POLICY BRIEF

FEBRUARY 2018

The Energy and Resources Institute

Minimum Support Price of Minor Forest Produce (MFP) and Its Sustainable Harvest: A Social Safety Measure for MFP Collectors in India

CONTENTS

Author(s)

Dr J V Sharma, TERI
Dr Yogesh Gokhale, TERI
Mr Nishant Jain, TERI
Mr Yatish Lele, TERI
Ms Aparna Tyagi, TERI

Image Credits

Tamarind: http://gunamorganic.com/Groceries/Spices&Masala's/Organic-Tamarind-Buy-Online.php; last accessed on January 18, 2018.

The Energy and Resources Institute
Darbari Seth Block, IHC Complex,
Lodhi Road, New Delhi- 110 003

Tel. 2468 2100 or 4150 4900
Fax. 2468 2144 or 2468 2145
India +91 Delhi (0) 11

www.teriin.org

Forests in India are primarily treated as a social and environmental resource and, only secondarily, as a commercial resource. More than 300 million people are deriving full or partial livelihood from forests. They are also empowered with the governance of forests along with the ownership of Minor Forest Produce (MFP). The unsustainable harvest of forest produce is a major challenge which is also a predominant driver of forest degradation. The Energy and Resources Institute (TERI) has conducted research for establishing the Minimum Support Price (MSP) for MFPs considering MFP collector's labour input in collections, primary processing, sale, insurance costs, the financial value of their traditional knowledge, ownership of resources, and resource availability. The MSP for MFPs will help enhance the income of MFP

collectors and will also improve the quality of forests. Resource mapping will help the policymakers establish procurement and value-addition centres at the haat and bazaar levels, which would enhance the income of MFP collectors while ensuring the sustainable harvesting of MFPs. The implementation of MSP will help in sustainable forest management, sustaining livelihood of MFP collectors, mitigating climate change, contributing towards Nationally Determined Contributions (NDCs) targets from the forestry sector, and improving the quality of forests.

Background

Forests and the resources derived from it are life-sustaining elements for people living in and around forest areas. Forests, as one can imagine, form an intricate element of the social and cultural life of tribals, and it is estimated that in India, about 300 million tribal and other local people depend on forests for their subsistence and livelihood. With such a large population dependent on forest resources, the MFP is India's largest unorganized sector. MFP, under the FRA (Scheduled Tribes and Other Traditional Forest Dwellers [Recognition of Forest Rights]) Act, 2006, has been defined as, "all non-timber forest produce of plant origin including bamboo, brushwood, stumps, cane, *tussar*, cocoons, honey, wax, lac, *tendu* or *kendu* leaves, medicinal plants and herbs, roots, tubers and the like". The forest dwellers are now even legally empowered with the ownership and governance of the MFP through PESA (Panchayat Extension to Scheduled Areas) Act, 1996, and the Forest Rights Act, 2006. The FRA, 2006, gives the "right of ownership, access to collect, use and dispose of minor forest produce which has been traditionally collected within or outside village boundaries". Yet the tribal and other local people dependent on forests remain underprivileged and poor. The information on the extent of resource availability is scarcely available and requires detailed studies.

Status of Selected MFP Resources

TERI assessed the status of the selected MFP resources in the country and developed a methodology for fixing the MSP for 12 MFPs, namely, *Diospyros melanoxylon* (*tendu*) leaves, bamboo, *Pongamia pinnata* (*karanj*) seeds,

Mandate for the Minimum Support Price for Minor Forest Produce

The Cabinet approved the scheme 'Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP' in 2013 to ensure the social safety of MFP gatherers. It was driven by recommendations from the Sudha Pillai Committee (Planning Commission) as well as the Haque Committee (under the Ministry of Panchayati Raj) which recommended strategic government intervention in the form of MSP to ensure the social safety of MFP gatherers.

The scheme is designed as, "one of the social safety measures for the Minor Forest Produce gatherers, who are primarily members of the Scheduled Tribes. It seeks to establish a system to ensure fair monetary return for their efforts in collection, primary processing, storage, packaging, transportation, etc. It also seeks to get them a share of revenue from the sale proceeds with costs deducted. Further, it aims to address other issues for the sustainability of the process."[1] The MSP is to be determined based on the baseline survey of the price for each of the MFPs considering the above-mentioned elements in the states having areas under Schedule V of the Indian Constitution for the 12 selected MFPs.

[1] Guidelines and Operational Manual of the Scheme. 2014. Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) and Development of Value Chain for MFP. The Ministry of Tribal Affairs, Government of India.

Madhuca longifolia (*mahua*) seeds, *Shorea robusta* (*Sal*) leaves and seeds, lac, *Buchanania lanzan* (*chironjee*), wild honey, *Terminalia chebula* (*harra*), *Tamarindus indica* (*imli*) seeded, *Sterculia urens* gum (gum karaya), and resource abundance in the states of Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand, Andhra Pradesh, Telangana, Maharashtra, Rajasthan, and Gujarat.

An estimate of the abundance, potential yield, and sustainable yield of the 12 selected MFPs has been presented in the following table:

S. No.	MFP	Total Potential Abundance (no. of trees)	Total Potential Yield	**Sustainability**
1	Bamboo (*Bambusa bambos* and *Dendrocalamus strictus*)	3,338 million bamboo culms	Sustainable yield of bamboo is 2,837 million culms	Keep 20% of the culms in order to maintain the health of the clump and for future regeneration
2	*Chironjee* (*Buchanania lanzan*)	42 million trees	Sustainable potential yield of chironjee pods is 350 million tonnes	About 40% unsustainable harvest; around 30% should be left on trees
3	Gum karaya (*Sterculia urens*)	0.45 million trees	1,000 tonnes	Tree should be rested every third year for sustained yield
4	*Harra* (*Terminalia chebula*)	11.91 million trees	Total potential yield is 0.66 million tonnes	Protection of saplings is needed for enhancing regeneration
5	*Karanj* (*Pongamia pinnata*)	9.1 million karanj trees	Potential yield is 0.56 million tonnes karanj seeds	Mainly cultivated by farmers and planted by the forest department
6	Lac (*Kusumi and Rangeeni*)	Kusum (47 million), Palash (387 million), and Ber (76 million)	Total production is 16,978 tonnes	Large potential of host trees not yet tapped for lac cultivation
7	*Mahua* (*Madhuca longifolia*) seeds	880 million trees	88 million tonnes of mahua seeds	Sustainable potential yield is about 61 million metric tonnes of mahua seeds
8	Sal (*Shorea robusta*) leaves	About 19.8 million trees can be used for plucking leaves	3.2 million kg leaves are potentially exploitable	Only 30% leaves should be harvested from trees
9	Sal (*Shorea robusta*) seeds	0.39 billion Sal trees	4.75 million tonnes of seeds	Regeneration of Sal trees is not happening
10	Tamarind (*Tamarindus indica*) seeded	0.85 million trees	55,800 tonnes of tamarind	Mainly cultivated by farmers
11	*Tendu* (*Diospyros melanoxylon*) leaves	3.1 billion bushes and 1.8 billion small trees	About 0.36 million tonnes of tendu leaves	About 90% of the leaves or 0.32 million tonnes of leaves is the sustainable limit
12	Wild honey	NA	30,000 tonnes of wild honey produced	Non-violent techniques of honey harvesting from beehives need to be followed

Source: TERI (2017)[2]

People's primary dependence on forests for their livelihood has been criticized for the degradation of forest resources due to the unsustainable harvesting of MFPs. Hence the prices offered to the local communities for MFP collection should not only account for the time, resources, and efforts spent in collection, but also compensate for ensuring sustainable harvesting of the resource.

Methodology for Estimating MSPs

Considering the above aspects, TERI calculated MSPs based on the following parameters:

MSP = Cost of collection subject to adjustment to macro-economic variables

Cost of collection per kilogram = C1 + C2 + C3

- C1 = Estimated cost of labour. Average MGNREGA rates have been used as a benchmark to estimate the cost of efforts
- C2 = Paid-out cost (paid-out cost is calculated based on: cost of artefact for carrying and storing MFPs, transportation costs, insurance premium, and any other material cost)
- C3 = Premium for knowledge/skill, owner's royalty, and sustainability
  - Owner's royalty has been provided for each MFP to recognize the ownership rights of the tribals as per Section 3(1) c of the Forest Rights Act and Section 4(m) 2 of PESA. Owner's royalty has been calculated on the basis of: cost of regeneration/plantation of the species, safeguarding cost, and cost based on abundance/scarcity of the resource.
- Adjustment to inflation by linking the base price with the difference in consumer price index for agricultural labour (CPI-Agri-labour) for the month of December in 2015 and 2016.

MSP = Cost of collection + Adjustment of the CPI difference

A leverage of 10%–15% is provided in pricing of the MFPs at the state level considering the local market and other conditions.

Based on primary household surveys of 12,000 households and work study surveys of 1,200 households in 9 study states, data regarding the efforts spent from the collection to the sale of the MFP (C1, C2, and C3) was collected. The suggested MSPs for the 12 MFPs are as follows:

S. No.	Name of the MFP	Suggested MSP (INR)
1	Bamboo (*Bambusa bambos*)	25 per culm
2	Bamboo (*Dendrocalamus strictus*)	87 per culm
3	Chironjee (*Buchanania lanzan*) pods	100 per kg
4	Gum karaya (*Sterculia urens*)	123 per kg
5	Harra (*Terminalia chebula*)	16 per kg
6	Karanj (*Pongamia pinnata*) seeds	19 per kg
7	Lac (*Kusumi*)	208 per kg
8	Lac (*Rangeeni*)	167 per kg
9	Mahua (*Madhuca longifolia*) seeds	22 per kg
10	Sal (*Shorea robusta*) leaves	28 per kg
11	Sal (*Shorea robusta*) seeds	16 per kg
12	Tamarind (*Tamarindus indica*) seeded	28 per kg
13	Tendu (*Diospyros melanoxylon*) leaves	4 per bundle of 50 leaves
14	Wild honey	180 per kg

Source: TERI (2017)[3]

The tribals and other forest dwellers have largely been left out of the mainstream developmental process and are leading excluded and marginalized lives. The Planning Commission indicates that in 2009/10, about 47% of the

[2] Compiled from the status reports on the selected MFPs.
[3] Compiled from the status reports on the selected MFPs.

rural tribal population was below the poverty line, while about 30%, based on Tendulkar's methodology, of the urban tribal population was below the poverty line.[4] It is important that the tribals are socially and economically empowered so that they can rise in socio-economic terms and be a more prominent part of the decision-making process. Legal mechanisms that address these aspects have been discussed in the following box:

Legal Arrangements for the Empowerment of Local Communities

The establishment of local, self-governance mechanisms has played a major role in empowering the tribal population in India. Following the 73rd Amendment in the Indian Constitution, three-tier governance in the form of panchayats at village (gram panchayat), intermediate or block (panchayat samiti), and district (Zilla Parishad) levels has been established. Gram panchayats are the institutions of local self-governance that prepare and implement plans for economic development and social justice in villages. However, the provisions of the 73rd Amendment were not made applicable to the Scheduled Areas. The Panchayat (Extension to the Scheduled Areas) Act (PESA), enacted in 1996, extended panchayats to Scheduled V areas with certain exceptions and modifications. It promotes people-centric governance by giving gram sabhas the right to ownership of MFPs. The Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, or the Forest Rights Act, (FRA), 2006, also gives the tribal communities and other traditional forest dwellers, under Section 3(c), the "right of ownership, access to collect, use and dispose of minor forest produce, which has been traditionally collected within or outside village boundaries".

MFPs are an important source of livelihood for tribals living in the Indian forests in India. Owing to the large domestic and international demand for MFPs, there is tremendous potential to create large-scale employment opportunities for rural people, especially women, and help reduce poverty and empower communities. Addressing the following aspects in the MFP value chain would help create employment opportunities for the communities:

- Value addition of the MFP collected
- Setting up procurement units at haat bazaars in the villages
- Creating primary processing units at the haat level
- Better marketing of the produce
- Developing and promoting cultivation techniques for the selected MFPs

The Minor Forest Produce Processing and Research Centre (MFP-PARC) at Barkhera Pathani, Bhopal, has carried out exemplary work in developing the value chain of MFPs and benefitting the communities engaged in collecting them. The description of the centre has been provided in the following box:

Minor Forest Produce Processing and Research Centre at Barkhera Pathani, Bhopal

The Madhya Pradesh State Minor Forest Produce Federation has been proactive in creating additional livelihood opportunities for forest dwellers through the MFP collection and its marketing. The MFP-PARC at Barkhera Pathani in Bhopal is one of such centres.

The centre has been developed for the processing and the value addition of the MFP-based raw materials into Ayurvedic proprietary and classical drugs, nutraceuticals, and herbal-based cosmetics and products. The centre is also supporting forest-


Honey Processing Unit, MFP-PARC

[4] Refer to https://tribal.nic.in/ST/Tribal%20Profile.pdf; last accessed on January 19, 2018.

dependent communities to enhance their livelihood by assisting them through sustainable harvesting, primary processing, and marketing of MFPs. The state government has decided to transfer all the net income from the trade of the MFP to the Primary Forest Produce Societies, who in turn distribute these profits giving 60% to the collector of MFPs, 20% for the development of MFPs and regeneration of forests, and the rest for infrastructure development/cash payments.

The Government of Madhya Pradesh has declared this centre as a state pharmacy and the Ministry of AYUSH (Government of India), the Government of India, has also recognized it as one of the eight state pharmacies of the country for the purpose of Ayurveda, Siddha, and Unani drug production and supply to various government departments. *(**Source:** MP State Minor Forest Produce [Trade & Development] Cooperative Federation Limited)*

Cultivation Techniques for MFPs

Some of the MFPs have been overharvested and require revival. Some species are harvested without following sustainable harvesting techniques. There is a need to develop appropriate cultivation and harvesting techniques for those species. The appropriate techniques for the 12 selected MFPs are as follows:

S. No.	MFP	Cultivation Technique
1	Chironjee (*Buchanania lanzan*) pods	Chironjee plants have a long gestation period of about 15–20 years. The seeds can be sown on raised beds or in polythene bags during the months of June–July and they germinate in about a month. The seedlings become ready for grafting after about a year from the date of sowing. Vegetative propagation through soft-wood grafting and chip budding is successful.
2	Bamboo (*Bambusa bambos* and *Dendrocalamus strictus*)	Bamboo is best raised through seeds, though vegetative propagation is also undertaken. Seedlings are raised in nursery beds and allowed to develop for a year before they are transplanted in the fields. Propagation is through rhizomes or culm cuttings. In rhizome planting, one-year-old culms with roots are dug up, cut to about a metre high, and planted during rainy season.[5]
3	Karanj (*Pongamia pinnata*) seeds	The direct sowing of karanj seeds is usually successful. The seedlings transplant easily from the nursery after about a year. Root suckers are plentiful as well. It is a rapid-growing coppice species that can be cloned.[6]
4	Lac (*Kusumi* and *Rangeeni*)	Lac culture is the cultivation of lac insects for the production of lac. Kusum (*Schleichera oleosa*), Palash (*Butea monosperma*) and Ber (*Zizyphus mauritiana*) are common host plants for lac cultivation in India. Kusum seeds are sown directly, whereas those of other hosts, such as Palash and Ber are sown in nurseries, wherein the seedlings get duly transplanted. Lac is usually cultivated in natural conditions, although orchards or plantation conditions are more preferable for a better yield. Proper tendering and pruning of the host tree at the right time of the year is required for the feeding of the lac insect. The brood lac sticks are tied to the host twigs for allowing young lac larvae to emerge and settle on the host plant in a process called inoculation. The brood lac is scrapped from the twigs within 2–3 weeks' time.[7]
5	Harra (*Terminalia chebula*)	The tree mainly propagates through the process of natural regeneration. It can be successfully raised in fields by directly sowing the seeds, transplanting the seedlings, and planting roots and short cuttings. The pre-treatment of seeds results in faster growth.[8]
6	Sal (*Shorea robusta*)	Requires better management of the resource through natural regeneration.

[5] Refer to http://keralaagriculture.gov.in/htmle/bankableagriprojects/fw/Bamboo.htm; last accessed on January 19, 2018.
[6] Refer to https://www.hort.purdue.edu/newcrop/duke_energy/Pongamia_pinnata.html; last accessed on January 19, 2018.
[7] Refer to http://www.agriinfo.in/default.aspx?page=topic&superid=6&topicid=1524; last accessed on January 19, 2018.
[8] Refer to https://haritaki.org/cultivation-of-haritaki-myrobalans-terminalia-chebula/; last accessed on January 19, 2018.

7	Tamarind (*Tamarindus indica*) seeded	Tamarind is propagated through seeds or grafts. Fresh seeds are sown in nursery beds in March–April. Two-year-old seedlings are transplanted to the main fields. Seedlings tree in about 15–20 years. In order to obtain true-to-type plants with reduced pre-bearing age, uniform growth, and yield vegetative methods, such as budding and grafting can be used in establishing tamarind orchards.[9]
8	Tendu (*Diospyros melanoxylon*)	Requires better management of the resource through natural regeneration.
9	Gum karaya (*Sterculia urens*)	Tapping of gum from gum-yielding trees is done by blazing and stripping off the tree bark. Gum flow starts after approximately 20 days. Tapping can be carried out throughout the year, but more so during hot weather. Incisions should be made carefully without injuring the inner tissue. Gum is usually collected in a polythene bag, or a polythene-lined basket, and dried.
10	Mahua (*Madhuca longifolia*) seeds	Seeding and grafting can be used for cultivation. Seeds can be sown on raised beds or polythene bags during July. They germinate in 10–15 days, after which the transplantation can be done in about a year. Grafts become ready for plantation after 2 months of grafting.[10]
11	Wild honey	Non-violent techniques of honey harvesting from beehives need to be followed.

Challenges and Issues

The forestry sector has significant potential to enhance the income of the forest-dependent communities, including tribals, through sustainable harvesting, processing, value addition, and marketing of MFPs. At the present, however, the sector has a few concerns causing social and ecological stress. Some of these challenges and issues are as follows:

- Unsustainable techniques of harvesting MFPs is leading to poor resource regeneration.
- There is a lack of standardization of the quality of MFPs.
- The value chain, from collection to the sale of the produce, is largely unorganized and informal leading to inequitable distribution of profits.
- MFP gatherers lack the knowledge of value addition techniques and skills.
- Poor awareness and lack of capacity of the local communities and institutions to implement provisions of the FRA and PESA about the ownership and management of MFPs.

The Way Forward

Despite legal empowerment of the tribals to own and manage the MFPs, they have largely remained poor and the resource is getting degraded. Not only do the tribals and other forest dwellers need to be socially and economically empowered, but the environmental sustainability of the forest resources needs to be maintained as well. MFPs have tremendous potential to secure livelihoods for the forest-dwelling communities, particularly the tribals. There are ways through which all three facets—social, environmental, and economic—of sustainable development can be ensured through sustainable management of MFPs by focussing on the following aspects:

- Capacity building of local communities should be conducted to adopt sustainable harvesting techniques and by adopting cultivation techniques of the selected MFPs.
- Frontline forestry staff should be sensitized for the implementation of PESA, 1996, and the FRA, 2006.
- MFP gatherers need installation of primary processing units for the value addition of the MFPs at the haat level.
- Procurement centres should be established as part of haat bazaars.
- Better linkages with markets should be established.
- Research and development on the possible uses of MFPs (for instance, in pharmaceutical and food industries) needs to be undertaken.
- Detailed resource mapping studies should be carried out to assess the country's MFP resource availability.

[9] Refer to https://www.indiaagronet.com/indiaagronet/horticulture/CONTENTS/tamarind.htm; last accessed on January 19, 2018.
[10] Refer to http://www.fruitipedia.com/mahua.htm; last accessed on January 19, 2018.

This is one in a continuing series of policy briefs and discussion papers by TERI based on its research work in specific areas. These briefs and papers are made available to the Members of Parliament, policymakers, regulators, sectoral experts, civil society, and the media. They are accessible at http://www.teriin.org/policybrief/. The purpose is to focus on key issues and list our policy recommendations to encourage wider discussion and debate. We would very much value your comments and suggestions.

Policy Briefs and Discussion Papers of TERI

1.	Designing a Business Model for Sustainable Management of End-of-Life Vehicles (ELVs) in India	March 2017
2.	Charging Power - Understanding Electricity Pricing and the Willingness to Pay for Electricity in India	February 2017
3.	Water Neutral Electricity Production in India: Avoiding the Unmanageable	December 2016
4.	Sustainable Urban Development: Necessity of Integrating Water-Energy-Food Dimensions in Developmental Policies	October 2016
5.	Sustainability Dynamics of Resource Uses and Economic Growth	August 2015
6.	Solar PV for Enhancing Electricity Access in Kenya: What Policies are Required?	July 2015
7.	Organic Agriculture: An Option for Fostering Sustainable and Inclusive Agriculture Development in India	June 2015
8.	Towards a Policy for Climate Resilient Infrastructure and Services in Coastal Cities	June 2015
9.	Supply-side Financing of Improved Biomass Cookstoves in India	May 2015
10.	Selecting the Appropriate Improved Cooking Technology: What Matters?	May 2015
11.	Can Subsidies be a Tool for Strengthening the Improved Cookstoves Market?	April 2015
12.	Capacity Needs of Government Officials for Integration of Energy and Human Developments	April 2015
13.	Mainstreaming Gender in Improved Cookstove Value Chain	March 2015
14.	Bundling Improved Cooking and Lighting Technology for Energy Access	March 2015
15.	Biofuel Promotion in India for Transport: Exploring the Grey Areas	February 2015
16.	Crisis in India's Electricity Distribution Sector: Time to Reboot for a Viable Future	January 2015
17.	What would India Need for Moving to a 100% Renewable Energy Scenario by 2050?	December 2014
18.	Perspectives on a Water Resource Policy for India	October 2014
19.	Advancement of Fuel Quality and Vehicle Emissions Norms to Improve Urban Air Quality in India	September 2014
20.	Tax Regime for Improved Cookstoves and its Implications	September 2014
21.	Proliferation of Cars in Indian Cities: Let Us Not Ape the West	June 2014
22.	Climate Proofing Indian Cities: A Policy Perspective	March 2014
23.	India and Sustainable Development Goals	November 2013
24.	Engagement with Sustainability Concerns in Public Procurement in India: Why and How	August 2013
25.	Enhancing Water Use Efficiency of Thermal Power Plants in India: Need for Mandatory Water Audits	December 2012
26.	Governance of Mining in India: Responding to Policy Deficits	June 2012
27.	Don't Tinker with the Clock to Save Energy	August 2011
28.	Strengthening Agricultural Biotechnology Regulation in India	September 2010

For more information, contact:

Dr J V Sharma

The Energy and Resources Institute (TERI)
Darbari Seth Block,
IHC Complex, Lodhi Road,
New Delhi 110 003

Tel: 24682100 or 41504900
Fax: 24682144 or 24682145
Web: www.teriin.org
Email: jv.sharma@teri.res.in