RELEVANCE OF WILD EDIBLE PLANTS & ASSOCIATED INDIGENOUS KNOWLEDGE : IMPLICATIONS FOR FOOD SECURITY

Dedicated to all the mothers of the world

Dr. Leena Gupta & Ms. Sunita Varma

SOCIETY FOR PROMOTION OF WASTELAND DEVELOPMENT, NEW DELHI

Email: leenapanchi@gmail.com

SPWD

- **Between 30% and 50% or 1.2-2 bn tonnes of food produced around the world never makes it on to a plate (Murdo Macleod for the Guardian)**
- **As much as half of all the food produced in the world- equivalent to 2 bn tonnes- ends up as Waste every year.**

- **Globally, an estimated more than 1.02 billion people are undernourished (FAO 2009). The literature on vulnerability, food security and ecosystem services has tended to emphasize cultivated foods (MEA 2005; Ericksen et al. 2009).**
- **However, there is substantial evidence that wild foods are an important part of the global food basket. At regional and national level, food balances guide policies on trade, aid and the declaration of food crises. Notably absent is the contribution made by wild edible species.**

Wild Edible plants of different regions

- North Gujarat (inc. Orchids) = 80
- Kachchh = 72
- Vadodara Region (Chhotaudepur, Kawant) = 64
- Narmada River circumambulation (Gujarat) = 29
- Udaipur and Arid Regions (Rajasthan) = 87
- Kalpavalli Region (Andhra Pradesh) = 48

More than 230 Wild edible plant species reported from all the above regions

…Work going on…


Plants under edible use

Ceropegia bulbosa **in wild**

***Ceropegia bulbosa*, a twiner with underground bulb - The entire plant along with bulb, branches, leaves, flowers, fruits and buds is used for edible purpose**

Woman selling *Nymphaea pubescens* fruits in local market

A local sweet dish '*Khir*' is made up of seeds of *Nymphaea pubescens* ('Ghiya', the seeds smell like- '*Ghee*') & *Ocimum americanum* (*Tukmariya*) occasionally and during fasting days.

Receptacles (*Pipu*) of *Ficus religiosa* are boiled and used for making vegetable.

Unripe fruits of *Phoenix dactilyfera* are used for making '*Sabji*'.

Plant parts dried and preserved for the off-season consumption

Pods of
Cyamopsis tetragonoloba

Prosopis cineraria
(Sangari)

Capparis decidua
(Kair)

Infloresence of
Cordia gharaf

Famine Foods

***Chapatti* prepared from Flour of dry fruits of *Capparis decidua*, locally known as '*Mani*'**

Chapatti* of *Eleusine indica

***Chapatti* of *Eragrostis ciliaris* (*Chinchani*)**

Traditional Pickles

Capparis cartilaginea

habitat specific sp., grows in cliffs,

status- Rare.

the most important species in pickle making. Aerial parts (tender twigs) along with leaves and fruits are used.

Daily consumption is believed to help in curing Arthritis

fishermen and camel herders (locally known as *Maldhari*) graze their camels in mangrove habitat, use seeds of *Avicennia marina* to make pickle.

Pods of *Cassia fistula* (*Garmal*) boiled and used in pickle making after removing the upper coat.

Conservation Issues . . .

1. Degradation of grasslands
2. Decreasing water regime
3. Forest degradation and Biotic loss
4. Extreme environment condition-low & erratic rainfall, high rate of evapotranspiration
5. Failure of natural regeneration
6. Increasing use of forest land in non-forestry works
7. Habitat alteration and loss
8. Heavy anthropogenic pressure
9. Human - Wildlife conflicts
10. Indigenous cultures affected by rapid acculturation

- ✓ Almost every ecosystem has been amended so that plants and animals can be used as food, fodder, medicines, etc.
- ✓ Historically, wild plants and animals were sole dietary components. Today, they remain key to many rural and tribal communities.
- ✓ The mean use of wild foods by local communities in India is 60 – 90 species per location (Kachchh, NG,Vadodara, Udaipur, AP). The mean use of wild species is 70-150 per community for indigenous communities in the different areas.
- ✓ Local communities in their environments, use many wild plants and animals. Yet, provision of and access to these sources of food may be declining as natural habitats come under increasing pressure from development, conservation-exclusions and agricultural expansion without ecological-holistic perspective.
- ✓ Despite their value (nutritional, medicinal, ecological, socio-economical), wild foods are excluded from official statistics on economic values of natural resources.
- ✓ It is clear that wild plants and animals continue to form a significant proportion of the global food basket, and while a variety of social and ecological drivers are acting to reduce wild food use, their importance may be set to grow as pressures on agricultural productivity increase.

- ✓ Over 50 per cent of the world's daily requirement of proteins and calories comes from three crops—wheat, maize and rice (Jaenicke & Hoschle-Zeledon 2006); 12 species contribute 80 per cent of total dietary intake.
- ✓ By contrast, wild foods provide a greater dietary diversity to those who rely on them. Ethnobotanical studies of wild plants indicate more than 7000 species have been used for human food in human history (Grivetti & Ogle 2000; MEA 2005).
- ✓ Some indigenous communities use over 200 (Kuhnlein et al. 2009); in India, 600 plant species are known to have food value (Rathore 2009); Some 1069 species of wild fungi consumed worldwide are important sources of protein and income (Boa 2004).
- ✓ Additionally, wild plants in particular have diverse uses. In Kachchh, Jessore, Udaipur and Kalpavalli, all the wild food plants have multiple uses (Gupta 2003, 2004, 2007, 2009, 2011) including food, beverage, oil yielding, dye yielding, craft making, hut construction, agriculture tool making, religious and the most important is Medicinal one.

The nutritional value of wild foods

- **Several studies have found that wild foods are important sources of micronutrients, their energy-density is generally low (with the exception of honey and high-fat organs or in season fat deposits) (Samson & Pretty 2006; McMichael *et al*. 2007).**
- **In the Sahel, several edible desert plants are sources of essential fatty acids, iron, zinc and calcium (Glew *et al*. 1997).**
- **In the arid Ferlo region of Senegal, some 50 per cent of all plants have edible parts, and those that are commonly consumed are critical suppliers of vitamins A, B2 and C, especially during seasonal lean periods (Becker 1983).**
- **Lockett *et al*.(2000) found that among the plants used by the Fulani in Nigeria, those available during the dry season (and thus important for ensuring year-round nutritional security in the face of possible food shortages) were superior in energy and micro-nutrient content compared with those from the wet season.**

Implications of Wild Edibles

- **The local indigenous knowledge of famine/ scarcity food is very significant in terms of survival in extreme conditions.**
- **Wild edibles are highly nutritious, rich, free of chemicals and available free in community surroundings.**
- **Promotion and conservation of wild edibles through community participation can play a very crucial role in implementation of Forest Rights Act (2006) and Biodiversity Act (2002).**
- **Can help to enhance the socio-economic status of village community through regular supply in markets.**
- **Large scale promotion of wild edibles can reduce burden of Agriculture system and can help to protect soil fertility.**

What do you mean by *WEEDS*?

There is nothing like a 'Weed' in our fields