Capacity Building for Entrepreneurship Centered Around Trees Outside Forests

Module 3:Market opportunities of tree-based products

Lecture 4:NTFP-based products and their market trends

Introduction:

- The term NTFP was coined by de Beer and McDermott in 1989. It has been defined as all biological materials other which are extracted from forests other than for human use.
- FAO defines Non timber forest products (NTFPs) as, “biological resources of plant and animal origin, harvested from natural forests, plantations, wooded land and trees outside forests.
- Non timber forest produces are also called as minor forest produces.
- The NTFPs can also be referred to as all the resources or products that may be extracted from forest ecosystem and are utilized within the household or are marketed or have social, cultural or religious significance.
- NTFP’S include Medicinal plants, honey, resins, fruits, nuts, bamboo, rattan etc.

CLASSIFICATION

A. On Certification basis:

i. Commercial value: Certification can be applied
ii. Subsistence value: Certification principles is very difficult or impossible to apply

B. Origin basis:

Animal origin:

- Honey
- Lac
- Tessar and other silk
- Insects and animal hides, skins and feathers
- Horns, bones, shellac-ivory and musk

Plant origin:

- Edible products
- Tan yielding
- Fodder and forage
- Fuel-wood and charcoal
- Bamboo and canes
- Bidi wrappers
- Handicrafts
- Decoratives

NTFP of India

1. Fiber: Fiber are long cells with thick walls and small cavities found in various plant parts

S . No	NTFP	Species	Commercial application	Source
1.	*Stem fiber*	*Sterculia villosa, Helictus isora, Grewia spp, Hardwickia binata, Bauhinia vahlii*	Ropes, fishing nets, cordage, weaving mate	Stem, leaves, roots, fruits and seeds
2.	Leaf fiber	*Caryota urens, Pandanus spp, Agaves spp*		
3.	Flosses	*Ceiba pentandra, Bombax ceiba, Calotropis gigantia*	Stuffing, mattresses	Seeds and fruits

2. Tannins: Tannins are organic substances obtained from different plant parts which are complex in chemical constitution

S . No	NTFP	Species	Commercial application	Source
1.	Bark tans	*Babul, Cassia auriculata, A. mollissima, Shorea robusta, Termenelia arjuna*	Treating hides and skins of animals	Bark , fruits and leaves
2.	Fruit tans	*T . myrobalan, T. checula, T. bellerica, Emblica officinalis*		
3.	Leaf tans	*Anigeissus latifolia, Carissa spinarum*		

3. Dyes: Dyes are coloring materials obtained from plant parts

S . No	NTFP	Species	Commercial application	Source
1.	Wood dye	*Pterocarpus santalinus, Bixa orellana, Butea monosperma*	Dyeing textiles and coloring foods	
2.	Flower and fruit	*Mallotus philippensis, Bixa orellana, B. monosperma*		
3.	Root	*Punica granatum, Rubia cordifolia*		
4.	Leaf dye	*Lwsonia inermis*		

4. Oils: Oils are the fat in liquid form at room temperature (do not evaporate in air)

S . No	NTFP	Species	Commercial application	Source
1.	Fatty oils	*Madhuca indica, Pongamia pinnata, Melia azadiracta, Bassia butyracea*	Soap making, lubricant making	Fruits and seeds

5. Essential oils: oils that evaporate in air

S . No	NTFP	Species	Commercial application	Source
1.	Trees	*Santalum album, Cedrus deodara, Cinnamomum camphora, Eucalyptus globulus*	Medicinal and cosmetic uses	Wood, leaves and fruits
2.	Shrubs	*Gaultheria fragrantisima, Saussurea lappa*		
3.	Grasses	Lemon grass, Palmarosa oil, Ginger grass oil		Roots and leaves

6. Gum: Gum is a translucent and amorphus substance partly dissolved in water to produce viscous solution. It is graded into Gums are graded into three categories and used accordingly, which are as follows:

S . No	Grades	Commercial application
1.	Fine	Liquid clarification, silk furnishing, quality water color preparation.
2.	Interme diate	Confectionary, pharmaceuticals printing ink, sizing, finishing textile fabrics and dying
3.	Coarse	Adhesive, calico printing, paint industry

S . No	NTFP	Species	Commercial application
1.	Katira gum	*Acacia senegal*	Medicine, textile, paste, polish, paint, confectionary industry, calico printing, dyeing, sizing material
2.	Babul gum	*Sterculia urens, S. villosa*	
3.	Ghatti gum	*Acacia nilotica*	
4.	Semal gum	*Bauhinia retusa*	
5.	Kino gum	*Pterocarpus marsupium*	

7. **Gum resin: Mixture of gum and resin**

S . No	NTFP	Species	Uses
1.	Dammar sal	*Cannaium strictum*	Inferior paints and varnishes , caulking boats, indigenous medicines and ointments on skin diseases
2.	Rock dammar	*Hopea odarata*	
3.	White dammar	*Vateria indica*	
4.	Black dammar	*Canarium strictum*	

8. **Drugs:** *Commiphora mukul, Podophyllum hexandrum, Chinchona spp, Aegle marmelos, Rauwolfia serpentina*
9. **Spices:** *Elettria cardomomum, Cinnamomum tamala, Piper longum, Piper nigrum*
10. **Edible products:** *Mangifera indica, Artocarpus heterophyllus, Juglans regia*
11. **Thatching material:** *Heteropogon contortus, Saccharum spontaneum, Saccharum munja*
12. **Fodder:** *Andropogon spp, Cynodon dactylon, Cenchrus ciliaris*
13. **Bamboo:** *Bamboosa bambos*, *B. vulgaris* etc.
    Used in Housing, scaffolding, tool handles, musical instruments, baskets, containers, edible shoots, pulp and paper industry.
14. **Cane:** *Calamus, tenuis, Calamus acanthospathatus*
    Used as walking sticks, rope substitute, basket and containers

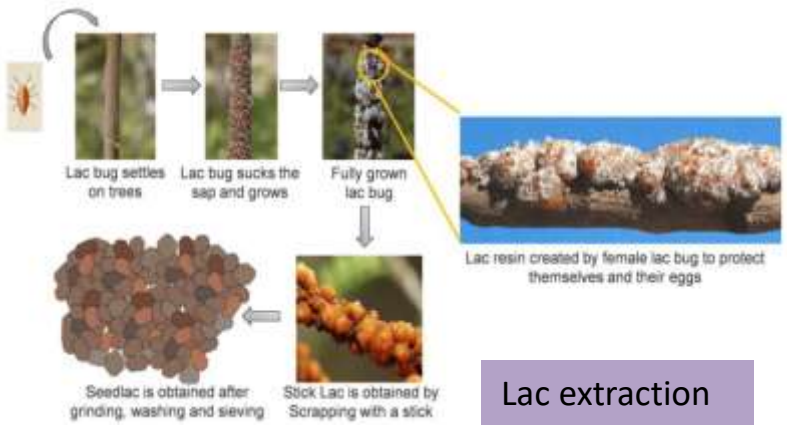
9. Animal Product

S . No	NTFP	Species	Uses
1.	Lac	*Laccifer lacca*	Silk manufacturing
2.	Honey and wax	*Apis dorsata, Apis indica*	Edible and medicinal
3.	Silk and tussar	*Morus alba, Terminalia arjuna, Anogeissus latifolia, Madhuca indica*	Silk manufacturing
4.	Hides and horns	Deer, Antelopes, Gaur	Ornamental
5.	Ivory	Tusks of elephant	Ornamental

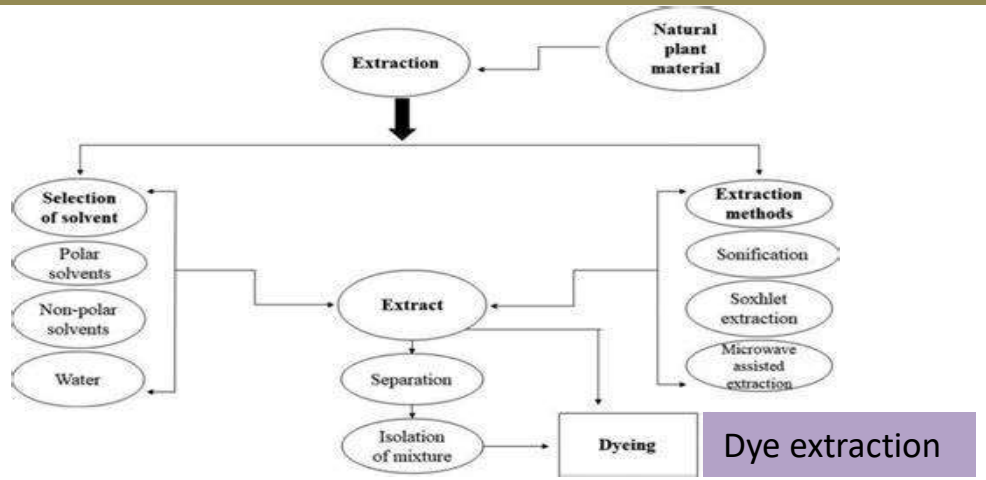
10. Miscellaneous

S . No	NTFP	Species	Commercial application
1.	Mineral product	Building stones, boulders, limestons	Construction and ornamental values
2.	Leaves	*Bauhinia vaghlii, Shorea robusta, Diospyrus melanoxylon*	Thatching huuts, needs, beedi, plates and cups
3.	Fruits	*Sapindus mukorossi,,*	Soap making
		Semecarpus anacardium	Washing clothes
		Abrus precatorious	Gold weighing
		Acacia concinna	Washing silk and woolen
4.	Bark	*Kydia calycina*	Cleaning gur
		Acacia nilotica	tanning and curing leather
		Cassia auriculat	tanning and curing leather
		Sal and Sain	Illicit distillation of liquor

Extraction Techniques

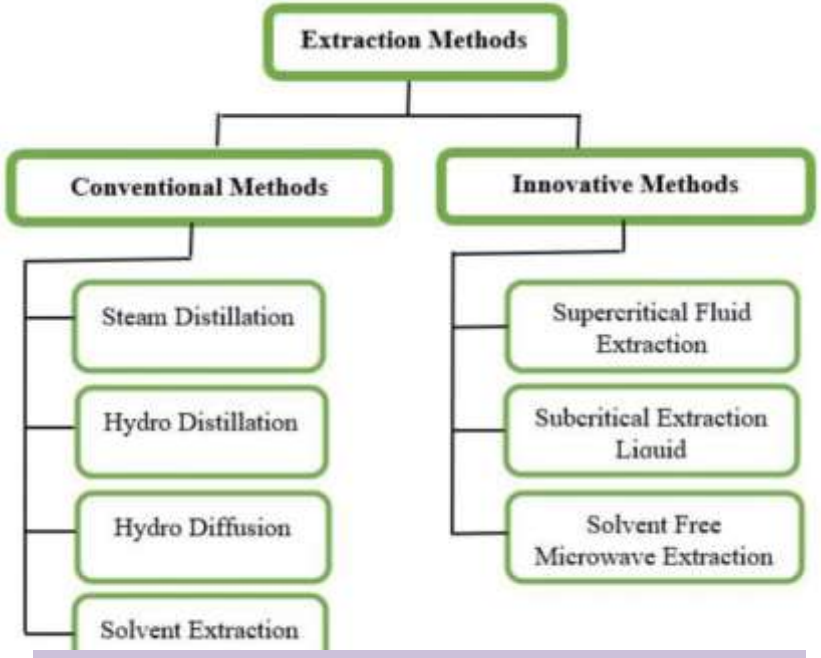


Lac extraction



Dye extraction

Rubber extraction



Essential oil extraction

Rubber extraction

Pine resin tapping

NTFP Collection: An analysis

Forest Department (Divisional Forest Officer)

Highest Bidder / Tribal Society → Permit given from collectors

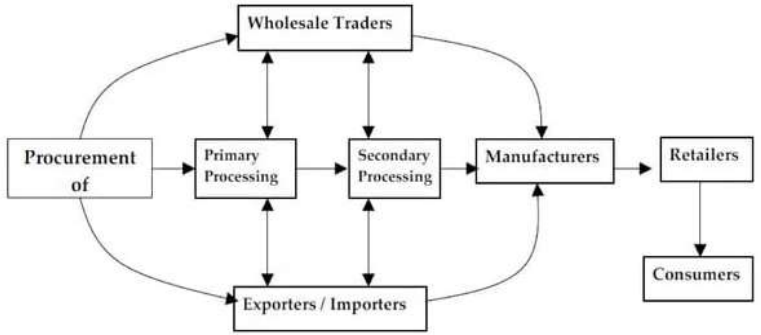
Agent

Sub Agent (Optional)

Tribal Collector

(**Source:** Key stone biodiversity programme – NTFP Project, 1998)

NTFP General – Supply chain



(**Source:** National status report[MOEF], 2006)

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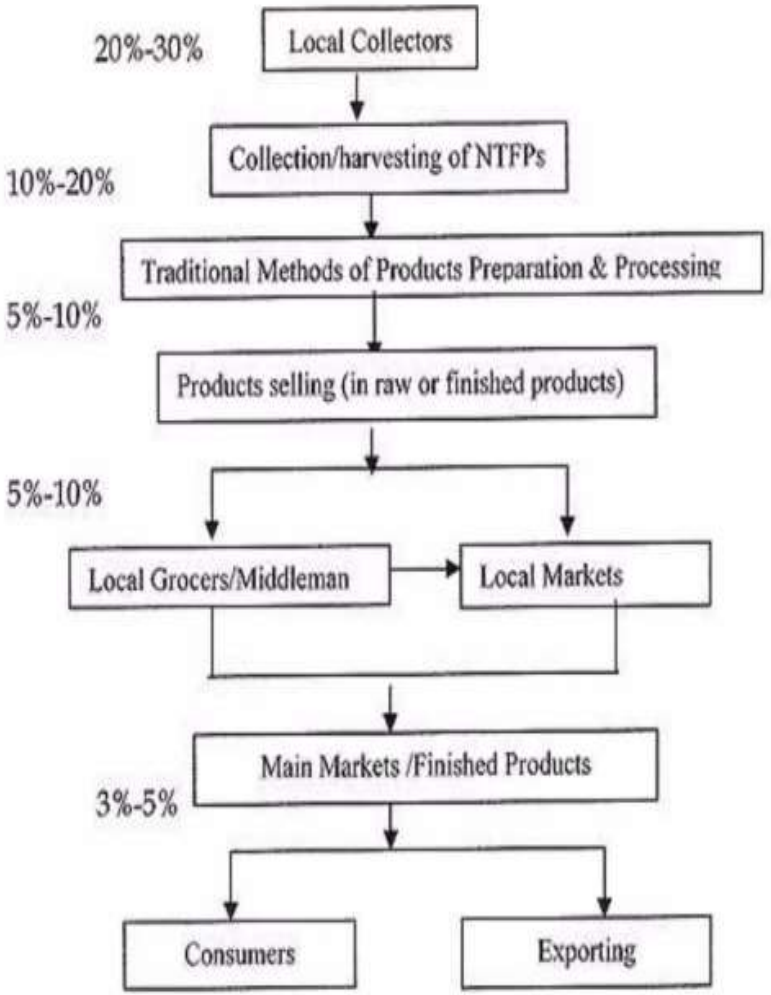
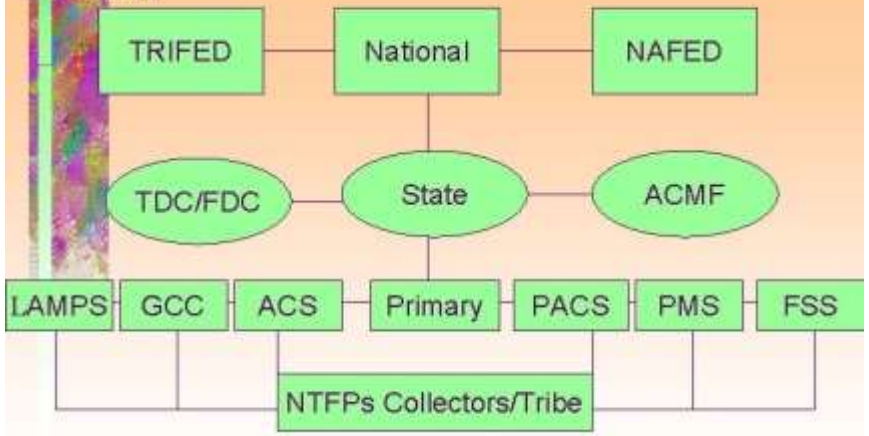
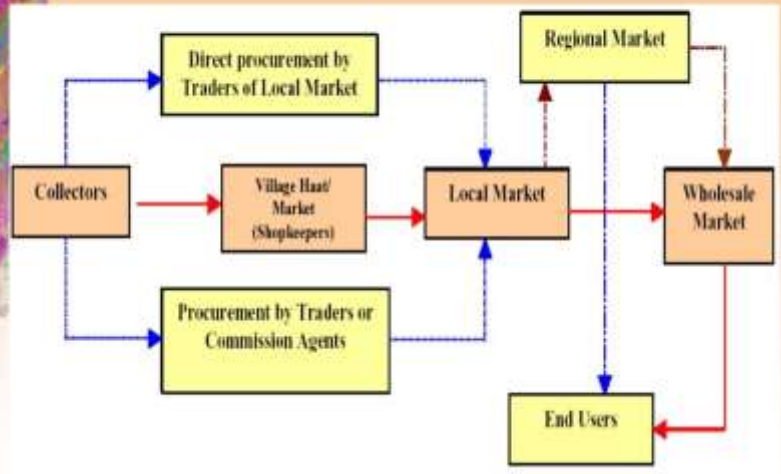
Loss of material



Institutional Setup for NTFPs Marketing in India



Common NTFPs Market Channels



BENEFITS

Economic: Source of income for rural communities and forest dependent communities.
Social: Promotes traditional knowledge and cultural heritage.
Environmental: Supports sustainable forest management and biodiversity conservation.

CHALLENGES

Market Dynamics: Limited understanding of market dynamics and influencing factors.
Data Gaps: Lack of comprehensive data and information sharing.
Overharvesting: Threat to sustainability. 3000 plants yield NTFP's excluding 150 medicinal plants, this are commercially exploited (csir 1982).
Market Access: Limited infrastructure and knowledge.
Value Addition: Lack of processing facilities.
Regulations: Lack of definite action plan at state and national level. Existing policies and certifications are complex.
Material loss: loss during collection, processing and marketing of various NTFP

Case studies

1. Tamul plates marketing pvt. Limited:
   Product: Ecofriendly disposable plates of areca nut tree sheaths
2. Trifed’s Van Dhan Vikas Kendra's:
   Product: Various NTFP’s such as honey, bamboo, tamarind and medicinal plants
3. M.P. State Minor Forest Produce Trading & Development Co-operative Federation (MP MFP Federation)

Conclusion:

NTFP,s plays an important role in sustaining and preservation of biodiversity and in the economic growth of an individual as well as nation. But the market if NTFP in India is closed and with little transparency. Continued research, market development, and community involvement are essential to unlocking the full potential of NTFPs, ensuring their role in achieving both environmental and socio-economic goals. Continued research, market development, and community involvement are essential to unlocking the full potential of NTFPs, ensuring their role in achieving both environmental and socio-economic goals.