aesa Sharing, learning and networking for innovation Blog: 234 (March 2025)

Agricultural Extension in South Asia

EDIBLE FORESTS: A PATH TO SUSTAINABLE NUTRITION

In this blog, Salome Yesudas highlights the importance of forest in food and nutritional security of communities and suggests options to enhance their utilisation in nutritional planning.

INTRODUCTION

Forests highlight the multifaceted relationship between people, wildlife, and food security. They support communities through direct food sources, ecosystem services, income opportunities, and other resources like fuelwood. This underscores the importance of preserving forests not just for environmental reasons but also for public health and economic stability. In 2025, the theme of the International Day of Forests celebrated on 21 March is "Forest and Foods" and this highlights the crucial roles of forests in ensuring food security, nutrition and livelihoods.

A wide range of edible foods can be found in forests, including seeds, leaves, fruits, roots, gums, fungi (mushrooms), and wild animals (such as insects, rodents, wild game, and fish). Often, these forest foods have comparable, or in some cases superior, nutritional quality to domesticated varieties. While these foods are not dietary staples, they supplement the overall diversity and nutritional quality of rural people's diets.

Forests provide food and fodder during periods of food scarcity. These emergency foods, which are exploited during times of need, are often energy-rich (compared to other forest foods like leaves and fruit) but require complicated processing. The advent of food aid and commercialization has diminished the importance of emergency foods gathered from forests.

A Word of Caution

Although forest foods, especially roots, tubers, and mushrooms, are abundant, it is essential to be aware of hidden toxins. Proper processing methods such as drying, soaking in water, fermenting, and cooking help remove these toxins. This knowledge is preserved by local communities and has been passed down through generations.

FORESTS AND FOOD DIVERSITY

Forests provide diverse foods, including roots and tubers, greens, vegetables, mushrooms, gums, insects, small animals, birds, honey, and many byproducts across the seasons.

It is important to compare the nutritional value of forest foods with more conventional sources of nutrition. Wild plant foods and animal products are often rich in vitamins and minerals, offering a higher nutrient density compared to starchy staples or processed snacks.

In my research conducted in Madhya Pradesh, Odisha, Andhra Pradesh, and Telangana, I documented a significant diversity of edible mushrooms, greens, fruits, roots, and tubers. Particularly in Odisha, our study revealed that 75% of energy-giving foods ("Go Foods") are cultivated, while 25% are uncultivated, with tubers being the primary forest source.

Forest foods provide essential nutrients that complement cultivated foods, contributing significantly to the dietary diversity and nutritional status of local populations.

Forests contribute to local diets through:

- **Go Foods** (Energy-rich foods such as roots, tubers, oilseeds, and nuts) - 25% comes from forest sources.
- **Grow Foods** (Protein-rich foods promoting growth and development) - 50% of local diets consist of both cultivated and forest foods.
- **Glow Foods** (Vitamin-rich foods that help protect against diseases) - Our study documented the consumption of 41 different types of greens and various wild fruits, though detailed food composition data is available for only 16 of these greens.

A tribal woman carrying fruits gathered from the forest

Forest foods, particularly those found in rich forest areas, play a crucial role in combating micronutrient deficiencies (Box 1). However, they remain largely neglected in nutritional planning for these communities.

Box 1: Importance of Forest Foods

Forest foods are important for food and nutritional security especially for forest based communities for the following reasons.

Critical Supplement: Forest foods serve as essential sustenance during food shortages, poor harvests, or economic hardships, preventing hunger and malnutrition.

Year-Round Availability: Well-maintained forests ensure access to diverse foods throughout the year, including tubers, greens, and fruits, supporting dietary balance.

Nutritional Value: While highly nutritious, some forest foods contain anti-nutritional properties, requiring proper processing.

Affordability and Accessibility: Forest foods are typically free, making them a vital resource for impoverished communities and a potential source of income when managed sustainably.

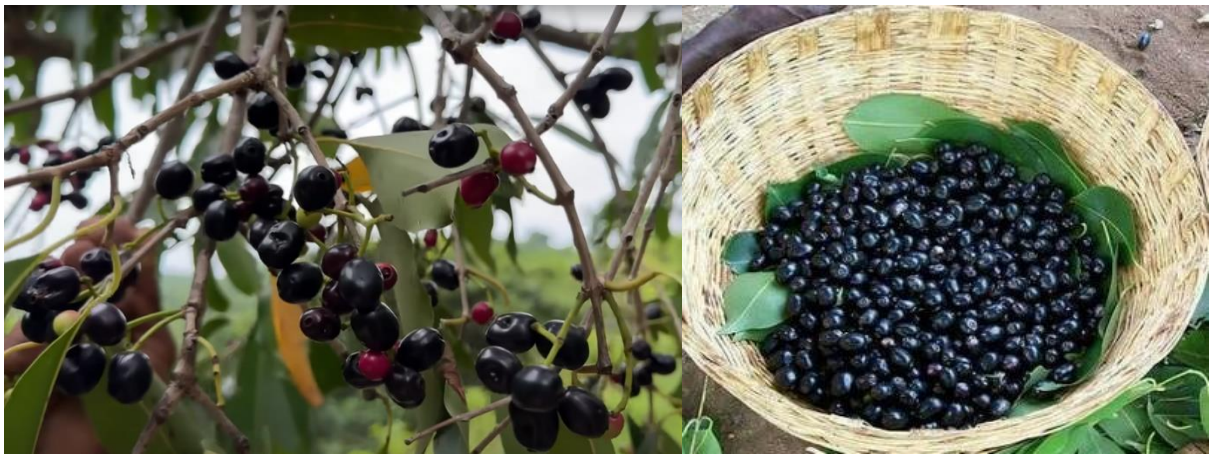
Safety: Naturally grown without pesticides or chemicals, forest foods are often safer than cultivated foods treated with harmful substances.

Climate Resilience: Forest foods are more resilient to climate change than cultivated crops, providing a buffer against food insecurity.

Cultural Significance: These foods foster self-reliance and dignity in Adivasi communities, reducing dependence on government schemes and preserving traditional knowledge.

Traditional Knowledge: Local communities hold immense knowledge about forest foods, including their identification, seasonal availability, and medicinal properties.

Further nutritional composition analysis of forest foods, particularly greens, is needed to address micronutrient deficiencies. These foods should also be incorporated into nutritional planning for Adivasi communities. A combination of traditional knowledge and scientific analysis is essential for popularizing these foods among younger generations.



***Neredu Pallu*, also known as Jamun, is a rich source of iron, natural sugars, essential minerals, protein, and carbohydrates. This fruit is widely found in forests across India and is known for its numerous medicinal benefits.**

KEY ISSUES TO ADDRESS

Though forest foods are important for ensuring food and nutritional security, there are a few key issues that need attention while promoting forest foods. These include:

- **Bioavailability of Nutrients:** Some forest foods may have limited nutrient absorption due to traditional cooking methods. Incorporating healthy fats can improve nutrient uptake.
- **Safety Concerns:** Proper identification of edible forest foods is crucial. For example, only experienced individuals can distinguish between edible and poisonous mushrooms.
- **Harvesting Practices:** Timing is critical when harvesting forest foods. This knowledge is typically passed down from elders in the community.
- **Inclusive Policy Development:** Policies should integrate agriculture, food security, and forest management. Collaboration between agriculture, forestry, and rural development sectors is necessary.
- **Community-Led Action:** Empowering local communities through participatory planning ensures their needs and knowledge are included in forest and land use policies.
- **Women's Empowerment:** Women are underrepresented in forest user groups. Efforts should be made to include them in decision-making.
- **Marketing and Value Addition:** Developing value-added products from Mahua, mushrooms, fruits, and fish through Farmer Producer Organizations (FPOs) can create sustainable economic opportunities.
- **Systematic Documentation of Forest Foods:** A structured approach should be used to document forest foods, including scientific names, edible parts, harvesting time, preparation methods, storage, medicinal uses, and market value.

CONCLUSION

Forest foods are diverse, nutritious, and often superior to intensively cultivated foods. Recognizing forests as food-producing habitats is essential for sustainable food security policies. The availability of forest foods is threatened by deforestation, agricultural shifts (e.g., monoculture farming, pesticide use), and social changes. These foods must be reintegrated into local food systems through sustainable forest management and conservation efforts.

A shift is needed in forest management perspectives to acknowledge the value of non-timber forest products (NTFPs) and forest foods. Stronger community engagement and constitutional frameworks such as PESA (Panchayats Extension to Scheduled Areas Act, 1996) and FRA (Forest Rights Act, 2006) must be leveraged to support forest-based food systems.

Communities and local organizations should take the lead in managing forest food systems, integrating research on the connections between forests, human health, and nutrition. However, care should be taken to prevent exploitation through misleading claims about medicinal properties.

Empowering women in forest-based food systems can lead to increased income, livelihood diversification, business skills, and improved food security. Their inclusion in forest-related institutions should be actively promoted.

Extension personnel can play a major role in mainstreaming forest foods through:

- Formation of Farmer Forest Schools
- Training on identification and preparation of forest foods
- Recipe demonstrations
- Highlighting the nutritional contribution of forest foods
- Organizing visits and exhibitions
- Supporting Farmer Producer Organizations (FPOs)
- Proper utilization of land under the Forest Rights Act (FRA)
- Establishing biodiversity demonstration sites
- Strengthening Joint Forest Management (JFM) committees

Policies must integrate forest foods into discussions on food security, agricultural practices, and forest conservation. Awareness should be raised among the general public, particularly forest-dependent communities, while ensuring habitat conservation.

Salome Yesudas is a freelancer who has worked with national and international organizations on local food systems. Over the past three decades, she has documented the role of forest foods in food and nutrition security, capturing various aspects of their significance. She can be reached at: salomeyesudas@hotmail.com