



Sabyasachi Ray, born and brought up in Cuttack, Odisha, is a Mechanical Engineering Graduate who chose to follow his true calling—forestry and environmental conservation. Guided by a deep passion for nature, he transitioned from engineering to forestry, dedicating his career to the learning the methods of sustainable management of forests and natural resources.

His professional journey is rooted in the belief that science, technology, and traditional wisdom can together ensure the long-term health of forests. With a keen interest in timber harvesting, minor forest produce, and ecological restoration, he has been actively engaged in exploring modern, scientific approaches to forestry that balance economic viability with ecological responsibility.

In this book, Modern Approaches to Harvesting and Marketing of Timber, he brings together his technical background and field experience to provide fresh perspectives on sustainable timber management. Through his writing, he aims to inspire forestry professionals, students, and policymakers to adopt practices that enhance efficiency, minimize environmental impact, and support livelihoods.

PROCUREMENT AND MONITORING OF MINOR FOREST PRODUCE



Sabyasachi Ray



CENTRAL ACADEMY FOR STATE FOREST SERVICE
COIMBATORE

2025

PROCUREMENT AND MONITORING OF MINOR FOREST PRODUCE



Sabyasachi Ray



CENTRAL ACADEMY FOR STATE FOREST SERVICE
COIMBATORE

2025

Forests have always been a vital source of sustenance, culture, and livelihood for millions of people in India, especially the tribal and forest-dependent communities. Among the many gifts of nature, *Minor Forest Produce (MFP)* plays a pivotal role in supporting rural livelihoods, enhancing food security, and conserving traditional knowledge systems.

This book, *Procurement and Monitoring of Minor Forest Produce*, is an attempt to document, analyse, and present the diverse aspects of MFP in Odisha with reference to practices adopted in other states such as Chhattisgarh and Jharkhand.

This book is a commendable attempt that covers a wide range of topics—from the enumeration of MFP species in Odisha, their uses, district-wise distribution, and minimum support price, to methods of collection, processing, marketing, and conservation strategies. Case studies on Tussar silk, Mahua, Siali, Giloy, and Sal Seed highlight the successful models that can inspire replication in Odisha.

I congratulate Sri Sabyasachi Ray to continue this zeal and enthusiasm in the documentation of his future endeavours.

V. Thirunavukarasu, IFS
APCCF & Principal,
CASFOS, Coimbatore

During my OJT at the Corporate Office, O.F.D.C Ltd., Bhubaneswar, for my project, I visited Bastar District in Chhattisgarh to know the role of Chhattisgarh State Minor Forest Produce Trading and Development Co-operative Federation Ltd. (CGMFPFED) in the procurement and disposal of MFP such as Giloy and Salseed.

Through my interaction with federation officials, I gained knowledge about value-added products of Mahua and Siali (*Bauhinia vahlii*) and their success stories in Van Dhan Kendra of CGMFPFED in Chhattisgarh.

With regards to Tussar Silk, I have prepared a case study based on articles of Jharkhand Silk Textile and Handicraft Development Corporation Ltd., also known as JHARCRAFT, which is a government of Jharkhand undertaking.

My field visits to Bastar in Chhattisgarh and a detailed review of initiatives like Jharcraft in Jharkhand provided rich insights into institutional frameworks, value chain development, and innovative models for empowering forest gatherers. These non-timber resources not only sustain the households but also hold immense potential for value addition, entrepreneurship, and ecological sustainability.

This book aims to document, analyse, and present the diverse aspects of MFP in Odisha with reference to the best practices adopted in other states such as Chhattisgarh and Jharkhand.

Sabyasachi Ray

SFS Trainee(2023-25 Batch)

CASFOS, Coimbatore



ACKNOWLEDGEMENT

I extend my heartfelt gratitude to the Odisha Forest Development Corporation Ltd., and the local communities who generously shared their knowledge and experiences.

I would like to express my sincere gratitude to the Principal, CASFOS, Coimbatore, Shri. V. Thirunavukarasu and Course Director, Dr. Vidhyasagar, IFS, for encouraging and motivating me to come up with something substantial related to my area of interest.

I would like to thank all the faculty members of CASFOS Coimbatore for shaping me in such a way that I could develop an inclination for a specific field. I also extend my gratitude to the Editorial committee of CASFOS Coimbatore, Dr. Ramkrishnan R., Scientist C, and Dr. B. Muhamad Rafi Hussain for their technical guidance and editing this book.

I am deeply indebted to my mentors and colleagues at the Central Academy for State Forest Service (CASFOS), Coimbatore, for their constant guidance and encouragement.

My gratitude extends to family members for their unwavering support and encouragement, which has been a constant source of motivation and inspiration.

Sabyasachi Ray

CHAPTER 1: MINOR FOREST PRODUCE IN ODISHA (MFP) AVAILABILITY AND IT'S USES	1
1.1 Minor Forest Produce (MFPS) found in Odisha and their uses	1
1.2 Minor Forest Produce (MFP) found District-wise in Odisha	9
1.3 Latest Minimum Support Price (MSP) of all Minor Forest Produce (MFP) in Odisha	11
1.4 Method of collection, processing, and disposal of all Minor Forest Produce (MFP) found in Odisha	12
1.5 Steps taken for conservation and awareness of all Minor Forest Produce (MFP) found in Odisha.	13
1.6 All Minor Forest Produce (MFP) collection data in quantity for the last 3 years in Odisha.	13
1.7 Steps taken for the promotion of all Minor Forest Produce found in Odisha	15
1.8 Products made of Minor Forest Produce in Odisha	15
1.9 Steps taken for the sale of Minor Forest Produce and their products in Odisha	17
1.10 Marketing strategy for Minor Forest Produce (MFP) in Odisha.	17
CHAPTER 2: TUSSAR SILK	20
2.1 Case Study of Jharcraft	20
2.2 Post-Cocoon Activities	21
2.3 Garment Manufacturing	22

CHAPTER 3: INSTITUTIONAL MECHANISM FOR NTFP TRADE AND DEVELOPMENT IN CHHATTISGARH	24
3.1 Three-tier cooperative organisation	24
3.2 Federation's Apex Body	25
3.3 Forest Produce Co-Operative District Union	25
3.4 Primary Forest Produce Co-Operative Societies	26
3.5 Role of CGMFPFED	26
3.6 Organisational Structure of CGMFPFED	28
CHAPTER 4: SUCCESS STORIES OF MINOR FOREST PRODUCES IN CHHATTISGARH	29
4.1 <i>Madhuca longifolia</i>	29
4.1.1 Mahua Sanitiser Production Unit	30
4.1.2 Mahua Laddu Production Unit	31
4.2 <i>Bauhinia vahlii</i>	31
4.2.1 Dona-Pattal Production Unit	33
CHAPTER 5: VISIT TO PUSHPAL VILLAGE, CHHATTISGARH	36
5.1 Giloy	36
5.1.1 Method of Procurement in Chhattisgarh	36
5.1.2 Role of Chhattisgarh Herbals	37
5.2 SAL Seed	39
5.2.1 Method of Collection of Sal Seed	40
5.2.2 Role of Van Dhan Kendra	41
5.3 Key Challenges	42
5.4 Suggestions	43

CHAPTER 1: MINOR FOREST PRODUCES (MFP) AVAILABILITY AND ITS USES

1.1 Minor Forest Produce (MFPs) found in Odisha and their uses

SL No.	Name of MFP	Uses
1	Seeded Tamarind	● Culinary Uses - ingredient in curries, sauces, beverages, and candies. ● Health Benefits-helps in digestion, has antioxidant properties, and has anti-inflammatory effects. ● Medicinal applications-Used in Ayurveda for treating fevers, constipation, and skin conditions. ● Textile industry- Tamarind seed extracts are used in fabric printing.
2	Chironjee pod with seed	● Culinary Uses-used as flavour enhancer, ladoos & sweets ● Medicinal Benefits- oil extract is used for skin health, digestive aid, and anti-inflammatory properties.

SL No.	Name of MFP	Uses
		● Ayurvedic medicine - Chironjee is used in traditional remedies for headaches, respiratory disorders, and infertility. ● Weight management- Dry-roasted Chironjee seeds mixed with honey are believed to aid in weight loss.
3	Salseed	● Culinary Uses-edible oil extraction, used as substitute for cocoa butter in chocolate. ● Medicinal Benefits-used in ointments, creams, anti-inflammatory properties, wound healing. ● Industrial Uses-Sal seed oil is used in lubricants, lotions, soaps, and pharmaceuticals. ● Processed Sal seeds are sometimes used as cattle feed.
4	Karanja seed	● Medicinal Uses-Karanja oil extracted from seed is used for skin treatment, anti-inflammatory properties, wound healing, and digestive aid. ● Industrial Uses-biofuel production, cosmetics, lubricants.

SL No.	Name of MFP	Uses
		● Natural pesticide-Karanja oil is used as an organic pesticide to protect crops from pests. ● Animal feed- Processed Karanja seed cake is sometimes used as cattle feed.
5	Mahua seed	● Medicinal Benefits-wound healing, anti - inflammatory properties, skin care, supports digestion. ● Cosmetics: Mahua seed oil is used in soaps, lotions, and hair care products. ● Biofuel production: Research suggests Mahua seed oil can be used as a sustainable biofuel. ● Pharmaceuticals: It is used in medicinal formulations for its therapeutic properties. ● Animal feed: Processed Mahua seeds are sometimes used as cattle feed. ● Sustainable farming: Mahua trees play a crucial role in forest ecosystems and tribal livelihoods.
6	Harida	● Medicinal Uses- laxative properties, detoxification,

SL No.	Name of MFP	Uses
		respiratory support, skin care, anti-inflammatory, boost immunity. ● Ayurvedic formulations: It is a key ingredient in Triphala, a well-known herbal remedy, and used as herbal tea. ● Natural dye : Used for colouring fabrics and leather.
7	Salleaf	● Food wrapping : Sal leaves are commonly used as eco-friendly plates and food wrappers in India. ● Bio degradable plates: Sal leaves are stitched together to make disposable plates and bowls.
8	Wild honey	● Health & Medicinal Uses- cough relief, immunity booster, energy source, digestive aid, wound healing. ● Natural sweetener : Used as a healthier alternative to sugar in drinks and desserts. ● Flavour enhancer : Adds depth to marinades, dressings, and baked goods. ● Fermentation : Used in making mead, a traditional honey-based alcoholic drink.

SL No.	Name of MFP	Uses
		● Cosmetic & Skin care Uses - acne treatment, skincare, moisturiser.
9	Kusum seed	● Medicinal Uses-Kusum oil extracted from seed is used for pain relief, wound healing ● Biofuel production : Kusum seed oil is being explored as a sustainable ● Biofuel production : Kusum seed oil is being explored as a sustainable biofuel alternative. ● Cosmetics : The oil is a key ingredient in soaps, lotions, and hair care products. ● Lubricants : It is sometimes used in industrial applications. ● Natural pesticide : Kusum oil is used as an organic pesticide to protect crops. ● Animal feed : Processed Kusum seed cake is sometimes used as cattle feed.
10	Neem seed	● Natural pesticide: Neem oil, extracted from the seeds, is widely used in organic farming to control pests and insects.

SL No.	Name of MFP	Uses
		• Soil enrichment: Neem seed cake (the residue after oil extraction) is used as a fertiliser to improve oil health and prevent nitrogen loss. • Seed treatment: Neem extracts are used to protect crops from fungal infections and pests. • Medicinal Uses-oil extracted from the neem seed is used in skin care, has anti-inflammatory properties, and wound healing. • Neem oil is a key ingredient in soaps, lotions and hair care products. • Pharmaceuticals: Used in medicinal formulations for its. • anti-bacterial and anti-fungal properties.
11	Hill broom	• Used for production of eco-friendly brooms.
12	Dry shikakai	• Production of herbal shampoo. • Organic hair care solution.

SL No.	Name of MFP	Uses
13	Kalmegh	• Medicinal Uses-immunity booster, digestive aid, liver health.
14	De-seeded tamarind	• Culinary Uses-ingredients in curries, sauces, beverages and candies. • Health Benefits-helps in digestion, has antioxidant properties, has anti-inflammatory effects. • Medicinal applications - Used in Ayurveda for treating fevers, constipation, and skin conditions.
15	Dried amla pulp	• Production of Herbal tonic and herbal powder. • Hair care and hair growth promotion. • Culinary uses - pickles, candies.
16	Marking nut	• Production of medicinal / pain relief oils.
17	Soap nut dried	• Production of organic soaps and cleaning products.
18	Nuxvomica	• Medicinal Uses-treat indigestion, acidity, constipation, helps relief headaches & fatigue, stress.

SL No.	Name of MFP	Uses
19	Tamarind seed	● Digestive health : They aid in digestion and help manage diarrhoea and indigestion. ● Industrial & Food Uses- tamarind seed powder is used as a natural thickener. ● Textile industry - Tamarind seed gum is used in fabric printing and sizing. ● Pharmaceuticals-Tamarind seed extracts are used in medicinal formulations for their therapeutic properties.
20	De-seeded harida	● Medicinal Uses- laxative properties, detoxification, respiratory support, skin care, anti-inflammatory, boost immunity. ● Ayurvedic formulations: It is a key ingredient in Triphala, a well-known herbal remedy, and used as herbal tea. ● Natural dye : Used for colouring fabrics and leather.
21	Baheda	● Medicinal Uses detoxification, respiratory health, digestive aid, immunity booster, skin care, hair care.

1.2 Minor Forest Produces (MFP) found district – wise in Odisha

SL No.	Name of MFP	Location of availability
1	Seeded Tamarind	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, Kalahandi, Koraput, Nuapada, Sundargarh, Sambalpur, Deogarh, Gajapati.
2	Chironjee pod with seed	Nabarangapur, Kalahandi, sundargarh, Nuapada
3	Sal seed	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, alahandi, Koraput, Nuapada, Sundargarh, Gajapati.
4	Karanja seed	Kandhamal, Nabarangapur, gajapati, Koraput, Nuapada
5	Mahua seed	Kandhamal, Rayagada, Malkangiri, Nabarangapur, Gajapati, Rayagada, Kalahandi, koraput, Nuapada
6	Harida	Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangpur, Gajapati, Kalahandi, Koraput, Nuapada.
7	Sal leaf	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, Gajapati, Rayagada, Sundargarh, Kalhandi, Nuapada.

SL No.	Name of MFP	Location of availability
8	Wild honey	Rayagada, Keonjhar, Malkangiri, Malkangiri, Nabarangapur, Mayurbhanj, Gajapati, Kalahandi, Nuapada
9	Kusum seed	Kandhamal, Mayurbhanj, Nabarangapur
10	Neem seed	Malkangiri, Nabarangapur, Nuapada, Mayurbhanj
11	Hill broom	Kandhamal, Rayagada, Malkangiri, Nabarangapur, Gajapati, Kalahandi, Koraput, Nuapada
12	Dry shikakai	Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangpur, Gajapati, Kalahandi, Koraput, Nuapada.
13	Kalmegh	Kandhamal, Mayurbhanj, Nabarangapur
14	De-seeded tamarind	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, Kalahandi, Koraput, Nuapada, Sundargarh, Sambalpur, Deogarh, Gajapati.
15	Dried amla pulp	Kandhamal, Rayagada, Nabarangapur, Kalahandi
16	Marking nut	Kandhamal
17	Soap nut dried	Kandhamal, Mayurbhanj, Nabarangapur

SL No.	Name of MFP	Location of availability
18	Nux vomica	Kandhamal, Mayurbhanj, Nabarangapur
19	Tamarind seed	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, Kalahandi, Koraput, Nuapada, Sundargarh, Sambalpur, Deogarh, Gajapati.
20	De-seeded harida	Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangpur, Gajapati, Kalahandi, Koraput, Nuapada.
21	Baheda	Kandhamal, Mayurbhanj, Rayagada, Keonjhar, Malkangiri, Nabarangapur, Kalahandi, Koraput, Nuapada.

1.3. Latest Minimum Support Price (MSP) of all Minor Forest Produce (MFP) in Odisha

SL No.	Name of MFP	MSP (in Rs.)
1	Seeded Tamarind	36.00
2	Chironjeepod with seed	126.00
3	Sal seed	20.00
4	Karanja seed	22.00
5	Mahua seed	29.00
6	Harida	15.00
7	Sal leaf	35.00

SL No.	Name of MFP	MSP (in Rs.)
8	Wild honey	225.00
9	Kusum seed	23.00
10	Neem seed	27.00
11	Hill broom	50.00
12	Dry shikakai	50.00
13	Kalmegh	35.00
14	De-seeded tamarind	63.00
15	Dried amla pulp	52.00
16	Marking nut	09.00
17	Soap nut dried	14.00
18	Nux vomica	42.00
19	Tamarind seed	11.00
20	De-seeded harida	23.00
21	Baheda	17.00

1.4. Method of collection, processing and disposal of all Minor Forest Produce (MFP) found in Odisha

- Collection: MFPs are collected by tribal forest gatherers who depend on forest resources for their livelihood. TDCCOL procures the MFPs from Primary Collectors through Minimum Support Price (MSP) schemes, ensuring remunerative & fair price to the Primary collectors.

- Processing- MFPs undergo primary processing such as drying, cleaning, and grading at clusters. Some products are further processed into value-added goods. TDCCOL sells the processed MFPs through its own retail stores and also creates linkages with local markets to enhance processing efficiency.
- Disposal & Marketing- Procured MFPs are sold through e-auction platforms to national and local parties.

1.5. Steps taken for conservation and awareness of all Minor Forest Produce (MFP) found in Odisha.

- Sustainable harvesting : Training tribal communities on eco-friendly collection methods to prevent overexploitation.
- Biodiversity preservation : Promoting the cultivation of economically valuable forest species, like honeybee rearing.
- Workshops & training: Conducting awareness programs for tribal collectors on sustainable practices.

1.6. All Minor Forest Produce (MFP) collection data in quantity for the last 3 years in Odisha

PROCUREMENT OF MFPs UNDER MECHANISM FOR MARKETING OF MINOR FOREST PRODUCE (MFP) THROUGH MINIMUM SUPPORT PRICE AND DEVELOPMENT OF VALUE CHAIN FOR MFP - 2022-23

SL. NO.	MFP Procured	Total Quantity Procured (in Quintal)	Total Value of MFP Procured (in Lakh in Rs.)	No. of Beneficiaries
1	Harida	20.7	0.31	12,793
2	Seeded Tamarind	58871.41	2119.37	
3	De-seeded Tamarind	575.5	36.26	

PROCUREMENT OF MFPs UNDER MECHANISM FOR MARKETING OF MINOR FOREST PRODUCE (MFP) THROUGH MINIMUM SUPPORT PRICE AND DEVELOPMENT OF VALUE CHAIN FOR MFP - 2023-24

SL. NO.	MFP Procured	Total Quantity Procured (in Quintal)	Total Value of MFP Procured (in Lakh in Rs.)	No. of Beneficiaries
1	Harida	17.76	0.27	29900
2	Seeded Tamarind	127923.8	4605.26	
3	De-seeded Tamarind	1181.15	74.41	
4	Sal Seed	144353.75	2887.08	

PROCUREMENT OF MFPs UNDER STATE SECTOR SCHEME "LABHA - MSP FOR MFP" - 2024-25

SL. NO.	MFP Procured	Total Quantity Procured (in Quintal)	Total Value of MFP Procured (in Lakh in Rs.)	No. of Beneficiaries
1	Seeded Tamarind	13010.38	468.36	968
2	De-seeded Tamarind	205.35	12.93	

1.7. Steps taken for the promotion of all Minor Forest Produce found in Odisha

- TDCCOL ensures fair pricing for tribal collectors by implementing the MSP scheme for 21 nos. of MFPs. This prevents exploitation and provides a fair price to forest primary collectors.
- TDCCOL focuses on processing raw MFPs into value-added products like herbal oils, soaps, and food items.

1.8. Products made of Minor Forest Produce in Odisha

SL No.	Name of MFP	Products made of MFPs
1	Seeded Tamarind	Candies, tamarind powder, tamarind sauce, tamarind paste

SL No.	Name of MFP	Products made of MFPs
2	Chironjee pod with seed	Chironjee oil, Chironjee flour
3	Sal seed	Sal seed oil, herbal ointments
4	Karanja seed	Karanja oil, biofuel, pesticides.
5	Mahua seed	Mahua oil for cooking, Mahua based energy bar
6	Harida	Triphala herbal formulation, Herbal tea, harida Powder
7	Sal leaf	Biodegradable plates & bowls.
8	Wild honey	Organic honey
9	Kusum seed	Kusum oil for pain relief
10	Neem seed	Neem oil is used as bio-fertilizer, neem-based soaps & shampoos.
11	Hill broom	Brooms
12	Dry shikakai	Shikakai powder, herbal shampoo
13	Kalmegh	Herbal supplements
14	De-seeded tamarind	Candies, tamarind powder, tamarind sauce, tamarind paste, tamarind pickle
15	Dried amla pulp	Herbal tonic, powder
16	Marking nut	Pain relief oil
17	Soap nut dried	Organic soap
18	Nux vomica	Homeopathic medicines

SL No.	Name of MFP	Products made of MFPs
19	Tamarind seed	Tamarind seed powder for food thickening, tamarind seed gum for pharmaceuticals
20	De-seeded harida	Triphala herbal formulation, Herbal tea, harida Powder
21	Baheda	Baheda powder, Triphala formulation

1.9. Steps taken for the sale of Minor Forest Produce and their products in Odisha

- The procured Minor Forest Produce (MFP) and their value-added products are sold through local haats, bazars, exhibitions, and TDCCOL owned 'Adisha' outlets through proper & uniform branding and packaging.
- Procured Minor Forest Produces (MFPs) are disposed through e-auctions to the national and international players.

1.10. Marketing strategy for Minor Forest Produce (MFP) in Odisha

- Branding & Retail Sales- TDCCOL markets the processed MFPs through standardised packaging & branding and markets through its outlets under the 'Adisha' brand.
- Value Addition & Processing-TDCCOL focuses on processing raw MFPs into value-added products like herbal oils, soaps, incense sticks, and food items. This

enhances product quality and increases market demand.

- E-commerce & Digital Marketing - TDCCOL leverages online platforms to sell MFPs, expanding market reach.
- Market Linkages & Partnership - TDCCOL collaborates with retail chains like ITC to ensure better returns for tribal collectors.

CHAPTER 2: TUSSAR SILK

Tussar Silk

Jharkhand is the major producer of Tussar Silk. It accounts for 70 % of the country's total Tussar silk production. These are the secretions of insects of the Lepidoptera family.



Fig. 1: Tussar Silk insect host plant

Example of insects

Antheraea paphia *A. andamana*,
A. frithii, *A. helferi*, *A. compta*, *A. sivalika*, *A. roylei*
Tropical Species – *Antheraea mylitta*

Examples of host plants

Terminalia Spp (Arjun & Asan Tree),
Shorea robusta, *Morus alba*,
Gmelina arborea.

Tussar silk can also be reared artificially.

2.1 Case Study of Jharcraft

Jharkhand Silk Textile and Handicraft Development Corporation Ltd., also known as JHARCRAFT, is a Government of Jharkhand undertaking.

Jharcraft was formed to create sustainable livelihood opportunities in the rural areas, based on Sericulture, Handloom, Handicraft, and other allied activities.

They have got Tussar Silk Certified as Organic by an International agency, One Cert USA. Today, they are the sole supplier of certified Organic Tussar Silk in the world.

Realising this potential of silk production in the state, various policy decisions were framed, which are as under:

Resham Doot Project

This is an important policy decision that aims to strengthen the seed sector by organizing rearers in the group. This has also changed the role of the department from implementor to a facilitator. By the introduction of this concept, quality seed production has increased by 15 times. Farmers were organised into groups of 23-25.

The structure of the group is as follows: -

Resham doot – 1 (Group Leader)

Basic Seed Rearers – 2

Commercial Seed Rearers – 20 - 22

The Group Leader or the Resham Doot, along with the Basic seed rearers, are trained to convert Basic seed to Commercial seeds and are provided training and necessary rearing equipment.

2.2 Post-Cocoon Activities

Reeling

Reeling is a process of obtaining fine quality yarn from Tussar cocoon. They started conversion of cocoon into reeled yarn with the help of reeling-cum-twisting machine, developed by CSTRI Bangalore.



Fig. 2: Post-Cocoon Activities

Spinning

The quality of spun yarn has improved in the last five years.

Ghee cha Yarn – This is a type of yarn that is produced from cut cocoon, rat cut cocoon, and pierced cocoon. It has a very good market.

Baikal Yarn – This is the yarn that is produced from the peduncle of cocoons.



Fig. 3: Reeling of Tussar cocoon

Silk Waste

Jharcraft developed a technology for processing silk waste. They are supplying processed silk waste to a buyer from Germany. Jharcraft is also developing technology for the extraction of “sericin” from silk waste. Sericin has a good National and International Market. Sericin has good use in cosmetics and medicines.

2.3 Garment Manufacturing

Jharcraft took the initiative to establish the first state-of-the-art computerised apparel unit at Ranchi. This is run by a private firm – Craft Edge Apparels. Now, with the help of AEPC and ATDC Ranchi, three more production units have been established.

Suitable Regions in Odisha

1. Bhagamunda in Keonjhar
2. Sundergarh



Fig. 4: Jharcraft Apparel outlet

Potential of Odisha Forest Development Corporation Ltd.

1. Taking on lease large tracts of revenue or forest land to setup the Tussar Silk Park.
2. Conduct all activities in the same line as Jharcraft from rearing to final product.
3. Value addition of Tussar silk, like venturing into garment manufacturing and opening outlets.

CHAPTER 3: INSTITUTIONAL MECHANISM FOR NTFP TRADE AND DEVELOPMENT IN CHHATTISGARH

3.1 Three - Tier Cooperative Organisation

1. CG State Minor Forest Produce Cooperative Federation, Raipur - headed by a PCCF rank officer on deputation
2. District Unions - DFO as *ex officio* MD
3. Primary Cooperative Societies - Foresters / Deputy Ranger as Secretaries
4. Chhattisgarh State Minor Forest Produce (Trading and Development) Co-operative Federation Limited is an apex organization with a three - tier cooperative structure comprising a state - level Apex body, 31 District Unions, and 901 Primary Forest Produce Co-operative Societies.

Organisational Structure

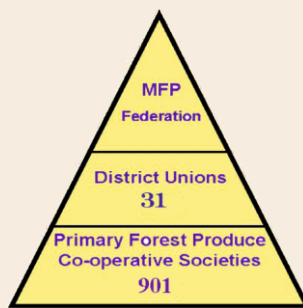


Fig. 5: Organisational Structure

3.2 Federation's Apex Body

The Federation's apex body is situated at Raipur. It has an elected board of directors comprising of Chairman, elected Directors, and State government officials. The apex body performs various activities such as collection and storage and trade of MFPs and payment to collectors through district-level co-operative unions.

It disposes specified non-timber forest produce through e-tenders and e-auctions by inviting national-level participants. It also advises the State Govt. on policy formulation on conservation, collection, value addition, and marketing of MFPs, etc.

3.3 Forest Produce Cooperative District Union

Forest produce co-operative district unions are the Forest Division level units, which are responsible for the production/ collection, transport, and storage of MFPs.

The Divisional Forest Officer, who is *ex officio* Managing Director of the District Union, is the Chief Executive Officer. He ensures the collection of produce, storage, and payment of collection wages to the collectors through primary co-operative societies with the assistance of the Forest Department and other Government Departments.

The Managing Director is assisted by the Deputy Managing Director and other staff. The District Union is governed by the Board of Directors, headed by an elected Chairman.

The Board of Directors comprises elected members from different areas of the forest division and nominated members

like the District Collector, Superintendent of Police, Divisional Forest Officer & Managing Director, and Deputy Registrar of Cooperative Societies. This governing body formulates the field strategy and reviews the progress of work assigned to District Unions.

3.4 Primary Forest Produce Cooperative Societies

Primary co-operative societies have been constituted with the membership of actual collectors of MFP and are responsible for the collection of the MFP at the collection centre level.

Each Primary Co-operative Society has a separate area of jurisdiction and elected and nominated members in the Board of Directors, as in the case of the district union.

Each Primary Co-operative Society has a part-time manager to assist with the office and fieldwork. The collection centres are managed by Phad Munshis, appointed for that purpose by the societies. These collection centres are supervised and guided by Forest Department Officials.

3.5 Role of CGMFPFED

- Collection and trade of the Specified MFP.
- Implementation of various Socio-economic Welfare Schemes for the tendu leaves gatherer families, like free footwear distribution, Scholarship schemes for education of their children.
- Insurance schemes for the members of the Tendu leaves gatherers.

- Distribution of profit from the trade of Tendu leaves in the form of different wages, etc.

To ensure that MFP gatherers get a proper price for their produce, Govt. of India has introduced the "Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP" scheme. Under this scheme, the MSP for important MFPs has been fixed.

- Collection and trade of other non-specified Minor Forest Produce, including medicinal and aromatic plants, with assured market tie-up.
- Promotion of Minor Forest Produce based processing units.
- Conservation, development, and sustainable utilisation of Minor Forest Produce.
- Promotion of cultivation of Minor Forest Produce Species, including medicinal, aromatic, and dye plants.

3.6 Organisational Structure of CGMFPFED

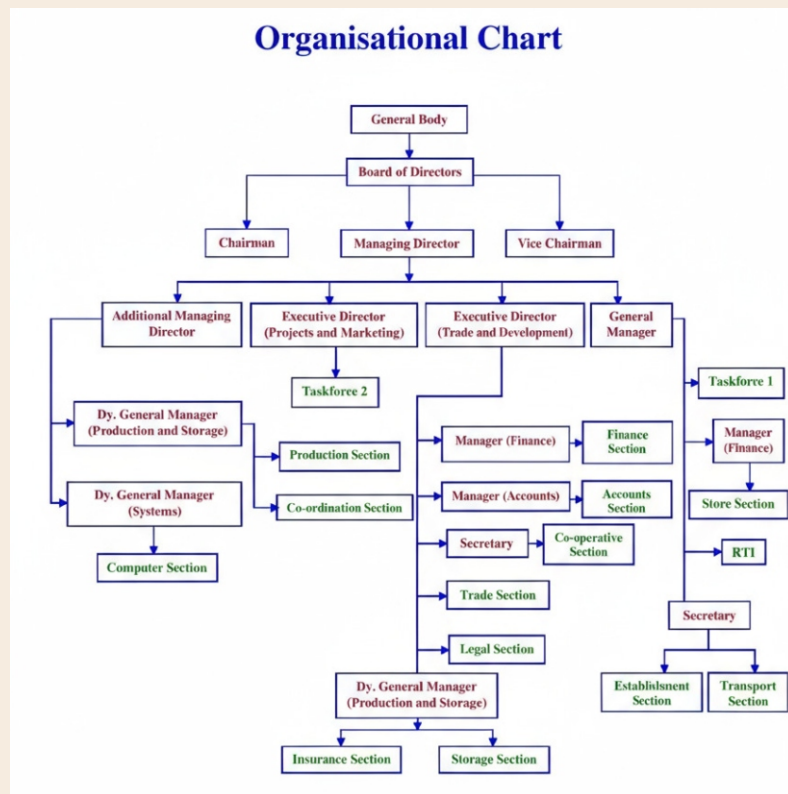


Fig. 6: Organisational Chart of CGMFPFED

CHAPTER 4: SUCCESS STORIES OF MINOR FOREST PRODUCES IN CHHATISGARH

We would look into the success stories of two MFP-based products by Chhattisgarh State Minor Forest Produce (Trading and Development) Co-operative Federation in Jashpur Division, Chhattisgarh.

1. *Madhuca longifolia* (Mahua)
2. *Bauhinia vahlii* (Siali)

4.1 *Madhuca longifolia*

Madhuca longifolia, commonly known as Mahua or Mahula in Odisha, is a vital tree species found in the state, particularly in the western region. It's a tropical tree valued for its flowers, which are used to make an alcoholic beverage, and its seeds, which yield a valuable oil. Mahua also plays a



Fig. 7: *Madhuca longifolia*

significant role in the social and economic lives of local tribal communities, serving as a source of food, medicine, and income.

Van Dhan Kendra, Panchakki, Jashpur, Chhattisgarh

Activities:

1. Mahua Sanitiser Production Unit
2. Mahua Laddu Unit
3. Dona Pattal Unit



Fig. 8 Van Dhan Kendra, Panchakki

4.1.1 Mahua Sanitizer Production Unit:

- Established in May 2020
- Ingredients-Ethanol (prepared using Mahua flower), Hydrogen Peroxide, Glycerol, IPA
- Production -+ 10000 lit
- Market Value -+ 50 lakhs rupees
- Net Profit - about 12 lakhs
- All Women SHG - 10 members

Marketing - through Sanjeevani Retail Outlets of Chattisgarh Herbals, Tribes India outlets of TRIFED



Fig. 9 Mahua Sanitiser

4.1.2 Mahua Laddu Production Unit

- Ingredients - Mahua flower (food grade), ghee, cashew/chironji/peanuts, sesame, rice flour
- Process-
 1. Collection of food grade Mahua flowers
 2. Drying of Mahua flowers
 3. Cleaning-removing stamens by beating
 4. Frying with ghee
 5. Crushing
 6. Mixing with other ingredients and making laddoos

4.2 Bauhinia vahlii

Also known as Siali in Odisha. It is distributed in several districts of Odisha, such as Sundergarh, Keonjhar, Mayurbhanj and Koraput. It is particularly found around Sal trees and is a large, woody climber with broad, bilobed leaves resembling a camel's footprint.



Collection of food grade Mahua flowers



Drying of Mahua flowers



Cleaning - removing stamens by beating



Frying with ghee

Fig. 10 Mahua Laddu Production Unit



Fig. 11 Mahua Laddu

In Chhattisgarh, with the efforts of the Federation and Territorial Forest Division, this MFP is no more a minor produce. On any occasion or at food festivals, food is being served in Dona Pattal made of this species.

This value addition has not only generated livelihood for tribals but also acts as a replacement for foam and plastic plates, which are non-degradable and contribute to pollution.

At present production unit is established at Vandhan Kendra, Panchakki, Jashpur, Chhattisgarh.

4.2.1 Dona-Pattal Production Unit

The dona pattal is made from leaves of *Bauhinia vahlii*, locally known as Mahul which is perennial, fast-growing climbing shrub, whose leaves are shaped like a camel's foot.

Process:

1. Plucking, drying and storage of leaves
2. Grading and stitching together.
3. Gluing to card sheets
4. Moulding into various required sizes

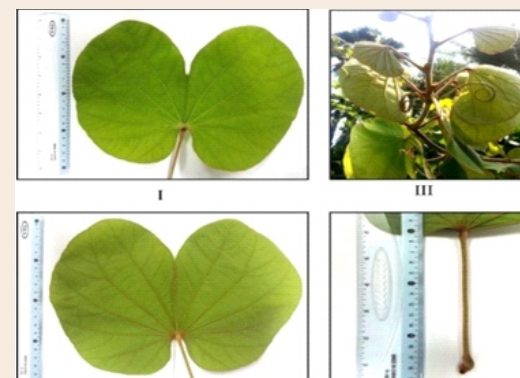


Fig. 11 Leaves of *Bauhinia vahlii*

Coming up venture : Herbal Soap Unit

Constituents -

1. Karanj/ Sal Seed butter/ Mahua Seed Oil
2. NaOH
3. Essential Oil
4. Distilled water



Fig. 12 Dona-Pattal Production



Fig. 13 Dona-Pattal Products

CHAPTER 5: VISIT TO PUSHPAL VILLAGE, CHHATTISGARH

As part of the study, I have visited Jeypore (C-KL) Division and proceeded to Puspall village of Bastar District, Chhattisgarh, under the Machkot Range to study the procurement, monitoring, and disposal of some MFPs in the state of Chhattisgarh through Chhattisgarh State Minor Forest Produce (Trading and Development) Co-operative Federation Ltd. (CGMFPEFED).

The successful models about Giloy and Sal Seeds are presented here.



Fig. 14 Procurement, monitoring, and disposal of MFP

5.1 GILOY: Scientific Name- *Tinospora cordifolia*

Uses- Giloy is used for skin disease, gout, fever, and jaundice. It is the best ayurvedic immunity booster. Giloy powder has anti-inflammatory, antioxidant, antipyretic, and anti-toxic properties. It also lowers fever.



Fig. 15 *Tinosporacordi folia*

5.1.1 Method of Procurement in Chhattisgarh

1. Interaction with the local collectors, Jasodha Sethia, Laxmi Sethia at Pushpal village, who are registered in the CGMFPFED, Suggest that, the collection of Giloyis around 100kg per family. After collection, it is dried, and all impurities are removed, such as unwanted twigs, leaves, etc. Out of 100 kg, only 30 -35 kg remains after primary processing.
2. The local Phad munshi's which is headed by CGMFPFED Prabhandak, then purchases the Giloy roots at MSP. There are two grades of Giloy, namely A & B. The MSP of Grade A is Rs 40/- per kg and Grade B is Rs 38/-per kg.

3. After that, it is transported to Van Dhan Kendra, where its value addition is done in the form of ayurvedic products under the Chhattisgarh Herbals Brand.



Fig. 16 Interaction with the local collectors

5.1.2 Role of Chhattisgarh Herbals

Chhattisgarh Herbals' brand is owned by Chhattisgarh State Minor Forest Produce (Trading & Development) Co-operative Federation Ltd. (CGMFP Federation), Nava Raipur.

1. The Federation procures 65 species of minor forest produce at Minimum Support Prices and processes them into more than 130 value-added products and sells them under the brand "Chhattisgarh Herbals" across the State. 'Chhattisgarh Herbals' products are being manufactured in production units run by women SHG members across different locations in the State of Chhattisgarh. Many of them are situated in remote corners of the state, but close to the tribal population centres.
2. 'Chhattisgarh Herbals' product retail reach has expanded rapidly in Chhattisgarh. From 30

exclusive 'Sanjeevani' retail stores, 'Chhattisgarh Herbals' is now available at more than 1500 retail stores and counting. Chhattisgarh Herbals has presence on leading e-Commerce platforms such as 'AMAZON' and 'FLIPKART' and is gaining recognition and accessibility in the countrywide market. The CGMFP federation has further taken various initiatives to expand the market reach from the domestic market to international markets for promoting the sale of 'Chhattisgarh Herbals' products.



Fig. 17 Chhattisgarh Herbals Products

Mode of Disposal

Marketing through **Sanjeevani** Retail Outlets of Chhattisgarh Herbals and Tribes India outlets of TRIFED



Fig. 18 Retail Outlets of Chhattisgarh Herbals

5.2 SAL Seed

1. Scientific name of Sal – *Shorea robusta*
2. Family-Dipterocarpaceae
3. Distribution - Odisha, Chhattisgarh, Jharkhand, West Bengal, Shivalik hills in Haryana
4. Uses - Oil for cooking, Butter making, Soap Industry



Fig. 19 Sal Seed

5.2.1 Method of Collection of Sal Seed

1. We met local Collectors Mr./Shri. Debdas Sethia, Mr./Shri. Chaitan Sethia, who are registered in the federation. Every year in May and June, collectors pluck the sal seeds in the early morning and burn them after spreading them on the forest floor to get rid of the wings. Then, after proper cleaning, they are stored in gunny bags. After that, they are dried in the sun for 2-3 days.
2. Then we met a federation-registered local Pharmunshi named Mr./Shri. Jagdish Sethia, whose role is to announce the date of sale of stored seeds in the village to be conducted in any local school compound or government institution. Around 17 Pharmunshi are headed by Pravandha. Then we met one such Pravandhak named Sri Neelesh Baghel. According to him, the commission of Pharmunshii fixed by the federation, i.e, Rs 1200/- per 100 quintal. The salary of a Pravandhak is Rs. 22,700/- per month.

The collectors get employment throughout the year except rainy season.

3. We learnt about different grades of sal seeds, namely A & B. MSP of A Grade is Rs 20 per kg, and B is Rs 18 per kg.



Fig. 20 Sal Seed

5.2.2 Role of Vandhan Kendra

- After collection by the Pravandhak, the MFP raw materials are transported to Vandhan kendra through vehicles, which are maintained by the federation. As per Pravandhak minimum of 30-35 quintals for 1 truck load to meet the expenses.
- At Vandhan kendra, the raw materials are further processed through machinery and transported to the Central godown.
- At Vandhan kendra, local traders can also purchase at a fixed price decided by the Head Office.

Lot Creation

As per our conversation with Shri Abinah Hemrom, a Federation staff at Jagdalpur, usually 1000-1200 quintal Sal seed are taken as a lot. The quantity in any lot and upset price is decided by the Federation Head Office, depending upon market demand and quality.

Mode of Disposal

By Tender Process

I have attached the sal seeds e-tender sale results of the 2024 and 2023 seasons.

By Fixed Price Scheme

If the lot goes unsold in one or two tender sales, then the federation will sell the lot at a fixed price. Any interested party can purchase the lot as per the fixed price.

5.3 Key Challenges

1. Minimum quantity collection required to meet the expenditure cost of transport to godowns and processing centre.
2. Fruiting season once in two years after 2014 due to climatic and edaphic factors.
3. Decrease in the number of collectors due to low MSP.
4. Chances of forest fire during processing on the forest floor.



Fig. 21 Sal Seed drying

5.4 Suggestions

1. Development in the field of research to procure clonal varieties and implement a suitable silviculture system that can provide regular fruiting seasons.
2. Collaboration of Forest staff to prevent forest fire through suitable control measures.
3. Focus on scientific methods of collection.
4. Crop insurance scheme and market - based MSP for collectors.