duration of fallow periods. Currently fallow periods are only three to four years on average. The shorter fallow periods promoted the spread of invasive species, like Siam weed, which supressed natural vegetation. This accelerated forest degradation, further impacting the availability of essential wild foods in the region.

Alongside the decline in the availability of wild foods the food patterns of the Paharia people have also been undergoing substantial change. With increased interaction with other communities and greater dependence on the market economy and government public distribution systems the Paharia have been increasingly been exposed to a variety of external food items like rice, wheat, a variety of vegetables and processed food which were alien to their traditional diet. Village elders share that these external food produce, which are largely produced using chemical inputs, have replaced the diverse nutrition rich cultivated and uncultivated foods among the younger generations of the Paharia people. As a result, there has been a decline in the collection and consumption of wild foods. The elders feel that this has a negative impact on the physical and mental health of the current generation of Paharia people. They find arduous tasks in their fields and forests far more challenging than their ancestors. Their ability to withstand years of food shortage from agriculture has also reduced considerably, which has consequently increased their dependence on government sources of food like PDS and the Mid-Day Meal scheme.

Methodology

This investigation of the wild food of the Paharia of Sundar Pahari is largely based on an inventory of Wild Foods of the Paharia compiled through a participatory exercise with a group of men and women villagers of Bada Palma village in Sundar Pahari Block of Godda District, Jharkhand. This has been supplemented by a review of reports and literature shared by Soumik Banerjee, an independent researcher working in Sundar Pahari for around 20 years, interviews with Soumik Banerjee on wild foods of the Paharia people, field visits to villages and forest areas across the area in different seasons to observe wild food collection practices, community consultations and informal interviews with villagers.

Kurwa sowing in Nathgoda village



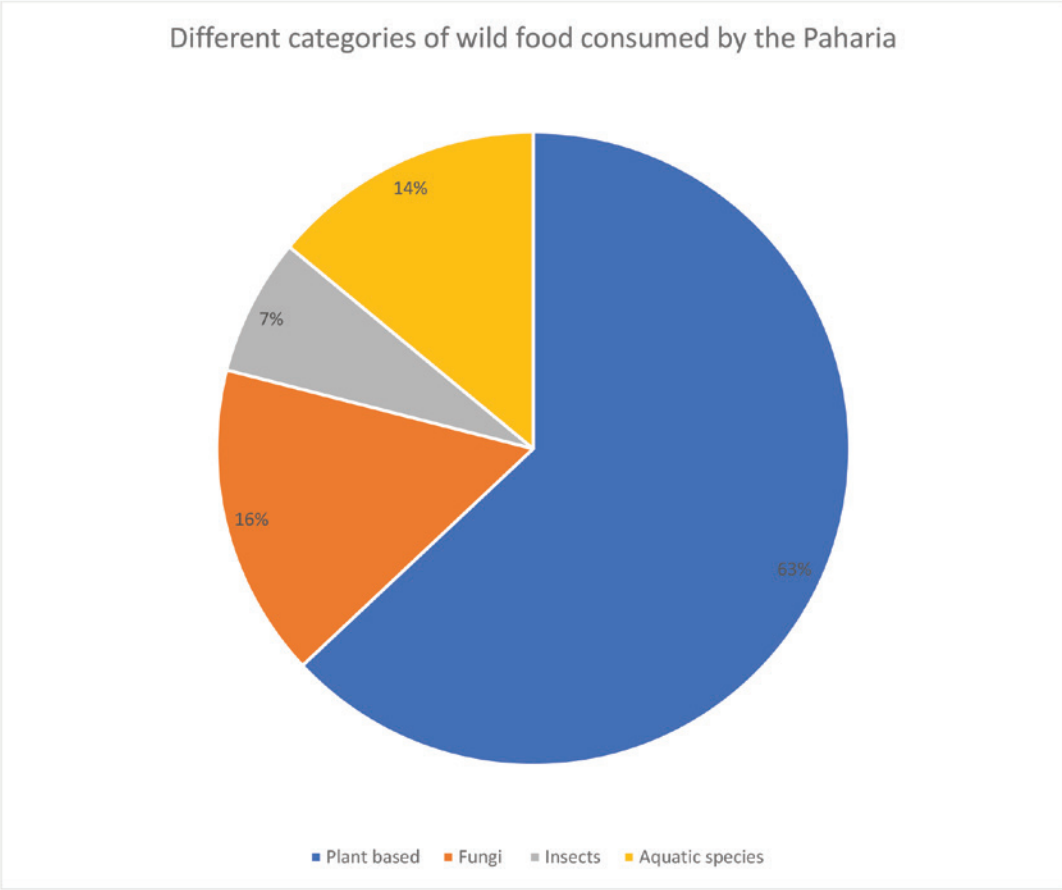
Godda District of Jharkhand, is currently home to only 29871 Paharia people while the Santhal population is 2,24,068 (2011, Census) which is evidence that the Paharia have been reduced to a minority in lands that they once called their own. The current Paharia population of Godda district is mostly restricted to relatively isolated hill villages in Sundar Pahari Block where this research was carried out. This paper will first provide general findings about the different categories of wild food – plant based, fungi and animal based wild food, consumed by the Paharia people. It will then explore each category of wild food in greater detail. The paper concludes with a summary of the challenges facing the Paharia with respect to their wild food and explores strategies being implemented to overcome these challenges and promote the revival of wild food availability as well as consumption by the Paharia people.

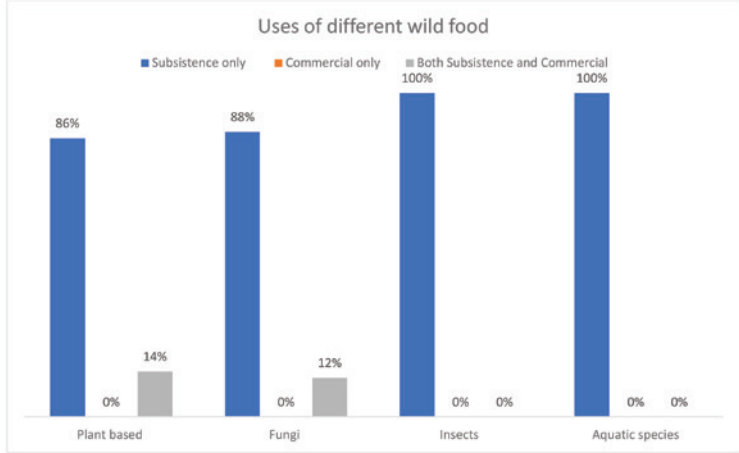
General Findings

The inventory carried out with the villagers of Bada Palma revealed that there are currently 153 different sources of wild and uncultivated food belonging to the following categories –

i. Plant based – these include a variety of wild green leafy vegetables (GLVs) which comprise wild leaves, tender shoots and stems and entire plants; fruits and seeds; flowers; tubers and roots; barks and gums. Plant based wild foods listed included uncultivated species like mango and jackfruit and accounted for 97 species.

ii. Fungi – these include a variety of wild mushrooms and fungus mostly found in the monsoons. Wild fungi accounted for 24 different varieties.



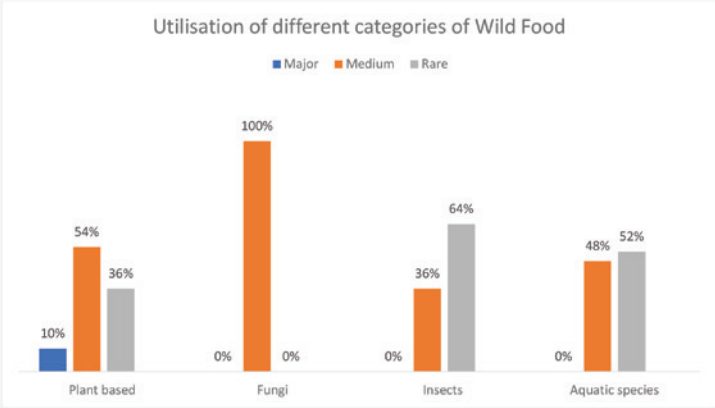


iii. Insects – these include mainly bees and hornet larvae. The villagers reported that they collect and consume honey, combs and larvae of 11 insects.

iv. Aquatic species – the Paharia consume a variety of fish, snails, crab, prawns and other aquatic species from rivers, streams and other water bodies. 21 different Aquatic species were reported to be consumed. Due to the scarcity of perennial water sources in the hills, the Paharia don't have regular access to too many different aquatic species.

Plant based wild and uncultivated food are the major source of wild food and account for 63% of all sources of wild food across the 4 different categories.

Purpose of wild food collection – Wild food was reported to be collected almost solely to meet subsistence needs. Only a small percentage of plant based wild food and fungi cater to both



subsistence needs and commercial demand, being sold to traders or in local markets or bartered for other commodities. The fact that wild food primarily caters to subsistence needs and have little commercial value often results in the contribution they make to the Paharia, in terms of health and nutritional security, being undervalued or completely ignored especially when planning livelihood strategies and development programs. This often negatively impacts their survival, protection and conservation.

Availability status of different kinds of wild food – Villagers pointed out that large scale forest degradation, increased intensity of shifting cultivation and subsequent spread of invasive species, like Siam weed, has resulted in scarcity of a majority of wild food. This is reflected by the data on current availability of wild food. A majority of wild food were classified as having either medium or low availability with only a very small percentage of plant based wild food being classified as abundant. Some wild foods have even become rare and are on the verge of becoming locally extinct.

Degree of utilisation of different kinds of wild food – While the Paharia villagers in Bada Palma listed 153 different sources of wild and uncultivated food not all of them are a regular part of their diets. While a few wild foods are consumed on a regular basis, others are eaten occasionally, while some are only consumed rarely. The degree of utilisation of different wild foods has been classified as follows –

i. Major – a regular part of the Paharia diet.

ii. Medium – consumed occasionally and not on as regular a basis as the major wild foods.

iii. Rare – consumed sporadically.

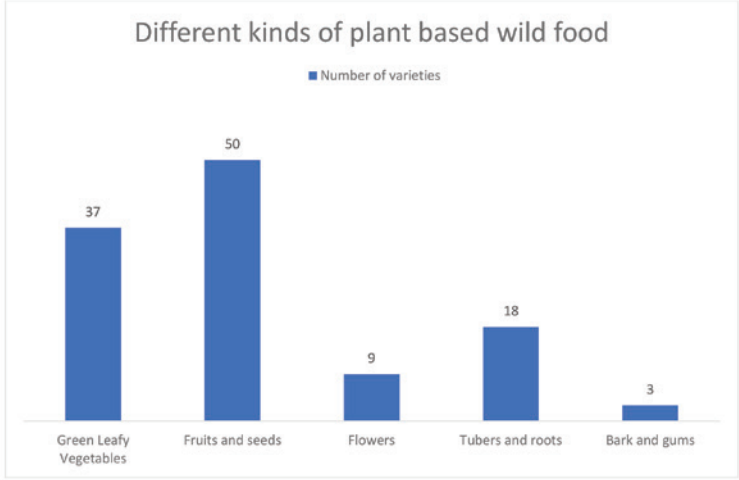
Currently, the Paharia wild food diet comprises largely of plant-based wild food, supplemented by fungi collected in the monsoons. Insects and aquatic species are only an occasional or sporadic part of their diets. The overall trend of reduced consumption of wild food could be indicative of changing food patterns away from collection and consumption of wild food. As village elders pointed out as the younger generation is depending increasingly on external food from the market and PDS they are reducing wild food consumption and also losing the knowledge of different wild food as well as collection practices. Diminishing availability as illustrated above could also be contributing to reduced consumption of wild food.

Plant based wild food

Currently plant based wild food still make an important contribution to the diet of the Pahari people. 117 different kinds of plant based wild food from 97 different tree and plant species were identified to be currently in use by the Paharias.

The different kinds of plant based foods based on parts consumed are as follows –

Greens leafy vegetables – which include leaves, tender stems, shoots and entire plants and account for 37 different kinds of wild food. Leaves are probably the most consumed plant part and they are mostly cooked to make a sabji (vegetable preparation) and some are used as ingredients to make a variety of different preparations. Green leafy vegetables help build immunity against many diseases. Green leafy vegetables are primarily collected and prepared by women.



Bathwi sage a wild green leafy vegetable

Fruits and seeds – which are the largest category acounting for 50 different fruits and seeds. Most of the fruits are consumed uncooked, while a few are cooked to make vegetable preparations. Some seeds are consumed while several are used to extract edible oil both for subsistence needs and to meet commercial demand. Fruits and seeds are collected by both men and women. Children also collect and consume a variety of fruits.

Flowers – 9 different flowers are collected and consumed. Madge or Mahua is probably the most important flower and also one of the major wild foods, being used in many different traditional prepartions. It is also used and sold for the preparation of liquor and as a result attracts high prices and is a commercially valuable NTFP. Flowers are primarily collected by women.

Tubers – play a vital role in ensuring nutritional security of the Paharia. In periods of acute food shortages like famines and droughts, tubers

Tiso

are one of the major wild foods that help keep them alive. There are many different ways of consuming tubers – raw, roasting, boiling and making vegetable preparations. The extraction of tubers, which often involves a lot of digging, is principally carried out by men.

Barks and gums – two gums and one variety of bark were reported to be used by the Paharia.

Sources of plant based wild food - Trees are the single largest source of plant based wild food with the Paharia deriving a variety of leaves, flowers, fruit, seeds, gums and bark from them. Herbs, shrubs and grasses are an important source of green leafy vegetables. Climbers provide the Paharia with a rich diversity of tubers as well as some fruits and leafy vegetables.

The different habitats where plant based wild food are found were classified as follows –

Habitats where different kinds of plant based wild food are found

i. Dense Forest – areas with a substantial tree cover.

ii. Open forest – areas with sparse tree cover, scrub forest, and newly regenerating Kurwa fallows.

iii. Water Bodies – rivers, streams, ponds and other water sources.

iv. Habitation – in and around villages, homestead plots and agricultural fields.

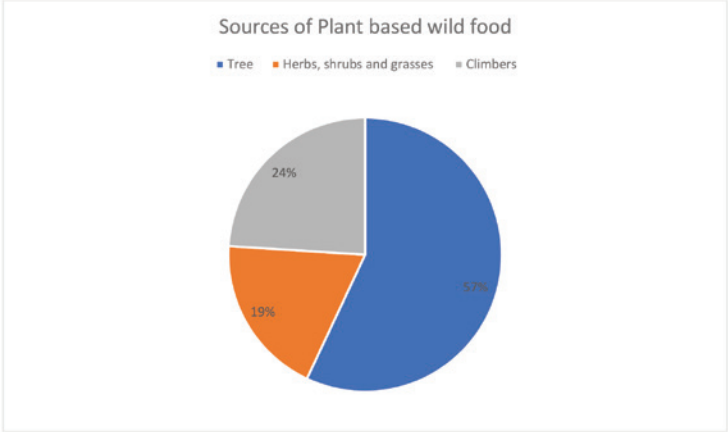
v. Rocky areas

A majority of plant based wild food are found in dense forests, areas described by villagers as Ghanna Jungle. Only for green leafy vegetables did villagers report that a substantial percentage (a little over 20%) are also found near their houses, around fields and in village commons.

Availability status of different plant based wild food - Along the lines of overall low availability of wild food, a majority of different plant based wild food currently have low availability. The fact that there are currently no fruits and seeds, flowers or tubers and roots that are abundant is indicative of the negative impact of forest degradation on tree based wild food. Green Leafy vegetables were the only kind of plant based wild food to have a few species still found abundantly. Barks and gums only account for 3 species.

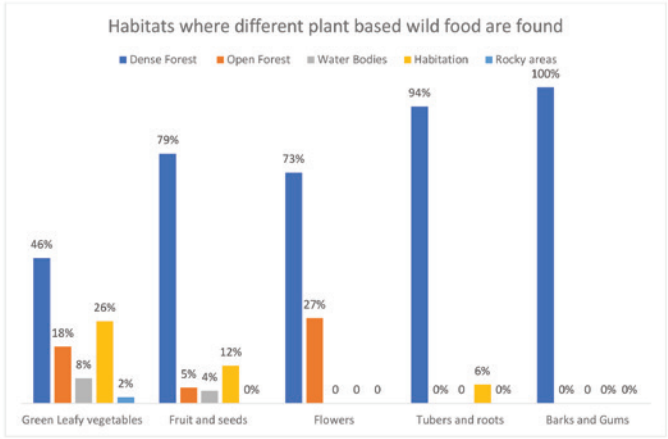
Borho Pupdu

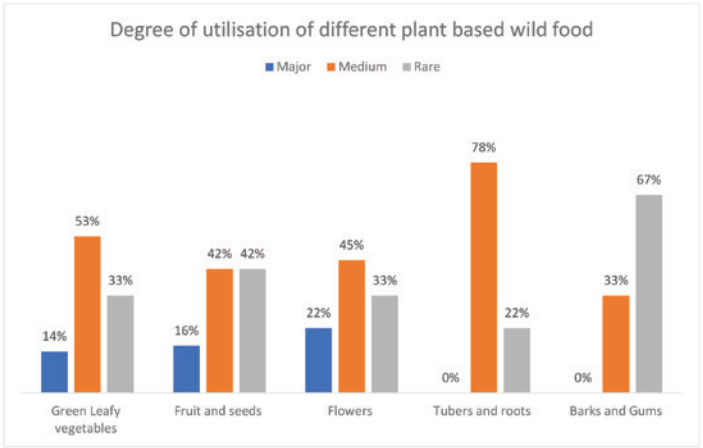
Challenge Alli and Talko Alli

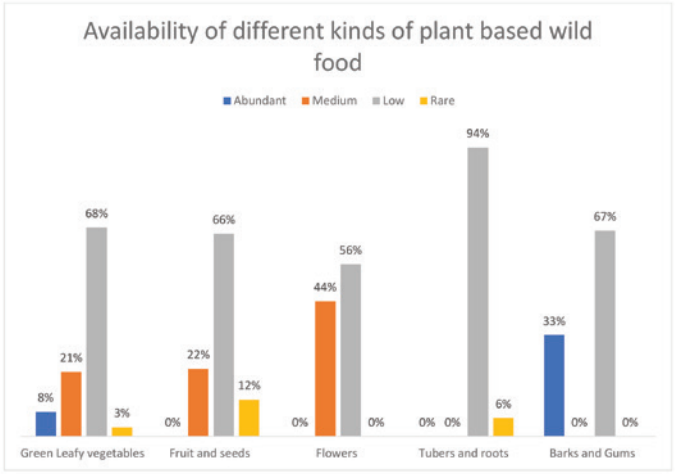


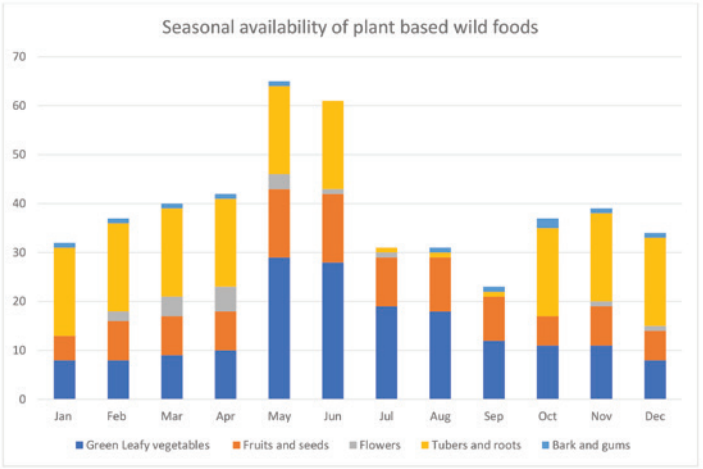
Degree of utilisation of different kinds of plant based wild food – Green leafy vegetables once constituted a major part of the Paharia diet, but they are gradually making way for vegetables bought from the market. Market bought vegetables do not provide the same amount of nutrients and other health benefits that the Paharia derived from wild leafy vegetables. Moreover, market bought vegetables are largely cultivated using chemical inputs thereby exposing the Paharia to the negative health impacts of these chemicals. A variety of seasonal wild fruits, seeds and flowers were also consumed by the Paharia with children relishing several different fruits. But their consumption is also on the decline. The decline in consumption of wild tubers as revealed by elders could be linked to the labour-intensive extraction and processing of many tubers which the younger generation often wishes to avoid in favour of market purchased food. The decline in consumption could also be linked to the fact that with dominance of weedy invasive species and declining quality of forest fallows and forests most plant-based food are getting harder to find.

Seasonal availability of plant based wild food – Plant based wild food are available to Paharia people throughout the year. In fact, in the summer months when cultivated food stocks are diminished the high availability of plant based wild food, especially green leafy vegetables, have been a vital source of sustenance for the Paharia. The low availability of plant based wild food in the monsoons is compensated by the availability of fungi.







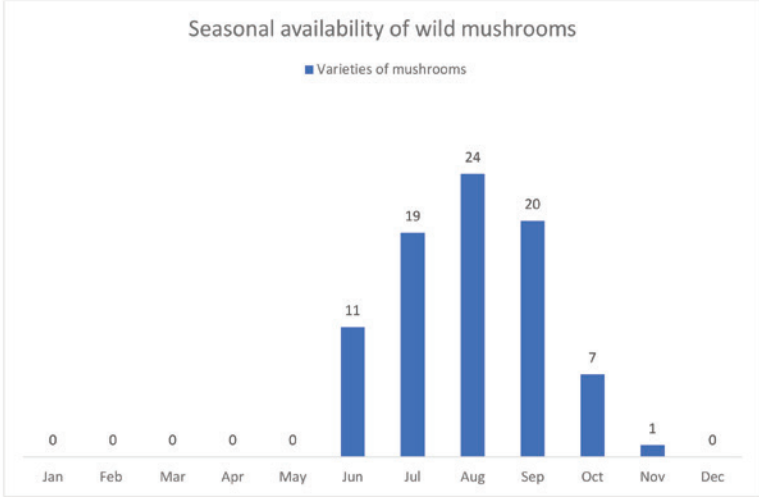


Fungi based wild food

While wild mushrooms and other fungus constitute a small category of wild food consumed by the Paharia they have been an important part of the Paharia diet especially in the monsoon months when other wild foods are relatively scarce. Currently Paharia people consume 24 different varieties of wild mushrooms.

Mushrooms are rich sources of Calcium, Copper, Selenium, Potassium, B Vitamins and Antioxidants. Mushrooms are functional foods and boost immune system; they ae prebiotic nourishing good bacteria in the gut. They contain lectin proteins that bind to cancer cells marking them for destruction by the immune system. Mushrooms maintain the forest food web through mycelia and breaks down organic matter and rocks creating soil.

Women are the principal collectors of mushrooms, leaving for the forest early in the morning for mushroom collection when they are in season. Men collect mushrooms they come across when carrying out other activities. While none of the wild mushrooms collected by the Paharia are available in abundance, a majority of them still have medium availability (79%). However, with the habitats that mushrooms depend on under threat the future availability of mushrooms is also under threat.



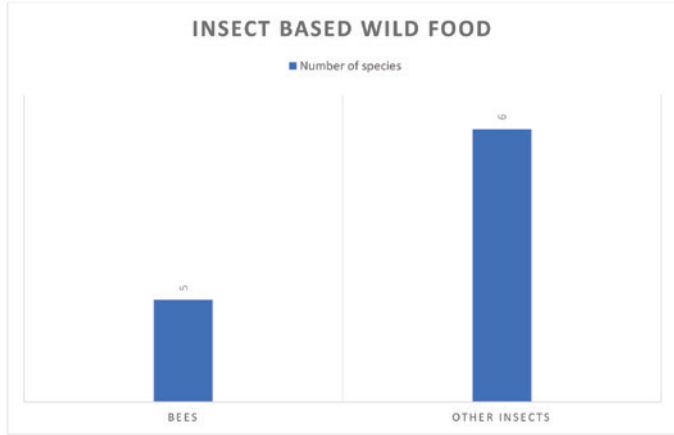
Banipotho osdu

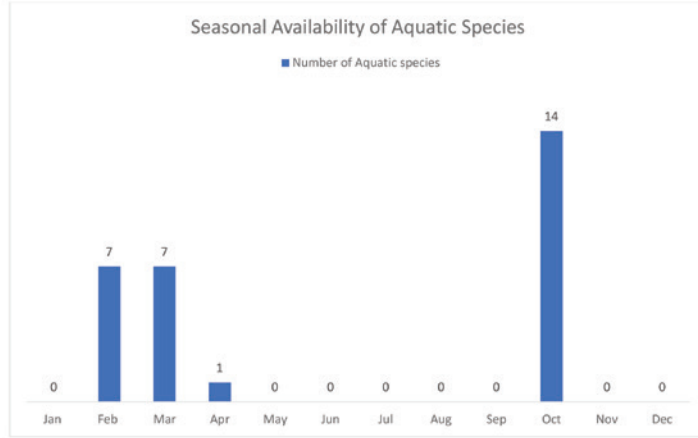
Insects

11 different insects were reported to be sources of wild food. Of these 5 were different varieties of bees whose honey and combs are collected and consumed. The other insects were mostly hornets and their larvae are eaten, and this is a rich source of protein and nutrients. The collection of honey and other insects is mostly carried out by men.

The winter months of November, December and January were reported to be the peak months for honey while the peak season for insect larvae was August to November.

The availability of all insects that are a source of wild food was reported to be low. Several villagers felt that the increased utilisation of chemical insecticides in the villages in plain areas was responsible for the decline in insect populations and bees in particular.





Aquatic species - The Paharia also carry out fishing in rivers, streams and other water bodies. However, the scarcity of water bodies, especially perennial sources, in the hills has limited the access of the Paharia people to a diverse variety of Aquatic species. Fishes, snails, crabs, prawns, molluscs, and other aquatic species account for 21 different species. Fishing is mostly carried out by men. While 2 Aquatic species are available in abundance, a majority (11) were reported to have medium availability and 6 were currently rare to come by. Aquatic species are mostly consumed occasionally or sporadically with none of them being consumed regularly. The peak fishing seasons were reported to be October followed by February and March.

Conclusion and the way forward

While the Paharia still continue to consume a large variety of wild food there has been a marked decline in both availability and utilisation of wild food. Some of the key challenges in this regard are as follows:

i. Increased commercialisation and intensification of shifting cultivation. With the duration of cultivation being extended to 2 years and fallow periods shrinking to 3 years or less the region is experiencing increasing degradation of forests. Natural tree and plant species, many of whom are sources of wild or support other sources of wild food, are unable to regenerate effectively resulting in a marked decline in availability of most wild food.

ii. The shorter fallow periods have been promoting the spread of invasive species, like Siam weed. These invasive species supress natural vegetation thereby further contributing to the decline in wild food.

iii. Changing food preference - As a result of greater interaction with other communities, the market, and the availability of external food items like rice through the public distribution system, the Paharia people are moving away from traditional foods both cultivated and wild. As a result, they are less interested in collection of wild food especially the ones that are more labour intensive like tubers and also losing the traditional knowledge of wild food collection and processing.

There is an urgent need to build an awareness about the benefits of wild and build a sense of pride around the Paharia wild food tradition. Several workshops, training programs and area level wild food exhibitions are being conducted across the region. Alongside this there is a need to implement initiatives aimed at improving the sustainability of Kurwa and NTFP collection and promoting restoration and regeneration of native tree and plant species and forests. Some initiatives being piloted and implemented in the region include

i. Forest Gardens - aimed at increasing the productivity of Kurwa fallows, and subsequently increasing the fallow period. After 2 years of cultivation in the Kurwa plots, the land is left fallow for 3 - 5 years for regeneration and then again brought under cultivation. However, the minimum optimal time period should be at least 10 years, which has gradually declined and brought in invasive species like Siam Weed (Chromolaena odorata) resulting in loss of biodiversity and nutrient depletion. In order to extend the fallow time period Forest Gardens are being developed through shade tolerant crops e.g- Turmeric, Ginger, Taro, Dioscorea, Elephant Foot Yam and Small gourd, which are being cultivated in the forest fallows to generate additional livelihoods. The fallows are closed for

Forest Garden in Ghagri village

grazing and protected from fires. Thus, forest gardens would generate supplementary income from fallows that is expected to incentivise the community to extend fallow periods and thus harmonise the Kurwa cultivation system to increased sustainability.

ii. Guided Fallows – aimed at addressing challenges being faced in the first year of the fallow period. In the new fallows Velvet bean, Jack Bean and Sword bean are being sown. This is like live mulching. The aim is to reduce invasive species, promote conservation of moisture, creation of a suitable microclimate for microbial action, improving soil structure and texture, maintaining soil pH, improving saline soils, preventing soil erosion, protecting soil biota from UV and Cosmic rays, replenishing water table, aiding in germination by maintenance of soil temperature, increasing crop resilience, creating dense root network, reducing excessive heating of soil or deposition of salt in top soil. By supressing invasive species and creating a conducive environment for the regeneration of native tree and plant species guided fallows have the potential to improve forest quality across the region thereby enabling the recovery of wild food species boosting their availability.

iii. Planting of native tree and plant species – a nursery of native tree and plant species with a focus on wild food varieties has been set up. The aim to facilitate planting of these native species in degraded forest fallows to promote their regeneration.

Annexure 1 - https://bit.ly/2OFA640

Velvet bean growing in a Guided Fallow in Chamdade village

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