

# Minor Forest Produce Gathering and Sustainability of Tribal Livelihood Assets: Challenges and Issues in Kerala

Alexander T C B.sc LLB, M.B.A, PGD-GST

Ph.D. Research Scholar,

Department of Business Administration - Annamalai University,  
Annamalai Nagar -Tamil Nadu India  
Email: [alekscclement \[AT\] gmail.com](mailto:alekscclement [AT] gmail.com)

Dr. K. Anandanatarajan M.B.A, Ph. D

Associate professor Research Supervisor

Department of Business Administration -Annamalai University,  
Annamalai Nagar -Tamil Nadu India  
Email: [professorkanand \[AT\] gmail.com](mailto:professorkanand [AT] gmail.com)

Dr. J. Rajan M.Com., M.B.A., LL.B., P.G.D.H.E., PhD

Former Professor and Head /Research Guide- External

University Of Kerala, Institute of Management Kariyavattom - [IMK]  
Thiruvananthapuram Kerala India  
Email: [jrajanimk \[AT\] gmail.com](mailto:jrajanimk [AT] gmail.com)

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**ABSTRACT**— *This paper presentation is an attempt to understand the challenges and issues in protecting livelihood assets in relation to forest gathering of tribal communities in Kerala. The concept of protection of livelihood assets is one of the core concepts of livelihood recovery processes necessitated basically in the event of calamities and other adverse events. The guidance note published by the UNDP on recovery processes is a detailed document on this topic. Forest gathering in Kerala is slowly dying out and is in a stage warranting immediate intervention for revival as if it is affected by adverse events. This study is therefore concentrated on identifying the livelihood assets based on Sustainable Livelihood Framework (SLF), which is a tool developed based on Sustainable Livelihood Approach (SLA) formulated by Chambers & Conway, in 1991. The assets thus identified, in the broad classes of Human, Social, Natural Physical and Financial assets, are Skilled Human resources, Aboriginal Knowledge and Gathering Skills, Tribal Cooperatives and other self-help groups, Forest resources, Forest Dwelling Rights, other related Infrastructure Facilities and Cash Assistances. Each of these assets are discussed primarily based on hands-on experience and exposure of the paper presenter as an official associated with the operations of tribal cooperative sector in Kerala for a period of 5 years and wherever necessary historical data, related literatures and governmental reports are relied. Based on the discussions, reviews, and analysis of data, this paper put forth its findings and conclusions to the intended audience for necessary remedial steps and future studies.*

**Keywords**— Minor Forest Produces – Tribals– Sustainable Livelihood – Forest Gathering - Tribal Cooperatives

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## I. INTRODUCTION

### I.1 Understanding Sustainable Livelihood

*“There is nothing so degrading as the constant anxiety about one’s means of livelihood (W. Somerset Maugham).*

According to Jeffrey Corwin, the famous American biologist and wildlife conservationist, natural resources, one depends on and the places they exist are if not stable, livelihood and health will be at risk. A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base. (*Chambers & Conway, 1991*).

There are different and diverse approach in tackling the SL issue and most of the theories and models developed in this regard, are in evolving stage. But most of these approaches are rooted in the Sustainable Livelihood Approach (SLA) put forth by Chambers & Conway. The sustainability of a livelihood system refers to the essentials like individual capabilities, natural resources, material, and social assets relied on, subsistence strategies adopted, social and cultural contexts in which they make a living, and risk factors that determine vulnerability (*Anita Ratnam-2011*). The sustainable

livelihoods approach (SLA) is a way of thinking about the objectives, scope, and priorities for development activities. It is based on evolving thinking about the way the poor and vulnerable live their lives and the importance of policies and institutions. (ADB-2017).

Based on the sustainable livelihood approach formulated by Chambers & Conway, a Sustainable Livelihood Framework (SLF) tool is introduced for understanding livelihood sustainability and this framework is also in its developing stage. The core concept of this framework tool is analysis of livelihood assets, policies, institutions, strategies, and outcomes in a vulnerability context. The sustainable livelihoods framework helps to organize the factors that constrain or enhance livelihood opportunities and shows how they relate to one another (O. Serrat,

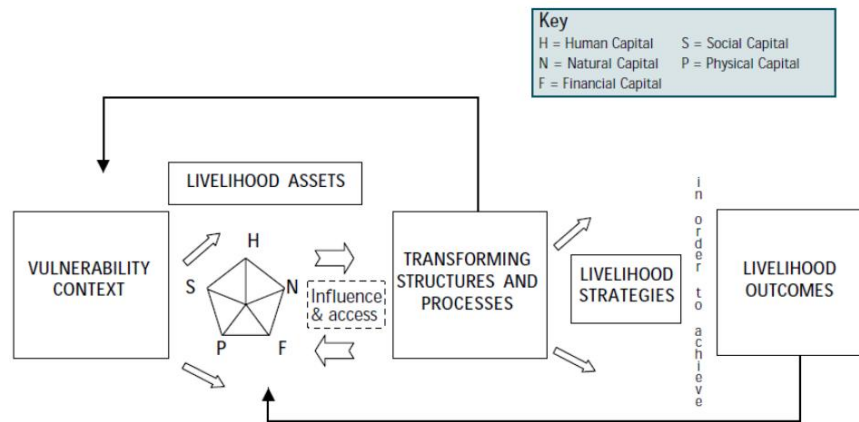


Figure 1 Sustainable Livelihood Framework (SLF)

(O. Serrat, *Knowledge Solutions*) An initiative namely Recovery Guidance Note published by United Nations Development Programme (UNDP) on recovery process of sustainable livelihood has identified enablement of livelihood protection and improving livelihood promotion as two major issues in relation to SL (*Guidance note on recovery- Livelihood by UNDP*).

This paper is an attempt to investigate the challenges and issues faced by MFP activities in Kerala in relation to access to various livelihood assets and the end objective is to check the reliability of this forest gathering activity as a means of sustainable livelihood for the tribal communities. The above two sustainability issues as identified in the UNDP studies, is discussed in this article in relation to MFP gathering activities undertaken by the forest dwelling tribals in Kerala, with special emphasis on protection of livelihood assets. For a better understanding of the MFP livelihood assets required to ensure reliability of forest gathering for a living, this study is relying on a study structure based on the core concepts of the aforesaid Livelihood Recovery Guidelines, SLA& SLF tool.

The SLF views livelihoods as systems and provides a way to understand: 1. The assets people draw upon 2. The strategies they develop to make a living 3. The context within which a livelihood is developed 4. And those factors that make a livelihood vulnerable to shocks and stresses. As per SLF, livelihood assets (capital) are grouped in to five categories covering Human, Social, Natural Physical and Financial assets. Making use of these assets, livelihoods are formed within social, economic, and political contexts. Institutions, processes, and policies, such as markets, social norms, and land ownership policies affect ability to access and use assets for a favourable outcome. But where these contexts change, new livelihood obstacles or opportunities will be evolved.

For this study essential SLF based assets relating to the MFP activities, are identified as *Skilled Human resources, Aboriginal Knowledge and Gathering Skills, Tribal Cooperatives and other self-help groups, Forest resources, forest dwelling rights, other related infrastructure facilities required and cash assistances*. To refresh readers who are new to this study area of foresting gathering oriented tribal livelihood, an introduction to the forest gathering activities is presented detailing the classes of forest produces, its subdivisions including minor forest products and related functional entities and activities in general.

## I.2 Understanding Forest Gathering.

This section is to make the reader familiar with the MFP sector. Under this head an introduction to the forest produces giving its classifications, narration of Minor Forest produces and how MFP is related to tribals etc are discussed. A brief outline of MFP supply chain is also given.

### I.2.a Forest Produces- Classification:

Forest products are a major contributing factor to the Natural resources, both renewable and non-renewable, and ecosystem services are a part of the real wealth of nations. They are the natural capital out of which other forms of capital are made. They contribute towards fiscal revenue, income, and poverty reduction. Sectors related to natural resources use

provide jobs and are often the basis of livelihoods in poorer communities (3). OECD (2011). Forest products are comprised of mainly Timber Produces and Non-Timber Produces. Timber produces are also called Major Forest Produces. Non-Timber produces are further grouped under Minerals, Plant Origin Produces and Animal Origin Produces. Under the above classification, non-timber produces originating mainly from plants are classified as Minor Forest produces. Conceptually Minor Forest Produces has significant economic and social value for the forest dwellers and traditionally tribes are presumed to derive their source of livelihood by taking up collection of MFP from their nearby forest areas.

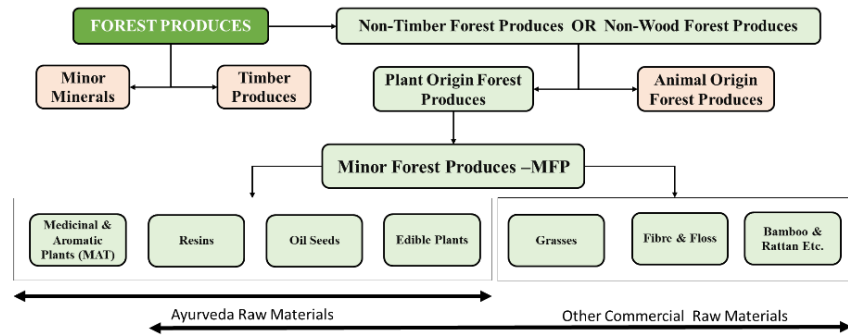


Figure 2 Forest Resources – Classification

### I.2.b Minor Forest Produce (MFP):

Minor Forest Produces is a subset of Forest Produces and is covered under non-Timber Forest products (NTFP) of Plant Origin. MFP is defined under Section 2(1) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 as “all non-timber forest products of plant origin and includes bamboo, brushwood, stumps, canes, Tusser, cocoon, honey, waxes, Lac, tendu/kendu leaves, medicinal plants and herbs, roots, tuber and the like. By introduction of this definition all categories of forest produce including bamboo and cane coming under non-timber produces from forest are brought under the term “Minor Forest Produce.”

There are about 146 commercially viable MFP items, including high commercial value herbal plants & plant parts and other natural produces including Honey, Frankincense, Stone Flower Rattan Bamboo etc. which are identified for sustainable collection from forest by the state forest authorities. These listed items are allowed to be collected from the forest areas based on annual permission issued by the forest department. Some items may be excluded or newly included, in the annual permission, based on its ecological sustainability status update. Bamboo and Rattan (Cane), though included in the MFP category, collection of these items is permitted separately from the annual sanction

Collection Processing, value addition and marketing of Bamboo are being carried out by governmental enterprise like Kerala State Bamboo Development Corporation. As per employment status in the state-owned traditional bamboo sector, published by Kerala Forest Research Institute, 65,500 employment opportunities are offered to both scheduled tribe and Scheduled cast workers. Statistics of employment in the modern sector industries included of pulp factories and related industries in the state are not available. Employment participation of tribal workers even in governmental sector is very nominal and therefore not considered important in this study. There are hardly any tribal cooperatives engaged in bamboo related trading to support tribal livelihood.

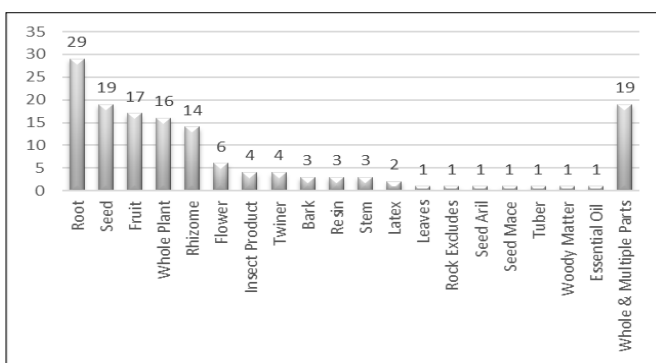


Figure 3 MFP Resource Types

plants itself. The non-plant origin items are Vanthen (Wild Honey), Cheruthen (Small Honey), Thermezshuku (Bee Wax) and Kolarakku (Lac: Coccus Lacca) as these are categorized as Insect Origin Produces. Only one item namely Kalpasam (Stone Flower) is originated as exclude from rocks.

Rattan (Chooral) having botanical name Calamus Rotang, though a high value yielding forest produce brought under the category of MFP, is also not included in the annual MFP collection permit. Collection of rattan is sanctioned based on availability report from the concerned range officer and on request from the MFP collecting Tribal Cooperatives from time to time and therefore cannot be relied solely as a sustainable livelihood.

Based on collection data for the last 22 years starting from 1999-2000 to 2020-2021, 171 items, including different plant parts of the same item and grade /quality variants, are being collected from the state forest areas. Of the 146 items, 5 items are of non-plant origin and the remaining 141 items are of plant origin or

Among the 141 Plant origin produces, majority of the parts covering 56.03% are collected and traded in the form of Roots, Seeds, Fruit, and Rhizome. Of the remaining, 11.35% are traded in whole and 19.15% of collection are of plant parts like Flowers, Twiner, Bark, Resin, latex, Stem, Leave, Tuber etc. The balance of 13.48% items is collected and traded in the form of multiple parts like Twiner, Bark, Resin, Stem, Latex, Leaves, Seed Aril, Seed Mace, Tuber etc. and whole plant as well.

Of the total of 146 items collected under MFP activities, 112 items are exclusively used as raw material input to Ayurvedha Industry. Of the remaining 24 items 16 items are of pure commercial applications other than Ayurvedha industry and 8 items have both Ayurvedha and other commercial uses as well.

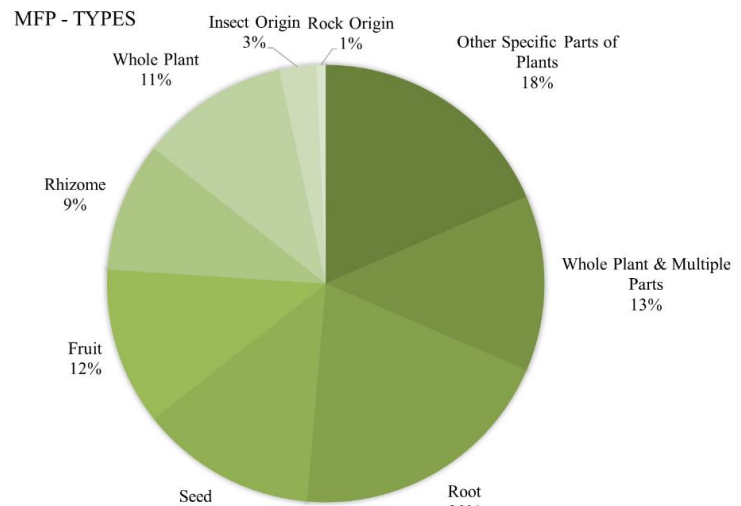


Figure 4 MFP Available Types

### 1.2.c Tribal Livelihood & MFP Activities

Collection, Pre-processing, Storage and Trading of Minor Forest Produces is collectively called MFP Activities. MFP collection from the forest areas in the state is subject to permission from the state forest department on annual basis and the department will issue sanction orders favoring the state channel comprised of tribal cooperatives, for forest gathering of MFP subject to conditions. Accordingly, orders issued annually, will specify the names of cooperatives and the forest ranges under each forest division from where collection is allowed. The collection sanction orders will also specify a list of commodities allowed to be collected during the year. Continuance of the permission is subject to a review of compliance of the conditions and submission of a compiled annual report showing collection and sales figures for the year. Of the total 100 forest ranges in the state, MFP collection is permitted only 66 forest ranges and the remaining 34 forest ranges being ecologically fragile and wildlife protected areas are excluded. The 66 forest ranges allowed of MFP collection are spread in 6 forest circles covering 12 districts.

Table 1 Forest Range Distribution Where MFP Collection Allowed

Forest Division	CCF Northern Circle	Central circle, Thrissur	Eastern Circle	High Range Circle, Kottayam	Parambikulam Tiger Reserve	Southern Circle, Kollam	Grand Total
No. of MFP activity Allowed Ranges	14	12	14	11	1	14	66
Total No. of Forest Ranges							100
%							66%

A major part of the MFPs collected in the state, are consumed by the Ayurvedic pharmaceutical Industry and local traditional Ayurvedic medical practitioners for the preparation of indigenous Ayurvedic medicines and for raw application in Ayurvedic treatments. Some of the major players in the Ayurvedic pharmaceuticals industry are even directly procuring from the individual tribals, engaged in MFP gathering for a nominal price.

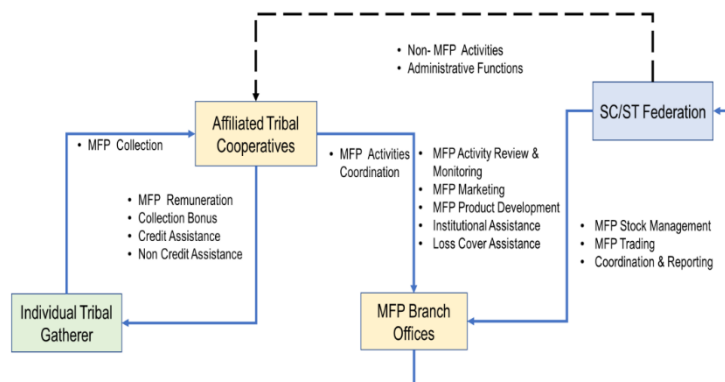


Figure 5 MFP Activity Process Flow

Rights for the collection of MFPs from the state forest areas are distributed among the tribal primary cooperatives affiliated to the State apex federation and the Eco development Committees constituted under the Forest Rights Act. Even though annual range allotment orders are issued by the state



forest department allowing collection of listed MFP items from the notified ranges, there are many operational hazards faced by the tribal and the tribal cooperatives in carrying out the MFP activities relaying it for a living.

As of now the MFP collected by the primary cooperatives through their member tribal members goes without any value addition and therefore no significant monetary benefits are being transferred to the tribes besides the nominal collection charges. The tribal cooperatives are also not organizationally equipped and financially sound to resist the luring black marketers and their middlemen. Its high time for an in-depth study to analyze the operational gaps in the supply and value chain of MFP activities in the state emphasizing the role of the tribal cooperatives and thereby identify and help resolve the major hassles in accepting MFP activities as a reliable means of livelihood of the tribes in the state. Therefore, this article is a summary of quest to identify the problems and recommend possible solutions to help adopt forest gathering actives a reliable means of livelihood of tribal communities in Kerala.

### 1.2.d MFP Supply Chain Net Work:

A supply chain network is a collective synchronized mechanism, or a Web of entities and assets coordinated for fulfilment of customer order (Chopra-Meindl) Supply chains are principally concerned with the flow of products and information between supply chain member organizations— procurement of materials, transformation of materials into finished products, and distribution of those products to end customers. Today’s information-driven, integrated supply chains are enabling organizations to reduce inventory and costs, add product value, extend resources, accelerate time to market, and retain customers. (Supply Chain Management in Agriculture NIAEM – Training Material; <http://www.manage.gov.in> ).

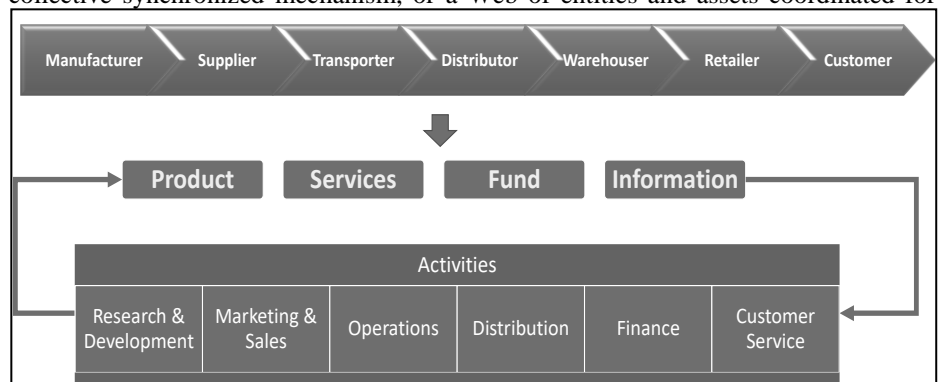


Figure 6 Supply Chain Management

The real measure of supply chain success is how well activities coordinate across the supply chain to create value for consumers, while increasing the profitability of every link in the supply chain. In other words, supply chain management is the integrated process of producing value for the end user or ultimate consumer. In contrast to various accepted configurations of supply chain network, supply chain of Minor Forest produce is entirely different and unconventional as it is being operated now. Here demand, supply, and price uncertainty are more evident and therefore supply chain strategy decisions are more complicated and crucial.

To help enhance the income from this means of livelihood of the tribal families and make MFP activities a reliable source of income to the tribes, an official governmental channel in cooperative sector is functioning in Kerala. This official channel for MFP collection and trading is functioning under the flagship of Kerala State Federation SC ST Development Cooperatives Ltd, which is the state level apex body of SC ST cooperatives in the state. This state sponsored channel is comprised of selected Tribal Welfare Cooperatives and its member tribal individuals. This official mechanism is the approved agency for marketing of Forest produces collected by the forest dwelling tribal individuals.

SCT Fed and its affiliated primary cooperatives play a pivot role in supporting the

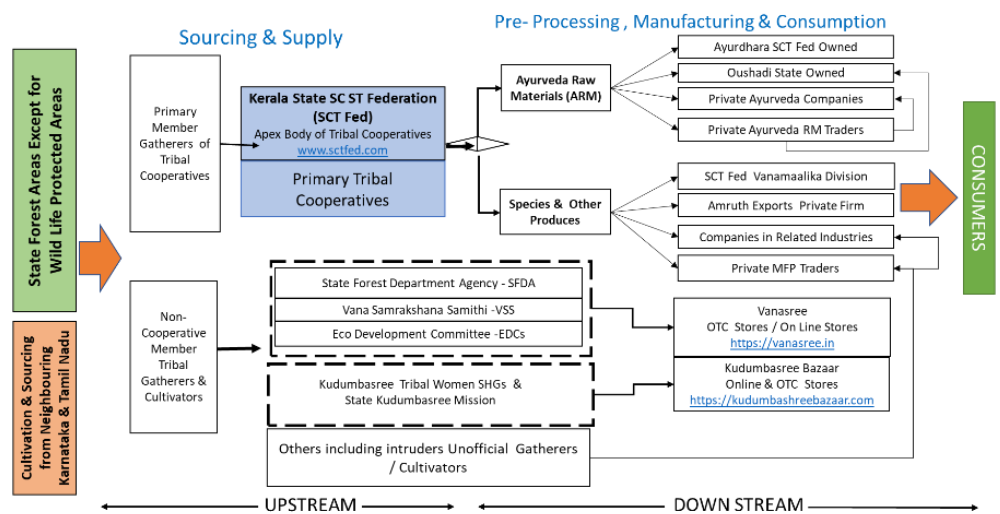


Figure 7 MFP Supply Chain Map

MFP activities undertaken by the tribal members by means of providing financial, infrastructural and market support to the tribes. Forest ranges other than Wildlife Protected areas are allotted to this agency by the State Forest Department as per sanction order of the state Government and an Annual Forest Range Allotment Order. The orders issues will specify the names of cooperatives, their allotted forest ranges and name of MFP items allowed to be collected. Collection rights assigned to the tribal cooperatives and their State Apex Body is subject to implementation of forest rights in the allotted forest ranges in the state and once the range is declared under the forest rights act, the exclusive collection rights will cease to exist.

Parallely to the above state channel, other government approved agencies like Kudumbashree under Department of Local Self-Government and Vana Samrakashana Samithi constituted under the provision of FRA are also allowed to collect MFP. Though such parallel collection agencies are directed to trade their portion of MFP collection through the aforesaid State Tribal Cooperative apex body, there is no collective effort or effective coordination between the agencies to help to aggregation of resources and obtain maximum market value for the MFP commodities so that reasonable income can be earned for the tribals.

## II. PURPOSE, SCOPE & METHODOLOGY OF STUDY

### II.1 Purpose:

The challenge to forestry can be said to be different in different periods. The earlier challenges were in regulating felling and in developing markets for the forest produce. In the second period the challenge was to cater to the new and increased demand for produce and land. In the third period the challenge is to meet the growing demands in an environmentally acceptable manner. (*History Of Forest Management -In Kerala Mammen Chundamannil-1993*). It is in this context, the sustainability issues in relation of livelihood assets need to be discussed and attended by taking steps to protect the assets required to undertake forest gathering for a living.

As noted in the introductory part, and in the wake of growing demand to face the challenges sustainability, this paper presentation is an attempt to review the challenges and issues in relation to protection of livelihood assets based on the livelihood recovery guidance note published by UNDP.

This discussion is specifically based on the general challenges and issues faced by the tribal communities in protecting and getting access to their livelihood assets related to forest gathering. The major livelihood assets are identified as per SLF tool developed by UK- department for International Development (DFID). Therefore, for the purpose of this study, the major capital resources in relation to MFP activities are identified under each category of input capitals formulated by SLF and under each of these asset categories, prominent and essential assets in relation to MFP activities are identified as shown above.



Figure 8 MFP Livelihood Assets

The study report is targeted to an audience included of MFP Supply Chain Partners, Policymakers & Planners in tribal development sector, Central and State Government Departments, Local self-government, Tribal Cooperatives, Non-governmental organizations working for tribal development and other interested entities and Individuals who all are interested or engaged in MFP oriented livelihood recovery process to make forest gathering a reliable income generating means of tribal livelihood.

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### II.2 Scope:

The Scope of this study, as the title indicates, is limited to a fact-finding enquiry into the challenges and issues in identifying MFP gathering a reliable means of livelihood of tribals in the state, with special emphasis on issues related to protecting livelihood assets. Therefore, scope of this report is to explore, report the challenges and issues faced by the tribals and their cooperative associations and suggest possible remedies to tackle the issues to have a consistent and hassle-free access to livelihood assets to prompt the tribals to carry on the MFP activities as a reliable means of livelihood.

### 11.3 Methodology:

This study being a non-experimental descriptive study report, is made mainly based on hands-on experience and exposure in the MFP sector. To support and substantiate the statements and arguments related statistical data, literature reviews and governmental reports are used and referred to in the report. This article is based on analysis of secondary data from related sources including tribal cooperatives, SCT Federation and Government departments and institutions. To understand the available forest resources, quantity, demand and price trend in MFP market, historical data pertaining collection and sale of MFP for the last 22 years starting from 1999 to 2020 are collected. Making use of this data and on percentile analysis, availability and price trend aspects of the MFP are presented. Other observations and discussions on operational issues are purely based on work experience and exposure to the sector.

## III. LIVELIHOOD ASSETS – IMPORTANCE, CHALLENGES & ISSUES

### III.1 Importance of MFP Livelihood Assets:

As detailed in the introductory part, accessibility to MFP livelihood assets and resources is one of the major questions associated with enabling of livelihood protection. Unless otherwise hassle-free asset accessibility is allowed to the tribals, MFP collection will cease to attract forest gathering for a living. Any intervening uncertainty in getting access to these assets will make the tribals reluctant to pursue MFP collection or he will be forced to resort to socially and ecologically unsustainable means to get access to the resources and find a living. In either way it will not be beneficial to the tribals and the society in large. Hence access to all the assets, in relation to the MFP activities are important to enable livelihood protection.

Among the assets in association with MFP activities, Human capital includes healthy individuals possessing aboriginal resource knowledge and gathering skills. Among the social assets, social associations and groups, togetherness of the tribal community by way of cooperative associations and other self-help group formations are important, to help strengthen collective bargaining power for more market benefit for their gatherings and asset protection and improvement. Natural capital is the foremost of all other form of assets and this includes both the forest extent and the resources therein.

Access to both of these assets is of paramount importance to help improve and protect the livelihood. Within the physical asset group comes the forest dwelling rights and infrastructure facilities to pursue MFP activities. Last but of most importantly financial assistances to the social associations is an essential to ensure timely and reasonable payment of remuneration for the forest gathering activities. Each of the above assets and its importance, challenges, and issues in relation to easy and hassle-free accessibility are discussed here.

### III.2 Protecting Livelihood Assets – Challenges and Issues

#### III.2.i Skilled Human Resources:

Availability of an enthusiastic and healthy generation of tribal individuals having taste & flair to pursue the livelihood in question is the primary essential to help recovering and protecting any form of traditional livelihood. ST Population in Kerala -District Wise Rural Demographic Spread (As per Census -2011) is shown below.

**Table 2.** ST Population in Kerala -District Wise Rural Demographic Spread (As per Census -2011)

#	District	Total		Grand Total	Forest Dwelling Dependent Families		MFP Gathering Families	
		Rural	Urban		No.	%	No.	%
1	Thiruvananthapuram	20,022	6,737	26,759				
2	Kollam	7,886	2,875	10,761				
3	Pathanamthitta	7,663	445	8,108				
4	Alappuzha	2,961	3,613	6,574				
5	Kottayam	19,698	2,274	21,972				
6	Idukki	55,243	572	55,815				
7	Ernakulam	8,324	8,235	16,559				
8	Thrissur	5,859	3,571	9,430				
9	Palakkad	47,023	1,949	48,972				
10	Malappuram	18,247	4,743	22,990				
11	Kozhikode	9,555	5,673	15,228				
12	Wayanad	1,48,215	3,228	1,51,443				
13	Kannur	36,302	5,069	41,371				
14	Kasaragod	46,094	2,763	48,857				
	<b>Kerala Total</b>	<b>4,33,092</b>	<b>51,747</b>	<b>4,84,839</b>	<b>8814</b>	<b>2.04%</b>	<b>2297</b>	<b>0.53%</b>

As per survey reports of State Forest Department, of the total 1,07,965 tribal families in the state, only 8814 families, i.e., around 8.17 % of the total families, are engaged in Forest related livelihood activities. Of these families those directly engaged in collection of Forest produces and Herbal Plants are only 26.06 %, which will be around 2297 families. This shows that only a nominal count of tribal families in the state amounting to 2.13 % are relying on MFP activities for their livelihood

**Table 3** Employment Pattern of Tribal Families and Persons

Sl. No	Sector of Employment	Families		Persons Aged Above 5 Years	
		Number	%	Number	%
1	Forest Sector	8814	8.17	17138	4.45
2	Agriculture and Allied Sectors	75060	69.53	144264	37.48
3	Non-Agriculture and Allied Sectors	22181	20.53	45666	11.86
4	No Income/Employment	1910	1.77	177910	46.21
	<b>Total</b>	<b>107965</b>	<b>100</b>	<b>384978</b>	<b>100</b>

Employment Pattern of Tribal Families & Persons in Forest Sector					
Sl. No	Sector of Employment	Families		Persons Above 5 Years	
		Number	%	Number	%
1	Collection Of Forest Produces	1,967	1.82	4,261	1.11
2	Traditional Occupation	366	0.34	1,287	0.33
3	Collection Of Herbal Plants	330	0.31	651	0.17
4	Worker- Forest Area	6,151	5.70	10,939	2.84
	<b>Subtotal</b>	<b>8,814</b>	<b>8.17</b>	<b>17,138</b>	<b>4.45</b>

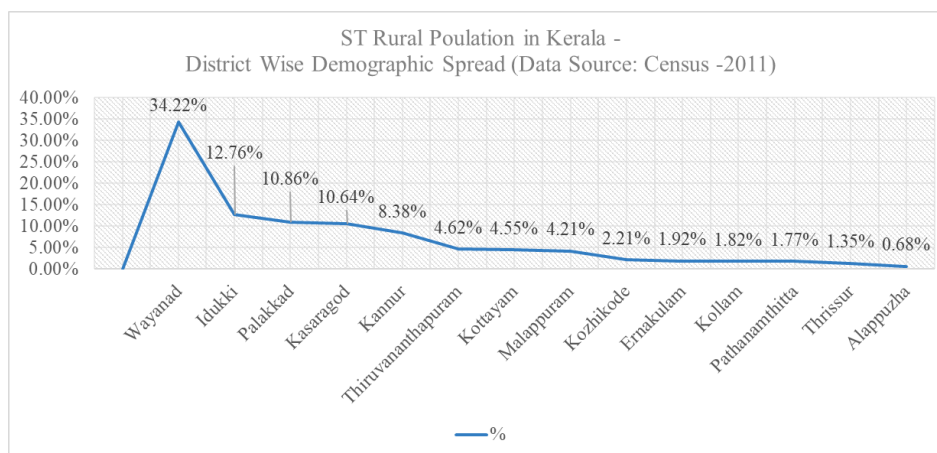
From above statistics, there are only 2297 families, relying on MFP activities for a living and this constitutes only 2.13 % of the total 1,07,965 rural families. Therefore, it can be assumed that majority of the rural tribal families, do not rely forest gathering for a sustainable livelihood. It is in this contest, an in-depth study become relevant to understand the operational challenges and issues faced by MFP economy in the state and how this valuable resources can be converted into a reliable means of livelihood of tribals.

Only a minor section of the whole of the tribal population in the state rely MFP activities as a means of livelihood and the income contribution from MFP activities is hardly 1% of the total annual tribal household income (Binu P. Paul-2013). The MFP market in the state, being a highly scattered and unorganized sector, is mostly handled by the private traders, who exploit the tribes by denying them better market opportunities and better returns.

### III.2.i (a) Forest Dependent Tribal Population- Myth or Fact?

Forest is a habitat for many plants and animals and for indigenous tribal people as well. It provides a suitable environment for them and provide various natural services and products. Many forest products are used in day-today life. Over 1.5 billion people rely on forests for livelihoods. Forests provide us with shelter, livelihoods, water, food, and fuel security. All these activities directly or indirectly involve forests. Some are easy to figure out - fruits, paper, and wood from trees, and so on. Others are less obvious, such as by-products that go into everyday items like medicines, cosmetics, and detergents. (WWW- World Wide Fund for Nature).

Historically, the relationship between tribal communities in India and forests was characterised by co-existence and these communities were considered integral to the survival and sustainability of the ecological system. This symbiotic relationship was acknowledged



**Figure 9** ST Rural Population- District wise Demographic Spread in Kerala



and crystallised as customary rights over forest produce. But these rights were not recognised and recorded by the government while consolidating state forests during the colonial period as well as in independent India. (Bhullar, 2008).

Forest being the natural habitat of tribal population, the natural resources of forest are naturally owned by the tribal inhabitants. With advent of time and increase of population, man by reason of his natural dominating instinct have started encroaching the forest land, exploring the abundant wealth of forest, and have started exploiting the resources. This inevitably end up in more and more control and regulations by the state in the affairs of forest. As forest management has become a full-time governmental function, tribal inhabitants of forest have limited access to the resources even for a living. In India, both the centre and the state government have sperate department for regulating forest affairs and a designated administrative mechanism namely Indian Forest Services, continuing in line with the bureaucratic approach of the bygone British raj in India.

*Ownership Right to Collect, Use, and Dispose* of minor forest produce, which has been traditionally collected within or outside village boundaries; are assigned to the tribals under section 3.1(c) of the *Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006*. Even though the outright ownership rights on MFP is assigned to the tribes in line with the intention of legislature, assignment of these rights have not been completed and the state forest department is reluctant to part with their authority and continue the de facto control over the forest resources.

### III.2.i(b) Tribal Population & Occupational Status:

As per Census 2011, tribal population in India does constitute a significant sector with 104 million, i.e. 8.6 per cent of country's total population. In Kerala tribal population constitute 1.50% of the national population and 4.85% of the state population. Of the total tribal population in the country, only 0.50% belong to state of Kerala. (Source: Census 2011, Office of the Registrar General, India). In Kerala there are 4.84 lakhs of tribals of which, 433.09 lakhs are rural population. As per available governmental statistics, 8.17 % of the total rural tribal families, that constitute 8814 families, are dependent of forest and allied activities for a living. Majority of the tribal families i.e., 69.53% are depending on agriculture and allied sectors for a living.]

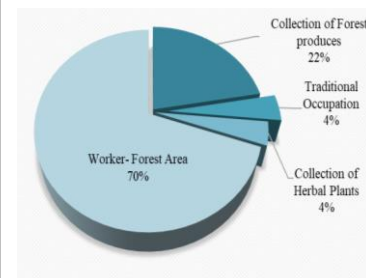
**Table 4 - Employment pattern of tribal families and persons in the state**

Sl. No	Sector of Employment	Families		Persons Aged Above 5 Years	
		Number	%	Number	%
1	Forest Sector	8,814	8.17	17,138	4.45
2	Agriculture and Allied Sectors	75,060	69.53	144,264	37.48
3	Non-Agriculture and Allied Sectors	22,181	20.53	45,666	11.86
4	No Income/Employment	1,910	1.77	177,910	46.21
	<b>Total</b>	<b>107,965</b>	<b>100</b>	<b>384,978</b>	<b>100</b>

Of the above 8814 rural forest sector dependent families comprised of 17138 individuals only 2297 families are dependent of forest gathering including collection of wild herbs for a living. This forest dependent group constitute only 26.06 % of the total forest dependent tribal families. This shows that out of the total of 1,07,965 tribal families in the state, only 6151 number of families are relying on forest and allied sector for a living and of which only a nominal count of tribal families in the state amounting to 2.13 % are undertaking MFP collecting activities from forest as owners of the resources, for a livelihood. The rest of the population are pursuing unskilled labour work under forest department and their contractors.

**Table 5 Employment pattern of tribal families & persons in forest sector**

#	Sector of Employment	Families		Persons Above 5 Years	
		Number	%	Number	%
1	Collection of Forest produces	1,967	22.31	4,261	1.11
2	Collection of Herbal Plants	330	3.75	651	0.17
	<b>Sub Total</b>	<b>2297</b>	<b>26.06</b>	<b>4912</b>	<b>1.28</b>
3	Traditional Occupation	366	4.16	1,287	0.33
4	Worker- Forest Area	6,151	69.78	10,939	2.84
	<b>Total</b>	<b>8,814</b>	<b>100.00</b>	<b>17,138</b>	<b>4.45</b>



The Minor Forest Produce has significant economic and social value for the forest dwellers and therefore must be capable of providing of major portion of their source of livelihood from MFP activities. But various studies shows that

only a minor section of the whole of the tribal population has taken up MFP activities as their major means of livelihood and income contribution from MFP activities is hardly 1% of the total monthly tribal household income. Different means of livelihood of the tribal population is shown in the table given below (Binu Paul 2001 Cusat)

**Table 6** Different means of livelihood of the tribal population

#	Source of Livelihood	% Of Monthly household income contribution
1	Agricultural labour	24.00%
2	Employment guarantee scheme	23.50%
3	None	18.00%
4	Agriculture	15.10%
5	Non-agricultural labour	12.00%
6	Govt./ semi-govt. job	02.80%
7	Other	02.50%
<b>8</b>	<b>Collection of Forest Resources</b>	<b>00.60%</b>
9	Animal Husbandry	00.60%
10	Small vendor	00.30%
<b>11</b>	<b>Forest Related Job</b>	<b>00.30%</b>
12	Private sector job	00.30%
13	Production of traditional products	00.00%
14	Collection of herbal medicine	00.00%
15	Estate labour	00.00%
	<b>Total</b>	<b>100%</b>

This evidently proves that the so-called natural bonding of tribals and forest and the natural ownership of resources are only a myth and, forest has become a forbidden heaven for the tribals even to look upon for their daily bread and butter and not to think of economic gain.

### III.2.ii Aboriginal Tribal Knowledge:

Indigenous knowledge can be defined as a network of knowledges, beliefs, and traditions intended to preserve, communicate, and contextualize indigenous relationships with culture and landscape over time. Traditional ecological knowledges emerged from environmental understandings shaped over time by incremental learning (including trial and error and experimentation), and they crosscut the scientific disciplines of biology, botany, geography, cosmology (Augustine 1997; Berkes 2012). The protection of Indigenous rights (including guaranteed access to traditional landscapes and more conscientious cultural resource management) is now a crucial area of concern in international environmental law (Ellen et. al. 2000; Menzies 2006; von Lewinski 2004).

Indigenous peoples have also devised modern applications for traditional knowledge in the wake of colonization, by utilizing new resources (including manufactured and recycled materials) to produce traditional tools and crafts. Indigenous knowledges that emphasize experiential awareness can be helpful in multiple settings since they readily allow for the incorporation of new data in response to new environments. (Margaret Bruchac 2014)

Only habitual forest dwelling tribals have indigenous knowledge and familiarity with the forest resources. Therefore, it is important to ensure that tribes who are willing to pursue forest gathering for a living are allowed to continue settle with reasonable proximity to forest. Alienation from forest land will force tribal community to resort to other occupations that are not within their habitual and natural skill and knowledge. Not only that, the new generation, if alienated from the forest habitats, will lose their flair to carry on their natural and potential occupation, resulting extinction of the valuable indigenous (aboriginal) knowledge. One of the major reason for losing the traditional skills and aboriginal knowledge of tribals, is alienating the new generation from their traditions, by luring them to the outside world through unthoughtful urbanization and misconceptions about development. Unless the tribal youth are made aware and proud of their aboriginal knowledge base, this alienation will continue. As of now, developmental schemes and programmes designed for the tribal sector in the state are mere attempts to remould the tribal community to the shape and style of the urban sector. It is time to redefine our concepts of tribal development. Efforts must be made to preserve and develop the traditional rural lifestyle and modernization shall be in terms of enhancement and protection of their naturality and aboriginality. Tribal indigenous knowledge shall have to be recognized and tribals must be made intellectual partners, not just guides and workers, in the field of forest resource studies and resource development programs. Preservation and documentation of such knowledge and ensuring passing on of such valuable knowledge to the new generation is as important as establishing asset title to the tribals. Despite its immense value, as literatures reviews showed, not many studies based in Kerala are available in public domain. Of the latest, a study claimed to be the first of its kind, is found conducted by IITM-Kerala in the year 2017 and this report is not yet made available in the public domain.

### III.2.iii MFP Collecting Tribal Cooperatives:

A cooperative, as defined in the statement on the cooperative identity by International Cooperative Alliance (ICA), is “an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise” (<https://www.ica.coop/en/cooperatives/cooperative-identity>). Cooperatives are **people-entered enterprises** owned, controlled, and run by and for their members to realise their common economic, social, and cultural needs and aspirations. As businesses **driven by values**, not just profit, cooperatives share internationally agreed principles and act together to build a better world through cooperation. Putting fairness, equality, and social justice at the heart of the enterprise, cooperatives around the world are allowing people to work together to create **sustainable enterprises** that generate long-term jobs and prosperity. (ICA),

#### III.2.iii.a: Functional Status of Tribal Cooperatives:

Cooperative sector in the state Kerala is one of the prominent economic sectors in the country and is the backbone of Kerala Economy. But this cannot be held true for tribal cooperatives. As per statistics published as of 2018-2019 by Department of Cooperation, there are 15,761 cooperatives in Kerala of which only 98 are Tribal Cooperatives and this will constitute only 0.63% of the total cooperatives. As per Census 2011 total population of Kerala is 333.87lakhs and of which tribal population is 4.38 Lakhs. Accordingly tribal population in Kerala constitute only 1.32 % of the total population, based on these statistics and number statements, there is fair number of representations of ST population in the cooperative sector in terms of number of cooperatives and corresponding population. But when it comes to membership cover, i.e., number of active memberships, there is only 16.95.50% of the total tribal population as against the general category membership cover of 49.92%. Of the total population of 4.84 lakhs ST population, ST Cooperative membership cover is 0.82 Lakhs and of which MFP cooperative’s active membership is hardly 3000, i.e., of the total 97 ST cooperatives in the state almost half (47.43%) of the societies are not functional and of the remaining only 58.83% (30 out of 51) STCSs are undertaking MFP activities. Among this 35 STCSs, which were functional till 2012-2013 period, has come down to 30 STCS as of now and out of this 30 cooperatives only 25 STCS are having substantial MFP collections and the remaining 5 societies are not actively undertaking MFP activities for various reasons, though forest range areas are allotted for MFP collection.

**Table 7** Functional Status of Tribal Cooperatives

Operational Status	Non-ST Cooperatives	ST Cooperatives	Total	
Active	11943	51	11994	
Dormant	3019	41	3150	
Under Liquidation	612	5	617	
Total	15664	97	15761	
%	99.38%	0.62%	100.00%	
Membership Status Against Population				
Type of Cooperatives	No. of Societies	Membership In Lakhs	Population (In Lakhs Census 2011)	% Of Participation
Non-Credit Cooperatives	10826	166.67	333.84	49.93%
ST Cooperatives	97	0.82	4.84	16.95%
MFP Active ST Coops.	30	0.03	4.84	0.62 %

Of the total collection of MFP, 50% of the collection is being made by 7 societies and the remaining 80% of the STCS are having only nominal collection contribution with an average of 3.70% per STCS. Therefore, it can be seen that among the 35 cooperatives working in MFP sector, only 1/5<sup>th</sup> of the societies is having active MFP participation and the majority of the cooperatives are not actively providing MFP activity support to its tribal members.

### III.2.iii.b: Tribal Cooperative Membership:

Active participation of members and democratic governance process of cooperative societies in the state is a paradox as that of people's active participation and democratic governance process. Though categorised as "welfare cooperatives", most of the cooperatives are functioning at the whims and fancies of the officials, leaving the objective of member benefits in letters. Of total rural tribal population of 1,43,000 families in the state, only 8900 families are recognised as forest dwelling tribes and within this, roughly 3000 primary tribal members are directly engaged in the collection of Minor Forest Produces (MFP) from the forest areas in the state. Exact number of tribal members who are actively collecting MFP under each ST cooperative is not available as most of the cooperatives are not maintaining proper collection registers to take stock of active membership count. The available list is that of total membership which is used as voters list for election to appoint board of directors. In addition to this, most of the societies are trading MFP collection through local agents, and therefore official records are not maintained to identify the individual tribes who collect the resources.

As it is being practiced now, most of the cooperatives are functioning without attempting to practice their stated objectives and there is hardly any initiative to encourage and equip the non-active members to pursue the occupation of forest gathering. This lack of inclusive and active membership cover to the tribals and non-participation of the majority within its area of operation is a major issue in this sector.

### III.2.iv Other Social Self-Help Groups:

Active participation level of tribal individuals in cooperative societies engaged in MFP activities is found to be very nominal when comparing to the total number of individuals of the MFP active population. Major reason for this poor participation is organizational weakness of the cooperative sector itself. The overall strength of cooperatives in Kerala gives a picture of domination of credit sector cooperatives over other cooperatives including Industrial, Production & Marketing cooperatives. It is in this gap, along with SC ST Federation other governmental agencies including VSS (Vana Samrakshana Samithi) of the Kerala Forest Dept., ECO Development Committees, Forest Development Agency, Kudumbashree Mission etc. are actively supporting the MFP activities in the state.

Kudumbashree is the poverty eradication and women empowerment programme implemented by the State Poverty Eradication Mission (SPEM) of the Government of Kerala. Under Kudumbashree, a pilot initiative is started in Attapady of Palakkad District and the neighbourhood groups (NHGs) are promoted to undertake collection of forest resources to be value added and traded through Care Kerala a governmental initiative catering Ayurvedha Industrial needs. As of now tribal women groups are engaged in MFP cultivation and trading under this initiative.

As part of implementation of Forest Right Act, Forest protection groups formed under the Eco Development Societies, namely VSS (Vana Samrakshana Samithi) and these groups are also taking part in MFP activities. Unfortunately, all these entities are functioning parallelly and have hardly any coordination or market linkages. Therefore, despite earnest efforts of the federation and similar governmental agencies, market consolidation could not be achieved, and the non-tribal intermediaries are continuing to exploit the tribals. These social associations are not helpful to provide bargaining power of the tribals. Primary reasons for continuance of such exploiting powers are lack of sufficient fund availability, market intelligence, market related price support system and lacking convenient logistical facilities. Lack of Coordination resulting in unhealthy competitions among the governmental agencies is also a contributing factor to this problem.

The Central Ministry of tribal affairs has initiated a major initiative titled Vandhan Yojana at national level to help improve the MFP oriented livelihood by providing all functional support for enhancement of income generating capacity of MFP activities. Under this scheme minimum support price (MSP) will be fixed for listed MFP items and all functional support including infrastructure, value addition process support, marketing training and financial support are provided. Under this scheme a three-system comprising village level Haat Bazar will be formed under the social associations such as cooperatives and other self-help groups. MFP collected by these Haat bazar will be aggregated and processed and value added to be marketed by district or state level marketing agencies under state implementing agencies appointed in

**Table 8** District Wise Count of STCS

#	District	No. of STCS	
		Total	MFP Active
1	Thiruvananthapuram	17	1
2	Kollam	4	4
3	Pathanamthitta	5	3
4	Alappuzha	3	0
5	Kottayam	6	2
6	Idukki	11	3
7	Ernakulam	4	1
8	Thrissur	4	2
9	Palakkad	11	4
10	Malappuram	1	0
11	Kozhikode	2	2
12	Wayanad	17	5
13	Kannur	9	2
14	Kasaragod	3	1
	<b>Total</b>	<b>97</b>	<b>30</b>

each states. This scheme is yet to be fully functional in Kerala and only a pilot project is being implemented in Wayanad district from 2020 onwards and the outcome of the same is yet to be known.

From the above scenario of multiplicity of agencies and lack coordination and market linkages are the major issues in relation to the social assets of tribal livelihood. The tribal settlement-based groups are to be strengthened and mobilized for efficiently partnering in the MFP supply chain network under the afore said governmental entities for having better bargaining power and market returns. Organizational restructuring and enhancement of operational capabilities of these social entities are the foremost step to be taken in this regard.

### III.2.v MFP Resources:

MFP resources are the core asset of MFP livelihood and therefore this need to be understood in a variety of dimensions including Available varieties, Quantum of Availability, qualification as tradable commodity **etc.** As an important and core assets of MFP based livelihood, before deciding on the level and type of protection to be ensured, three aspects of these asset type need to be understood. Firstly, commercial importance and value to be understood are thereby each items need to be identified for its marketability as a commodity.

To understand and establish the commercial viability of MFP as a tradable commodity to support tribal livelihood, identity of this resources under the known classes of commodities is to be verified. Since most of the MFP varieties are naturally propagated, grown, matured and regenerated produces, possibility of human intervention is very minimal, except for a limited number of items that can be cultivated. Availability of natural resources cannot be enhanced against current or future demand through human intervention except for exploring and mapping of new sources and adjust demand accordingly or seek alternate resources to meet future demand.

### III.2.v.a: Available Varieties of Resources:

Our data base and knowledge bank on minor forest resources is not comprehensive and incomplete as most of it are emphasising the academic aspects and indicative in nature. The commercial aspects are not given much importance. But as an exception, a comprehensive study titled *Manual of Non – Wood Forest Produce Plants of Kerala (Mr K. K. N. Nair of Kerala Forest Research Institute-1994,2000)* is available, and this report has found included data pertaining to commercial uses and applications along with production and marketing in detail. Unfortunately, continuum of this study could not be found initiated by the KFRI and therefore the status of resource availability discussed in the report is based on this study. The above study was conducted by in the year 1994 and with update of this manual in 2000. In this study 160 items are identified and multiple usage and applications of these 160 items in whole or as plant parts are brought under 15 classes.

Table 9 MFP Category wise count

Category Name	Count	Category Name	Count
1. Medicinal Plants	135	9. Gums And Resins	28
2. Edible And Fodder Plants	50	10. Dyes	28
3. Fats And Oils	32	11. Tanning Materials	15
4. Paper And Pulp	18	12. Essential Oils	18
5. Poisons And Pesticides	19	13. Detergents, Cosmetics and Perfumes	17
6. Cottage Industries	28	14. Narcotics And Beverages	9
7. Other Products	22	15. Fibers And Floss	15
8. Spices, Condiments, And Masticatories	12	<b>Grand Total</b>	<b>446</b>

As of now, no such major initiatives to assess and quantify the supply and demand of MFP is found made in the state. Most of the studies conducted in this field, are found relying on the official statistical report published by the Forest Department obtained from the Kerala State Federation of SC ST Development Cooperatives Ltd, which is the flag ship organization of the state channel for MFP collection and marketing. This study is also relying on the same source of data for analysis of quantum of availability and price trends. But unfortunately, because of three-fold reasons the data available from Kerala SC ST Federation cannot be considered refined, complete, and comprehensive.

First and foremost, reason is the organizational flaws of Federation and lack of a fool-proof information management system to handle the MFP data timely and accurately. As it is being practised by Federation, monthly reporting system is not being strictly followed and resultantly annual compiled data will have a lot of omissions and miss categorization.



This first issue is curable by developing an apt data management system at the agency level. To this end, a real time data base management system is being developed by the Federation.

Secondly a substantial portion of collection data is not being shared with Federation by its member cooperatives. This is because of conflicts followed by lack of sufficient resource support from the Federation. This is a major issue faced by the MFP supply chain and need to be examined separately.

Thirdly and more importantly major data deficiency is its incompleteness by reason multiplicity of agencies and involvement of middlemen and agents, A substantial portion of MFP collected, especially high value Medicinal Plants and other items like Honey, Kunthirikkam, Kalpasam etc are being traded unofficially and such quantities are not included in the total availability. A portion of medicinal plants and honey, wild turmeric etc are collected and traded through Kudumbashree and VSS directly, outside the state channel comprised of tribal cooperatives and their collection and sales figures are also not being accounted in the total availability. Therefore, to take stock of total MFP availability in the state collection and sales data from all participating agencies need to be centrally compiled either at the level of state channel or the forest department.

### III.2.v.a (1) Availability of Resources in Viable Quantity.

Even though MFP is found qualified as a tradable commodity in terms of its trade characteristics like that of agricultural produces, availability of MFP in commercially feasible quantity is an issue to be tackled wise. Therefore, behaviour pattern in terms of demand & supply and pricing should also be reviewed be differently from that of agricultural produces. analysed supply if lowered below a certain level, will make the commodity not commercially viable for production / value addition and will result in price decline and demand decline as well. In such instances only those commodities having the potential for specialty applications can survive. On the contrary, where supply tends to exceed demand, supplier must control supply to match demand and thus maintain the price advantage. MFP, being a commodity traded to industrial consumers, shall have to have a minimum level of available quantity to ensure the scale of economy to the trading partners in the supply chain.

Overall collection quantity can be found declining drastically during the last 22 years. This decline is evidently steady starting from 2006-2007. Of the known 171 MFP items collected, 63 items (i.e., 36.85 %) are regularly collected over and above a minimum of level of one metric ton. Another 45 items (26.32 %) of the items are available annually in a nominal range from 100 Kg to 500 Kg. The rest of the 36.85% items are being collected annually at a non-feasible quantity below 100kg only

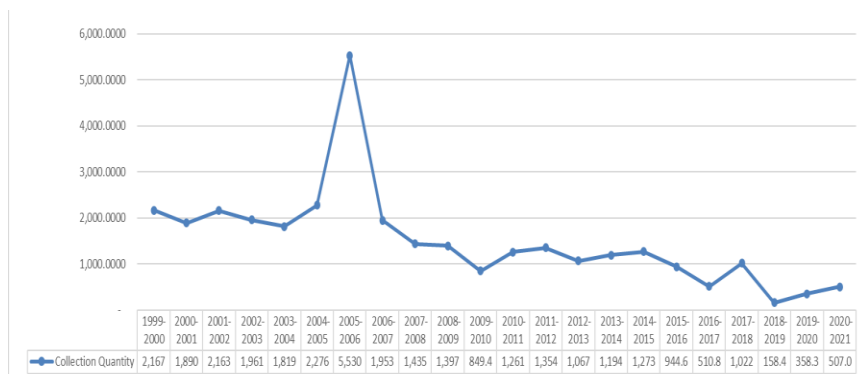


Figure 10 MFP Collection Trend 1999-2000 to 2020-2021

Collection of MFP in the state is officially entrusted to the state collection channel comprised of tribal cooperatives and its state level apex body. Besides this, other government approved agencies namely Vana Samrakashana Samithi and Kudumbashree are also have permission for collection of MFP from their local forest ranges. Even though such agencies are directed to market their product only through the official cooperative Channel, such agencies have their own trade channels and outlets in parallel to the state cooperative channel.

Collection statistics of such quantities not being recorded nowhere and therefore not being included in the official annual statistics published by the Forest Department. There an error factor to that extent will reflect in the finding based on official

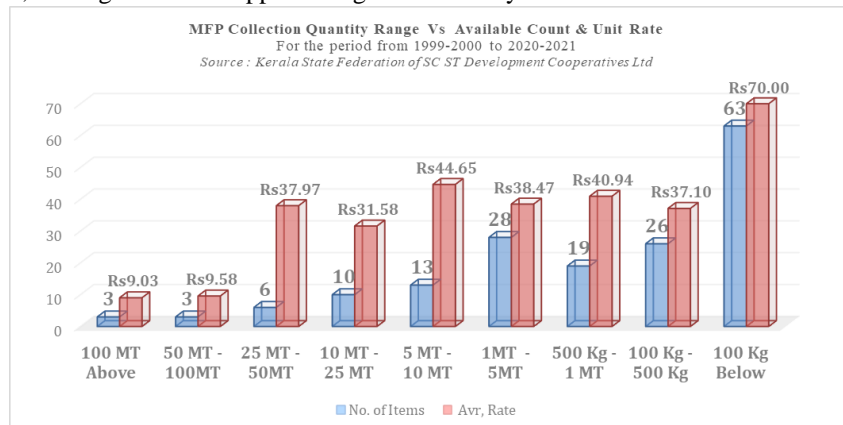


Figure 11 MFP Collection Quantity Vs Count and Rate

statistics. In addition to this error factor, another lot of data, on account of illegal trade activities done by MFP middlemen deployed by local and ingenious Ayurvedha units including those from neighboring state, will also be excluded for the data base. Only by means of strict streamlining of sourcing activities and enforcing regulatory measures, this data deficiency can be corrected.

### III.2.v.a (2) Commodity Characteristics of MFP:

An occupation is recognized as reliable means of living primarily based on its ability to earn stable financial gain and prosperity to individuals. All other social benefits and advantages stand only secondary to this. Acceptance level of MFP activities for a living, is assessed based on two basic aspects. Firstly, and prominently, the prevailing level of dependency of tribal community on MFP activities for a living, as against other occupations pursued. This can be taken as an indication for acceptance. Secondly, the matching characteristics of MFP as a tradable commodity as that of agricultural commodities can be an indication of qualification of MFP to be treated as a viable commodity.

Forest resources are of enormous commodity and non-commodity value based on its functionality and characteristics. Non-commodity values, also termed as Ecosystem Services, include biodiversity, water quality and quantity, fire protection, refuge, recreation and aesthetics, albedo, as sense of place, existence, carbon sequestration in the forest and by using forest products instead of steel or concrete in construction, and employment. Commodity value is obtained from Timber and Non-timber commodities included of decorative greenery, mushrooms, medicinal plants, honey, resins, and nuts. Most of the value from forests currently comes from timber, which is used for fuelwood, lumber, and paper making. (*Chadwick Dearing Oliver & Fatma Arf Oliver-2018*).

MFP to be appreciated as a commodity, need to be assessed based on its market commodity characteristics. Trade Commodities are basically grouped in to four types of namely 1. **Metal**, 2. **Energy**, 3. **Livestock & Meat** 4. **Agricultural**. To this study, MFP is included under the agricultural group and therefore need to check for a characteristic-fit with the accepted market related characteristics of agricultural commodities. To this end, the known basic market characteristics of agricultural commodities are matched with that of MFP, so that market related issues of MFP can be better understood

**Table 10 Commodity Characteristics Check List of MFP**

#	Agricultural Commodity Characteristics	Characteristics Check for MFP	Score Against Agri. Produce	Reason / Explanation
1	Perishability	Partially True	0.50	Most of the resources collected in raw form having high medicinal and nutritional values are perishable in nature and preservation of medicinal / nutritional value is possible by way of drying, seasoning, and processing, But lack of basic infrastructure facilities, resource capabilities and awareness, results in high rate of perishability.
2	Seasonality	Partially True	0.50	MFP items are prone to climatic changes and resultant loss of produces as in the case of agricultural produces. But gathers cannot control the quality & quantity of produce as farmers have on their produces. Depending on usage as raw materials, the desired maturity level and age of MFP will vary. But since controlled cultivation is not possible availability will be solely dependent of favourable climate.
3	Bulkiness	False	0	This being a characteristics of farm products, is not applicable to MFP which is being collected in small quantity by individuals and small groups and therefore no bulkiness in handling is applicable.
4	Quality / Product Variation	True	1	This is true in case of MFP, as most of the MFP items being herbal plants and plant parts are either used on whole on in part for commercial applications. This results in increased number of commodity variants like Whole Plant or its parts like Root, Bark, Stems, Leaves, Flower Fruit Resin etc

5	Supply Uncertainty	True	1	Since most of MFP items are naturally growing species availability can anytime be easily affected by a change in climate or by reason of an identified sustainability issue. There are many items of commercial value, proficiently collected before are not allowed to be collected now because of such issues. example Manajavally, Vella Kundirikkam, Chooral.
6	Small Holding Size	True	1	MFP Activities are spread across the length and breadth of the state and collection centres are in exterior of forest areas. Tribes venturing MFP collection in small groups will obtain comparatively small quantities and the intervening parties will take advantage of their inability for a bargain
7	Scattered Production	True	1	MFP collection in the State has a spread of 12 districts and total of 66 forest ranges out of the total 100 forest ranges. Each 12 districts are having on an average of 3 tribal cooperatives engaged in MFP activities.
8	Lack of Price Influence	True	1	As in the case of agricultural produces, the price decision is always being taken by the agents and buyers industrial consumers taking advantage of lack of market information due to poor communication and information processing system;
9	Lack of Processing	True	1	Practically no efforts are taken towards value addition and preservation for better shelf life at the upstream level, resulting loss of better market benefit to the tribals.
<b>Score - 9.00</b>		<b>Score - 7.00</b>		<i>Having scored 7.00 out of 9, MFP can be qualified as a commodity somewhat similar to agricultural commodity</i>

Based on the above characteristic-fit test, MFP is qualified as a tradable commodity with 77.78% matching market characteristics as that of agricultural commodities, except for the issues of bulkiness, perishability, and seasonality. This shows that MFP will surely make a viable occupation to the tribals provided the identified market issues are tackled as farmers do to agriculture produces.

### III.2.vi Forest Dwelling Rights - Land Title & Settlement Holdings:

Recent studies (Binu P Paul -Cusat 2013) shows that even though the average size of land holding, as per Kerala HDR, 2005, among STs is higher than that of SC OBC and other communities, issues of land encroachment and alienation are posing threats to the income and livelihood of tribal communities. As per the official statistics published by the department of forest, of the total forest area in the state is 11524.149 Square Kilometres. of which Implementation status of the forest rights conferred to the tribals under FRA, is being regularly monitored by the central government.

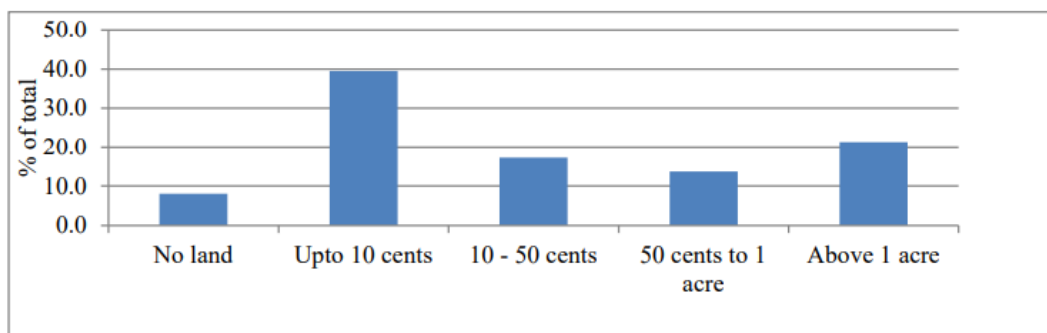


Figure 12 Forest Land Distribution Pattern

As per status report published by the Ministry of Tribal Affairs, as on 31<sup>st</sup> of January 2020, national level the implementation progress is 87.97% as total of 37,39,286 claims allowed against total of 42,50,602 applications received. In the state of Kerala, the reported implementation status is 59.73% as a total of 26,430 numbers are allowed against 44,249 claims received. In Kerala, a total of 48,969.26 acres of land titles had been distributed out of the total of estimated forest extent of 28,47,679.24 acres. This will constitute only

1.72% of the total forest land in the state and 3.08% of the total reserve forest. As per available statistics out of the 1,07,965 rural families, there are only 2297 forest dwelling families in Kerala, and this constitutes only 2.13 % of the total rural families. Establishment of title to the forest land holdings and ascertain ownership rights of forest resources are important and primary requirement for the reliance of MFP activities for a living.

**Table 11 FRA Land Allotment -31.01.2020**

Particulars	Forest Area in Sq. Km	Forest Area in Acres	%	Extent of Land Allotment Under FRA (31.01.2020)	
				Acres	%
Total Forest Area	<b>11524.149</b>	<b>28,47,679.24</b>	<b>26.60</b>	<b>48,969.26</b>	<b>1.72</b>
Legal Status Wise Extents					
<b>Reserved Forests</b>	6450.913	15,94,055.31	55.97	48,969.26	3.08
<b>Proposed Reserve</b>	285.093	70,448.01	2.48		
<b>Vested Forests</b>	1586.147	3,91,945.46	13.77		
<b>Ecologically Fragile Lands</b>	135.812	33,559.88	1.18		
<b>Protected Area</b>	3066.184	7,57,670.57	26.60		
<b>TOTAL</b>	<b>11524.149</b>	<b>28,47,679.24</b>	<b>100.00</b>	<b>48,969.26</b>	
<b>Total Tribal Settlement Area</b>		<b>53,611.984</b>	<b>1.89</b>		

Source: <https://forest.kerala.gov.in>

### III.2.vii Logistic Facilities:

The concept of logistics all operational activities such as Storage, warehousing and materials handling, Packaging, Inventory, Transport, Information and control of production and consumption. when it comes to forest logistics, it encompasses more than just the outbound flow of goods from forest areas, and it should include movement consumer products and other livelihood implements into the forest settlements. Lack of physical infrastructure support is the major handicap of MFP SCTCS in the state. Infrastructure facilities are the key to economic development and social prosperity. MFP activity related physical infrastructure requirements are mainly Transportation, Storage, Drying Yard, Tools and equipment for collection and pre-processing, safety gadgets and communication facilities.

### III.2.vii (a) Storage and Pre-Processing (Drying) Yards:

Most of the MFP items are collected in its extreme raw requiring a good amount of seasoning and pre-processing. Majority of the MFP items are medicinal plants and plant parts like fruits leaves roots, stem etc. and traded dried and copped as required for ayurvedic preparations. As of now much of the seasoning and pre-processing are not being completed at the sourcing level because of lack of facilities especially drying yards and storage facilities. To refer a specific case, out of 1,00,000 rattan (Chooral) sticks auctioned for Rs.68 Lakhs by Seethathode Chittar STCS, only 50% of the stick could be sold and remaining 50,000 stock were damaged during the flood in 2018-2019 period by reason of lack of proper storage facilities and ended up in a dispute with the auction buyer.

**Table 12 Loss Cover Claims allowed during Flood 2018-2019**

#	Name of STCS	Amount of Loss	#	Name of STCS	Amount of Loss
1	Devikulam	₹ 1.60	6	Malampuzha	₹ 1.00
2	Nilambur	₹ 1.10	7	Adimali	₹ 0.40
3	Vazhathope	₹ 3.53	8	Sholayur	₹ 0.53
4	Kottathara	₹ 1.95	9	Meppadi	₹ 1.00
5	Tahalappilli	₹ 1.75		<b>Total</b>	<b>₹ 12.86</b>

During the period of 2018-2019 and 2019-2020, on the aftermath of flood many STCS had to slow down MFP activities, as collected materials could not be seasoned and stored properly, because of unavailability of sufficient drying yards and storage space. Total of 12.86 Lakhs is the estimated trade loss by reason of not having proper storage facilities during the flood in 2019.

The total available storage capacity with the 35 MFP cooperatives in the state all together will not come more than 100 MT. Exact facts and figures of cooperative society wise storage facility data is not available as most of the tribal cooperatives are having temporarily hired spaces and makeshift shelters and will keep on changing the location as per availability and convenience. From field experience, can figure out many instances of distress sales and quality deterioration by reason of poor storage conditions, seasoning and processing. Therefore, assuming an average of 60

days in inventory and based on an estimated annual average collection of 82.333 MT for the last 22 years, storage capacity requirement is estimated. As per the estimation, each of the 35 STCS shall have to set up minimum of 13.50 MT storage capacity, anticipating a 60-day inventory days' time. Even now most of the MFP collected are traded for a mean price without any value addition for the very same reason of insufficient storage drying yard facilities. Had sufficient facilities are available, basic value addition process like cleaning soring and seasoning could have done at the collection level itself and earn better market price.

**Table 13** Storage capacity estimation

Formula Used	Days in Inventory = (Average Inventory / Cost of Goods Sold) x Period
Days in Inventory (Based on Trade experience)	60 Days
Average Inventory (Annual) of all 35 STCS	28,78,156.00 Kg (2878.600MT)
Average Inventory (Annual) / Per STCS in Quantity	82,233.000 Kg (82.23 MT)
Average Inventory / (monthly) / Per STCS in Quantity	6852.76 Kg (6.85 MT)
Average Inventory for 3 months / Per STCS in Quantity	20,558.000 Kg (20.56 MT)
Cost of Goods per annum per STCS	Rs.16,10,888.00
Period	365 Days
Average Inventory = (Days in Inventory x Cost of Goods Sold)/ Period	
Average Inventory in Value	= (60 x 16,10,888)/365 = Rs.2,54,803.50
Unit Average Cost /Kg	= Rs.19.59
<b>Average Inventory in Quantity KG for 60-day inventory</b>	<b>= 13,517.280 KG = 13.50 MT</b>

### III.2.vii(b) Forest Gathering Equipment, Tools, Protective Gadget:

Traditionally, tribals are well acquainted with the forest and its behaviour. These days due climatic changes, resultant natural calamities, and changes in the behavioural pattern of wild animals, human wildlife conflicts (HWC) are on increase and therefore forest gathering has become a risky occupation. Being a high-risk activity with eminent danger of attacks from wild animals, insects, and leaches etc combined with chances of facing flood, landslides and forest fire, personal protective gadgets are to be provided. Head lamp, knife, rope ladder, Cover-all and harness belt etc are now a days available in the market to be used for forest gathering activities. One of the major issue encountering in providing these type of gadgets are its availability and cost.

**Table 14** Cost of Tools & Equipment Per ST Cooperative & Contributory Cost Per Individual

#	Item Name	Unit Rate	Count	Amount
1	Refractometer	₹ 4,000	2	₹ 8,000
2	Test Kit	₹ 7,670	2	₹ 15,340
3	Storage Drum 300Kg	₹ 1,450	10	₹ 14,500
4	SS Filter Stand	₹ 11,000	5	₹ 55,000
5	Storage Drum 50Kfg	₹ 2,300	5	₹ 11,500
Total Contributory Cost to group of 20				₹ 1,04,340
Contributory Cost Per Individual Gatherers				₹ 5,217

Traditionally, tribals are well acquainted with the forest and its behaviour. These days due climatic changes, resultant natural calamities, and changes in the behavioural pattern of wild animals, human wildlife conflicts (HWC) are on increase and therefore forest gathering has become a risky occupation. Being a high-risk activity with eminent danger of attacks from wild animals, insects, and leaches etc combined with chances of facing flood, landslides and forest fire, personal protective gadgets are to be provided. Head lamp, knife, rope ladder, Cover-all and harness belt etc are now a days available in the market to be used for forest gathering activities. One of the major issue encountering in providing these type of gadgets are its availability and cost.

An analysis based on equipment and gadgets required for honey gathering shows that per head cost will be around

Rs. 9047/- Assuming an average of 2 years of lifetime of these equipment and tools, an annual financial investment of Rs.54.28 Lakhs will be required to equip an estimated of 30 STCS, each with a 20-member group of honey harvesting. In addition to the cost of equipment, cost of training and administrative expenses will be around Rs.600/- per head and on a biannual incurring basis, this will amount to 18 Lakhs. This will amount to total requirement of 72.28 Lakhs for providing tools and equipment. This estimation is only for honey and other produces like medicinal plants and each of the useful parts of it, like Roots, Stem, Bark Resin etc, will also need to be estimated and financial support provided. It is therefore evident that sufficient financial support for implements, and training needs to be provided to address the issue of personal protection and work easiness.

**Table 15** Total Cost of Tools and equipment for a Group 10 Honey Gatherers

#	Item Name	Unit Rate	Count	Amount
1	Bee Suit	₹ 1,750	2	₹ 3,500
2	Steel Knife	₹ 300	2	₹ 600
3	Nylon Strainer 16"	₹ 790	2	₹ 1,580
4	Collection Bucket	₹ 2,000	2	₹ 4,000
5	Rope Ladder	₹ 5,900	2	₹ 11,800
6	Plastic Can 2 Kg	₹ 500	10	₹ 5,000
7	Head Lamp	₹ 350	10	₹ 3,500
8	Nylon Fine Strainer	₹ 832	10	₹ 8,320
Total Cost for 10 Gatherers				₹ 38,300
Cost Per Head				₹ 3,830



### III.2.vii (c) Transportation Facilities:

Transportation is one of the key component of logistics. Transportation network models for MFP activities are somewhat like rural transport models for agricultural produces. Developing transport facilities in rural areas will facilitate effective and efficient distribution channels between urban and rural areas. This will improve the quality and value of produces and help providing low-cost, high-quality goods and services. The concept of rural logistics encompasses transport, distribution, storage, material handling, and the packaging of goods in rural areas, as well as the flow of information and funds in support of rural production and consumption. Rural logistics encompasses more than just the outbound flow of goods from rural areas. It includes the movement of necessary inputs and consumer products into rural areas, as well as the movement of light industrial goods produced in villages. (*Promoting Logistics Development in Rural areas- ADB-2017*). Likewise, a transport model helping both outbound and inbound movement of goods will be suitable for MFP activities.

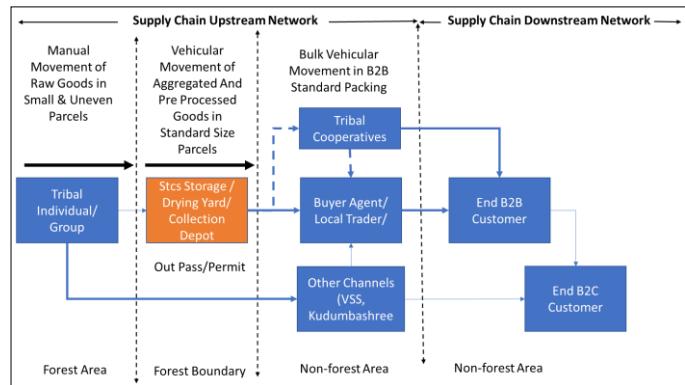


Figure 13 MFP Transportation Network

As of now movement of forest produces depends on both manual and vehicular modes. Resources collected from the forest will be carried out of the forest manually by the tribals to be aggregated at the nearest location where road access is available. From thereon, small vehicles will be made available by the tribal cooperatives or the buyers as per terms of sale. Goods collected from the depots/storage locations will be taken to the regional processing yard of the buyer in bulk. The above network type does not warrant a large-scale network planning, but such network though simple end up disadvantages to the tribal income because of lack of regular and planned milk runs and related issues. Since Federation and its member STCS do not have region wise centralized drying yards and storage facilities, most of the collection quantities are kept at scattered locations within forest areas. These remote and scattered locations will have minimal space and pre-processing facilities and chances of quality deterioration is very high. As it is being practiced by the state channel, sale of MFP is done by auction process. Collection data from each STCS will be informed to the branch office of the Federation for auction sale. Bidders will be provided of samples of goods by the STCS, and the successful bidder will have to collect the goods from each remote locations. Only at this stage, sale is presumed to be completed and ownership is transferred. Which means right from the date of collection to the date of auction sale, ownership of goods will rest with the tribals, and he will be at the loser's end in case of any event resulting quality and quantity issues.

Had the cooperatives have proper transport and storage network, collections from individuals tribals could be purchased at collection point itself to be taken to a regional facility. These regional storage facilities will help aggregation of collection into quality grades and present for spot auction to earn better market price and thereby give more income to the tribes and relieve him of possible loss.

### III.2.vii(d) Communication Facilities: -

Besides the tools and equipment, another requirement is communication facilities. This becomes relevant as most of the mobile phone network have connectivity issues within the forest areas. As reported by Business Toady in its online edition dated 6<sup>th</sup> Feb 2022, Ministry of Communications in the answer to a question in Lok Sabha, based on Telecom Service Providers (TSP) data, stated that of 5,97,618 inhabited villages in the country, 25,067 villages lack mobile connectivity and Internet. Kerala, Punjab, Tamil Nadu, and Haryana are some of the few states which have achieved the highest penetration of mobile services in their villages. Kerala even when having a high penetration rate, have problems in the tribal rural areas. There were reports of non-accessibility to online classes to tribal students during the down period due the spread of covid. This is true in the case of all participants in coordinating MFP activities between the tribals, tribal cooperatives service providers and traders. Effective mode of communication facilities will help ease of gathering activities, timely movement of goods and better market information to the tribals.

Lack of internet is a major handicap of many of the STCS resulting poor information flow within the MFP supply chain. Most of the communications between Federation and STCS are still using written communications via postal mail service. As most of STCS are not having computers and internet facility and another handicap is lack of trained users. A lot of money is being spent on computerization of cooperatives in state, but most of such projects are limited to supply of hardware and peripherals and real meaning of automation is hardly touched. None of such projects are concerned with the problem of lack of a standardised process flow within the cooperatives to be automated, equip trained personnel with reasonable remuneration and trouble shoot support.

III.2.viii Cash Assurances:

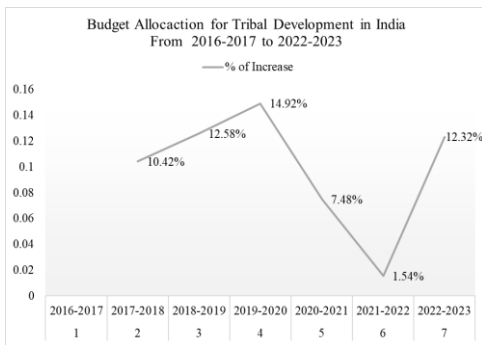


Figure 14 Cash Assurances -2022-23

	Year	Amount in Crores
1	2016-2017	₹ 4,826.50
2	2017-2018	₹ 5,329.33
3	2018-2019	₹ 6,000.00
4	2019-2020	₹ 6,894.96
5	2020-2021	₹ 7,411.00
6	2021-2022	₹ 7,524.87
7	2022-2023	₹ 8,451.92

Effective demand for rural financial services is often constrained by poor business skills and services, lack of social capital and inadequate infrastructure. (*Rural Financial Services –IBRD -2003*). This is true when referring to the rural development schemes undertaken by the government. Though governmental financial support is available adequately for thoughtfully designed development schemes, the end result is always not promising by reason of lack of skills and dedication at the implementation and monitoring level.

As tribal welfare schemes are concerned, government of India is very keen in allocating sufficient fund and it is evidently visible in the budgetary allocations made each year. Total Assistance received by the Kerala State Federation of SC ST Cooperatives is given below in charts and tables. Over the last 7 years there is 75.11 % increase in allocation and compared to last year its 12.32 % while average annual increase is 9.88%. In the year 2022-2023 allocation for tribal sector development is 8451.92 Crores. Majority of fund allocation i.e. 53.63% of allocation is for education and second largest beneficiary sector is the social development schemes assistance through central government and states which will cover 42.19%. Of the remaining 4.18%, only 1.27% amounting to Rs.353.53 is available for Market support activities of tribal products. Cash assistance from government for MFP activities are mainly obtained through three channels namely 100% Direct central assistance through Department of ST Development and Forest Department.

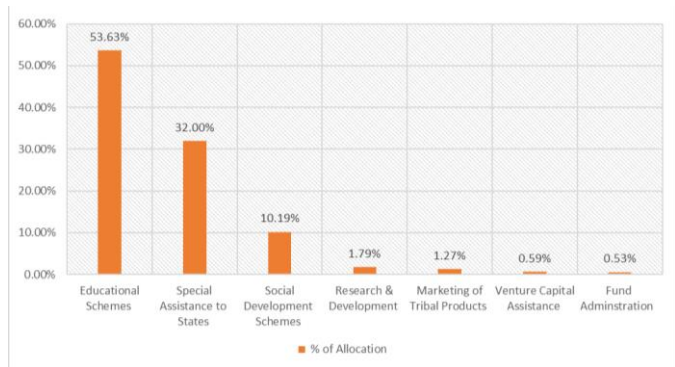


Figure 15 Purpose wise Fund Allocation -2022-2023

Secondly central assistance through state government included of state government share mostly in 75:25 ratio. Thirdly State government budgetary allocation. All these funds are routed through different departments as nodal agencies and implementing agencies as well along with other governmental organizations and bodies. Apart from the governmental assistances, there are central and state level institutional loan assistance available for individual tribals and associations. Such loan assistances are provided by NSTFDC, NABARD, NCD, KSDFC etc. Cash assistance specifically for MFP activities are provided mainly by the central government through Ministry of Tribal Affairs (MoTA). As it is observed, no other assistances are being provided for the last 20 years through the tribal cooperative channel, for helping forest gathering. MoTA assistances channelized mainly through TRIFED are of three types.

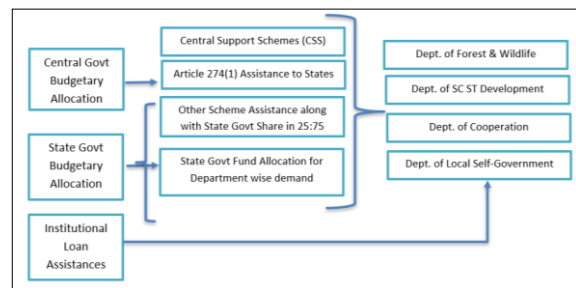


Figure 16 Governmental Assistance Channels

- Institutional Support for Marketing & Development of Tribal Products & Produce
- Marketing of MFP through Minimum Support Price & Value chain Development – MSP for MFP
- Van Dhan Yojana – VDY

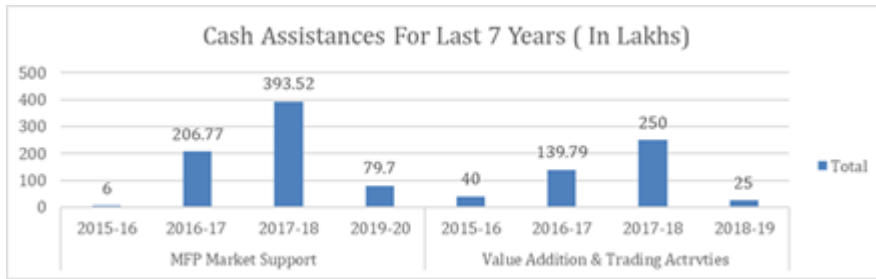


Figure 17 Cash Assistance for Last 7 Years

Sector of Assistance	Category			
	General	SC Development	ST Development	Grand Total
Administrative Expenses	₹ 115.00	₹ 10.00	₹ 25.00	₹ 150.00
Credit Assistance	-	₹ 881.92	-	₹ 881.92
MFP Market Support	-	-	₹ 685.99	₹ 685.99
Value Addition & Trading	-	-	₹ 454.79	₹ 454.79
<b>Grand Total</b>	<b>₹ 115.00</b>	<b>₹ 891.92</b>	<b>₹ 1,165.78</b>	<b>₹ 2,172.70</b>

Based on the historical data on cash assistances to the Kerala SC ST Federation, of the total cash assistances received of Rs.2172.70 Lakhs for the last 7 years 53.66 % of assistances (Rs.1165.78 Lakhs) are received for ST sector for promotion of MFP related livelihood activities. As against a total of Rs.1897.22 Lakhs of MFP collection the above 7 years, the total assistance received is only Rs. 685.99 Lakhs and the assistance will constitute 36.11 % of the total fund requirement. This will provide only 2.80 lakhs per society per annum whereas the average collection turnover per annum per society for the



Figure 18 Sector Wise Cash Assistances

last 22 years is Rs.8.42 Lakhs, which means 33.26 % of total requirement is covered by governmental assistance. Therefore, the amount of assistance can be justified as the remaining of the fund requirement will be covered by credit period adjustment.

But a closer look into the cash assistance will reveal a problem of inconsistent interval of assistance. During the last 7 years, assistances received only four times. Another problem in cash assistance is the delayed processing of fund disbursement. In most of the cases fund allotment will receive only by the end of the financial year and the implementing agencies will be hurried to expend the amount and submit the utilization. This will compel the implementing agencies to expend the amount without thinking of the logic and necessity of fund application. To help with proper and timely cash assistance to the cooperatives, there must be sufficient advance scheme planning and estimation of fund requirement for the coming year based on the collection volume and credit realization period. If possible, revolving fund, exclusively to meet the cash flow requirements of the cooperatives, need to be formed with strict monitoring of recouping of advanced amount to avoid depletion of the fund.

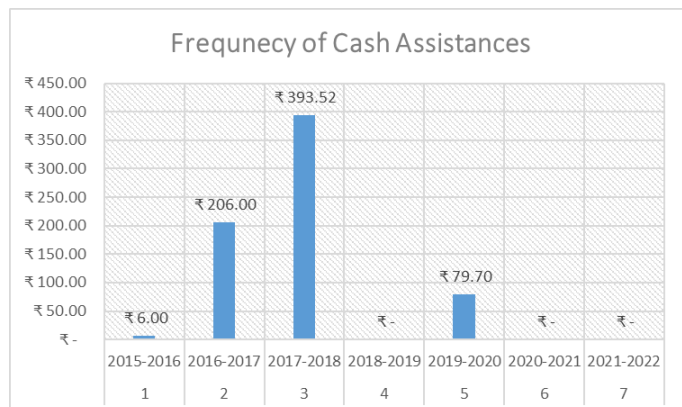


Figure 19 Frequency of Cash Assurances

#### **IV. DISCUSSIONS AND CONCLUSIONS:**

In the above chapters challenges and issues in protecting the livelihood assets to help promote forest gathering as a sustainable livelihood of tribals in the state is discussed in detail and based on the discussions the following assumptions and conclusions are arrived.

1. Forest gathering as it is being pursued now, will soon cease to be a reliable means of livelihood of the tribals in the State if planned intervention is delayed. Such a scenario will result in denial of the inherent benefits of the wild to both the tribals and the state itself in terms of socio-economic values and health benefits.
2. Aboriginal knowledge and gathering skills if not protected, will lead to abrupt end of this sector resulting a stage of demand without supply. First and foremost, of the remedial steps is to strengthen the MFP supply chain network assets, especially the human skills and knowledge. 16,000 crore size Ayurvedha and cosmetic industry in India will not approve such a stage and may prompt illegal sourcing of resources.
3. Forced distress selling of MFP resources is a reality in this sector, and many of the tribal individuals are forced to sell off their collection to private agents and illegal traders, because of lack of reasonable access to authorised and reliable material receiving centers, where their interests are protected by prompt weighment and payment. Lack of infrastructure facilities including transportation storage and communication are the major underlying reasons for this forced distress sales.
4. Price uncertainty consequential to poor value addition level is another reason for the aforesaid forced distress sale.
5. The current practice of relaying annual collection and sales report of Kerala SC ST Federation for estimating availability of resources and quantum of trade leads wrong facts and figures. Much of the quantity collected traded though VSS and Kudumbashree are not reckoned to arrive the annual availability. Mandatory reporting and consolidation of data at a point of authority will help provide reliable and accurate data. Most of the studies in MFP sector are found relaying official collection and sale statistics published by forest department and for reasons stated above, findings thus made will lead to wrong conclusions.
6. Lastly but essentially, money matters and the major deficiency of MFP supply chain is lack of insufficient cash flow. Cash assistance as provided now by the SC ST Federation is not helpful by reason of its uncertainty and inconsistency. All the above findings are basically rooted in this core issue. Ensuring sufficient fund flow within the supply chain, will help proper and reasonable payment, that will intern make tribals relaying the official channel avoiding the intermediaries. Besides sufficient funding will help improve the deficiency of infrastructure facilities making the supply chain revive and perform well.
7. Financial assistance to MFP sector in the state is comparatively very low and the major initiative of Ministry of Tribal Affairs in MFP sector namely “Vandhan Yojana” and “MSP for MFP” are not being properly implemented in the state. Government level intervention and initiate is required for availing and utilizing the above central scheme assistances in a befitting manner for the benefits of tribals who relay the forest resources for a living.

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