

Chapter - V

Non Wood Forest Produce and Tribal Welfare Working Circle

General constitution:

164. Distribution of area:

This is an overlapping working circle and covers the entire area of North Wayanad division. The range wise distribution of area is listed below.

Table No. 55 Range wise distribution of area in North Wayanad division

Sl. No.	Range	Area (ha)
1.	Begur	8952.300
2.	Mananthavady	2604.720
3.	Peria	8365.200
4.	Reserve land and P.O.B. land	1506.400
Total		21428.620

165. General:

Non Wood Forest Produce (NWFP) includes all the materials collected from forest both plant and animal origin except timber and firewood. Generally tribal people are involved in the collection of NWFP. Due to ignorance and lack of scientific knowledge, the collection of NWFP does a lot of damage to the forest. By orders GO (MS) 200/78 AD dated 28-07-1978 and GO (MS) 305/78/AD dated 25-11-1978, the state Government entrusted the collection of NWFP from reserve forests to the tribal societies. Since 1993, the societies are permitted to collect NWFP free of cost. To reduce the damage to the forest due to the crude method of collection by the tribals, more scientific approach for the collection is highly essential.

The important NWFP are Medicinal plants, Spices, condiments and masticatories, Gums and resins, Dyes, Tanning materials, Essential oils, Detergents, Cosmetics and Perfumes, Narcotics and Beverages, Fibres and Flosses, Edible and Fodder plants, Fats and Oils, Paper and Pulp, Toxins and Pesticides, Cottage industries etc.

Commonly available NWFP in the North Wayanad division are listed below.

Kunni (*Abrus precatorius*), Cheevakka (*Acacia concinna*), Vayambu (*Acorus calamus*), Adalodakam (*Adhatoda vasica*), Cashew (*Anacardium occidentale*), Kiriyaath (*Andrographis paniculata*), Garudakodi (*Aristolochia indica*), Sathavari (*Asparagus racemosus*), Kazhanchi (*Caesalpinia bouducella*), Chooral (*Calamus rotang*), Cheruthekku (*Callicarpa tomentosa*), Punna (*Calophyllum inophyllum*), Canna (*Canna indica*), Kunthirikkum (*Cannarium strictum*), Kanthari mulaku (*Capsicum minimum*), Seemapanji (*Ceiba pentandra*), Karuva (*Cinnamomum zeylanicum*), Maramanjil (*Coscinium fenestratum*), Kattumanjal (*Curcuma aromatica*), Orila (*Desmodium gangeticum*), Elakka (*Elettaria cardamomum*), Nelly (*Embllica officinalis*), Kakumkaya (*Enteda scandens*), Athi (*Ficus glomerata*), Kodampuli (*Garcinia cambogia*), Kumbil (*Gmelina arborea*), Idampiri valampiri (*Helecteris isora*), Nannari (*Hemidesmus indicus*), Chittalam (*Heradeum ringensis*), Adapathiyan (*Holostemma rheedii*), Marotti (*Hydnocarpus laurifolia*), Chethi (*Ixora coccinea*), Kacholam (*Kaempferia galanga*), Jeevakam (*Malaxis rheedii*), Kamala (*Mallotus philippenensis*), Maavu (*Mangifera indica*), Pinari (*Mappia foetida*), Malaveppu (*Melia dubia*), Naikkorana (*Mucuna pruriens*), Kattuthulasi (*Ocimum canum*), Erankole (*Oxytenanthera monostigma*), Paali (*Palaquium ellipticum*), Keezharnelli (*Phyllanthus niruri*), Kattuthippali (*Piper longum*), Chittaratha (*Plumbago zeylanica*), Avanakku (*Ricinus communis*), Urinchikaya (*Sapindus trifoliata*), Cheruparuva (*Sida carpinifolia*), Cheruchunda (*Solanum violaceum*), Ponpathiri (*Stereospermum chelanooides*), Karinkurinji (*Strobilanthes ciliatus*), Kanjiram (*Strychnos nux-vomica*), Pachotti (*Symplocos spicata*), Njaval (*Syzygium cumini*), Puli (*Tamarindus indica*), Thanni (*Terminalia bellerica*), Kadukka (*Terminalia chebula*), Chittamruthu (*Tinospora cordifolia*), Koduthoova veru (*Tragia involucrata*), Kattupadavalam (*Trichosanthes cucumeriana*), Ramacham (*Vetiveria zizanioides*), Inchi (*Zingiber officinalis*), Bee wax, Honey, Kolarakku and Kanmadam.

Objects of management:

166. Objectives:

The main objectives of management are

1. To increase the productivity and scientific management of Non Wood Forest Produce to enable the tribal communities dependent on for cuts to earn a descent income on sustainable basis.
2. To achieve participation of tribals in the management of this resource and assist them to realize higher value for the produce they collect from forests.

167. Methods of treatment:

As mentioned earlier the collection of Non Wood Forest Produce is presently done by the tribal societies free of cost. The tribal societies of North Wayanad division are listed below.

Table No. 56 Tribal Societies in North Wayanad division

Sl. No.	Range	Name of society	Place
1.	Begur	Thavinjal Scheduled Tribe Service Co-operative Society	Thalapuzha
2.	Begur	Thirunelly Scheduled Tribe Service Co-operative Society	Thirunelly

To make the collection more systematic with a scientific approach, proper supervision and control are necessary.

Guidelines for scientific collection of NWFP:

- i. Collection of NWFP should be entrusted to tribal VSS under the supervision of departmental officials to oversee the methods and extent of collection. The constitution of tribal VSS, its duties and responsibilities are enunciated wide G.O (Rt) No. 40/2001/F&WLD (G) Dept. Dt.2-2-2001 appended as **Annexure-XIV**. The details are also given in para No.235 under tribal welfare.
- ii. Injuries like debarking or blazing deep on the tree, cutting or lopping of branches, burning the bottom etc must be avoided. Epiphytes and climbers which are injurious to host shall be removed.
- iii. All the persons engaged in collection of NWFP may be provided with identity cards issued by the range officer concerned.
- iv. Tribals should be trained in scientific methods of collection.

- v. No produce should be transported without the valid permits. The range officer on verification of the produce shall issue permits.

Common injuries to forests due to unscientific NWFP Collection:

- During Summer season, careless action of people engaged in collection of NWFP many a times cause forest fires.
- Labourers often cut deep steps for climbing the trees to collect honey leading to permanent injury and sometimes death of the host.
- Excessive collection of green manure from the same area resulting in the destruction of regeneration.
- Causing injuries to trees by cutting barks in several places.
- Cutting or breaking of branches recklessly at the time of collection of usufructs.

NWFPs collected by Girijan service societies in North Wayanad division during 1998-2000 are given below.

Table No. 57 The details of NWFP collected by societies in the division

Range	NWFP	Quantity collected (Kg)		
		1998	1999	2000
Begur	Honey	9683	2373	4700
	Kunthirikkam	718	800	875
	Cheenikka	48216	---	16000
	Kurumthotti	13500	---	40626
	Urinchikka	931	---	---
	Kalpaasam	128	---	---
	Munda veru	19853	---	---
	Moovila	1600	---	---
	Wax	52	---	---
	Athi thippali	1750	---	1100
	Chunda	---	45997	14309
Mananthvady	Paachotti tholi	7400	---	2690
	Athi thippali	7200	2000	7350
	Cheenikka	10000		13650
	Kattumulakinveru	---	1000	---
Peria	Kunthirikkam I	925	15	500
	Kunthirikkam II	53	3091	---
	Kunthirikkam III	166	5920	---
	Kakkumkaya	2580	3790	1000
	Cheenikka	29000	2500	2000
	Athi thippali	500	2000	3500
	Maramanjai	300	300	---
	Paachotti tholi	7000	9300	30000
	Kodampuli	---	500	500
	Kattumulakinveru	---	4750	---

168. Formation of Vana Samrakshana Samithi (VSS):

The State Government in its order G.O. (Rt) No. 40/2001/F&WLD (G) Department dt. 2-2-2001 has directed to form Vana Samrakshana Samithis (VSS), for the tribals. In such VSS all the tribals in the hamlet are members. The secretary will be either a forester or a forest guard. The executive committee includes 9 representatives from the tribal hamlet in which 4 women representatives are compulsory. Apart from the tribals the Grama Panchayath ward member and a representative each from the tribal department and Non Government Organizations are ex-officio members. This setup will help to make the collection of NWFP more systematic. The VSS can also help in the protection of the forest.

Proper value addition methods may be evolved in the sale of NWFP, so that better return to the tribals can be guaranteed. General order for NWFP management including the formation of the Tribal Forest Protection Committee (VSS) are issued in the Government order G.O. (Rt) No. 40/2001/F&WLD (G) Department dt. 2-2-2001 is given in **Annexure -XIV**.

169. Medicinal Plants:

Medicinal plants form an important and major component of NWFP collected from the forests. Hence this deserves to be discussed elaborately in this chapter. It is reported that 4639 ethnic communities who live in different regions of India used locally available medicinal plants to treat various ailments based on their rich and vary folk knowledge. Similarly, medicinal plants are also used by the codified systems of medicine, such as Ayurveda, Siddha, Tibetan and Unani. Medicinal plants cover our entire plant diversity, 33 % of trees, 33% of shrubs and 34% of herbs and smaller plants. Even the teak tree has medicinal uses. Its seed is used as diuretic and its leaf in bone setting. Due to the advance in scientific research, the people are gaining more and more knowledge about the medicinal plants and their properties. This resulted in the production and use of more Ayurvedic medicines. In turn the medicinal plants once plenty in our forest are diminishing. Due to destruction of their habitat, some are on the verge of extinction. Best way to arrest this is to promote the cultivation of medicinal plants.

170. Objectives:

1. To protect, conserve and propagate the medicinal plant wealth of our forests and support the local health traditions specially of tribals dependant on forests.
2. To develop and adopt a package of scientific practices for sustainable extraction and usage of medicinal plants.

Table No. 58 Red listed Medicinal plants

Sl. No.	Malayalam name	Scientific name
1.	Karandavalli	<i>Aristolochia tagala</i>
2.	Guggulu	<i>Commiphora wightii</i>
3.	Maramanjil	<i>Coscinium fenestratum</i>
4.	Intalappana /Entha	<i>Cycas circinalis</i>
5.	Adapathiyam / Ada kodien / Ada modien	<i>Holostemma ada-kodien</i>
6.	Kacholam	<i>Kaempferia galanga</i>
7.	Kodapalla / Kiyavu /Shurali	<i>Kingiodendron pinnatum</i>
8.	Patree/ Ponnampam/ Kattujattika	<i>Myristica malabarica</i>
9.	Attuvanni	<i>Ochreinauclea missionis</i>
10.	Patrangam / Tilaparanni / Raktachandana	<i>Pterocarpus santalinus</i>
	Chuvannavilpori/Suvapaval-poryam/Amalpori	<i>Rauwolfia serpentina</i>
12.	Asokam / Hemapushpam / Vanjulam	<i>Saraca asoca</i>
13.	Vattam koolimaram	<i>Syzygium travancoricum</i>
14.	Arogyapaccha	<i>Trichopus zeylanicus</i>

171. Strategies:

1. Identify the plants and their habitat in the forest area
2. Survey and Demarcation of the area by erecting boundary pillars. Maps showing all the landmarks, wooded area, rocky patches marshy areas etc.
3. Stock maps showing the extent and intensity of availability based on inventory for the selected species should be prepared.
4. Conduct total inventory of vegetation in a given locality for enumerating the availability of species and their distribution etc. The medicinally important plants and their associates identified and encouraged through managerial interventions.

Treatment maps of the site may be prepared indicating the places where the seedlings of trees, shrubs, seasonal herbs and climbers are to be cultivated.

172. Planting programme:

Suitable Medicinal plants shall be artificially regenerated in the old plantations and open areas of natural forests in order to improve the stocking of the resources as well as providing cover to soil. The objective is not to raise pure medicinal plantations for economic considerations but to augment and widen the resource base of the NWFPs in the division. Extent of such planting and location should be decided based on the availability of funds and degraded area. It is also advisable that the Medicinal Plants consumer industries like Ayurvedic drug producers are consulted before commercial production of a given species are undertaken to assess the market demand for such plants / market materials. The cultivation practices for some important medicinal plants that can be planted in the Division is furnished below:

- i. **Long pepper (*Piper longum*):** It is known as Thippali in Malayalam. Can be cultivated in red to laterite soil with 80% shade. Avoid open patches. It is propagated vegetatively from semi hard cuttings having 5-6 nodes. The cuttings are planted in poly bags with two nodes under soil mixture. Best time for raising nursery is May. Takes about 15 – 20 days for sprouting and the sprouting is about 80%. Cuttings will be ready for planting within a month. It flowers during Oct.-Nov. and fruits during Dec.-March.
- ii. **Mayilanchi (*Lawsonia intermis*):** It can be cultivated in open patches even in poor soil. Propagated by planting pencil size semi-hard cuttings in poly bags, it sprouts in about 15 days. It flowers during December and fruits during the same month.
- iii. **Chittamruthu (*Tinospora cordifolia*):** It is a climber growing singly or with Pongamia, Acacia or Zyzyphus trees. Can be propagated either by seeds or by cuttings. Sowing of fresh seeds in poly bags or planting of pencil thick semi-hard cuttings with 4-8 nodes in poly bags is ideal. The germination percentage is about 15 and sprouting is about 20%. The best season for sowing is May – July and it flowers during Nov-May.
- iv. **Kattarvazha (*Aloe barbadensis*):** It is a small succulent plant that can be planted on bunds, rocky areas and crevices where there is little shade. It is

propagated by transplanting root suckers, in poly bags or in beds. Best season for planting is July to August with cent per cent success.

- v. **Veppu (*Azadirachta indica*):** The tree prefers shady and moist places. It can be propagated by seeds. The fresh fruits are soaked and depulped and sown in poly bags. Germination percentage is around 80 and it takes about 20 days to germinate. One year old seedlings are to be transplanted. It flowers during March and May and fruits can be collected from July to August.
- vi. **Adalodakam (*Justicia Adhatoda*):** It is a hedge plant growing well under partial shade. It can be propagated by planting pencil thick semi hard cuttings having 3 to 4 nodes in poly bags. It sprouts in about 15 days and the sprouting percentage is 90. flowering period is Jan – Apr.
- vii. **Vizhalari (*Embelia ribes*):** Hedge plant preferring partially open space. It can be propagated by sowing fresh seeds in raised beds. The germination percentage is 50 in a period of 25 days. It flowers during Feb – Mar and fruits from Mar – Jun.
- viii. **Chemparuthi (*Hibiscus rosa-sinensis*):** It's a small shrub that can be grown in any type of habitat. It can be propagated through pencil thick semi hard cuttings by planting in poly bags. 70 percent of them will sprout in 15 days. It flowers all through the year.
- ix. **Kudakappala (*Holarrhena pubescens*):** Open places with sandy or well drained soils are most preferred. It can be propagated by seeds. Fresh seeds are tied in cloth bags and soaked in cold water for 24 hours and then sown in poly bags. 80 per cent of them will sprout in 10 days. It flowers during Apr – May and also between Aug – Sep with corresponding fruiting period Jun-Jul and Feb-Mar.
- x. **Adapathiyankizhangu (*Leptadenia reticulata*):** Prefers slightly gravelly soils. It can be propagated by pencil thick cuttings in poly bags. 80 percent of them will sprout in 20 days. Best season for planting is November.
- xi. **Mathalam (*Punica granatum*):** Open places with red to black soils are most ideal. It can be propagated by sowing fresh seeds. The fruits are thin till the edible pulp is removed and mixed with ash, dried for one day in the sun and

sown in poly bags. 80-90 per cent of them will germinate in 15 days. It has 3 flowering seasons Jan-Feb, Jun-Jul and Sep-Oct.

- xii. **Amukkuram (*Withania somnifera*):** Grows well in red or loamy soils under open places. The seeds are dried in sunlight till the mucilage is removed, soaked in cold water for 24 hours and sown in sunken beds. 80 percent of them will germinate in 30 days. Flowers during Dec-April and seeds can be collected in Oct-Jan.
- xiii. **Sathavari (*Asparagus racemosus*):** It's a climber comes up well in open places with hedges. Seeds are sun dried and soaked for 2 days in cold water then sown in poly bags or beds. 80 per cent germinate in 20 days. Best season for planting is Jun-Jul with 3 month old seedlings. It flowers during Dec-Apr and seeds can be collected during Feb-Apr.
- xiv. **Brahmi (*Bacopa monnieri*):** Most suited for marshy lands. It flowers and fruits all through the year, can be propagated through plantlets which are separated and planted directly in beds. Frequent watering is essential.
- xv. **Kudangal (*Centella asiatica*):** Can be cultivated along waterways and on damp soils. It can be propagated through stem cuttings having 4 to 6 nodes in beds or poly bags. Cent per cent sprouting can be obtained within 10 days. It flowers and fruits all through the year.
- xvi. **Nannari (*Hemidesmus indicus*):** Open spaces with sandy or loamy soils are preferred. The ripe fruits are collected before they dehisce, the seeds are separated, soaked in water for 24 hours and sown in raised beds. About 60 per cent of them germinate in 15 days. Two months old seedlings can be planted out. It flowers and fruits all through the year.
- xvii. **Palmutakkinkizhangu (*Ipomoea mauritiana*):** It's a tuber growing well in loose loamy soils. It can be propagated by direct sowing of seeds or by semi hard cuttings with 2 nodes, planted in poly bags. 60 per cent of the seeds germinate in 15 days. About 80 per cent of the cuttings sprout in 20 days. 1 to 2 month old seedlings can be used for planting. It flowers during June-July and Nov-Dec and fruits in July-December.

- xviii. Sarpagandhi (*Rauwolfia serpentina*):** Generally cuttings from stem and root are used, as the germination percentage from seed is very poor. Hardwood cuttings, three noded can be planted in nursery beds and made to root. Large taproots with a few filiform laterals are used. 5 cm long cuttings are planted in nursery beds.
- xix. Lemon grass (*Cymbopogon flexuosus*):** Generally the crop is propagated through seeds. Vegetative propagation through slips is also possible. Seeds can be sown directly in the field or seedlings can be raised in nursery and transplanted. About 20 to 25 kg of seeds per hectare is required.
- xx. Gymnima (*Gymnema sylvestre*):** Vines cut at 15 to 20 cm length can be used for planting. Propagation through seed can also be resorted to.
- xxi. Kasthurimanjal (*Curcuma aromatica*):** Rhizomes are used for planting. Rhizome bits with healthy buds are used. They will start sprouting within one week.
- xxii. Chethikoduveli (*Plumbago rosea*):** It is propagated by semi-hard cuttings. Two or three month old rooted cuttings are used for planting.

173. Participatory Forest Management (PFM):

General: Participatory Forest Management (PFM) approach justifies the necessity of ensuring people's participation in effective protection and management of the forest resources of Kerala. Under PFM the agreed forest management activities will be planned, implemented, maintained and monitored by the village level institution-Vana Samrakshana Samithi (VSS) constituted for the purpose with the help of suitable facilitators and the KFD. Participatory process begins with a good rapport, trust and partnership between the KFD field staff and the local people.

The process of PFM involves the phases like inception, planning, implementation and monitoring. The KFD officials should actively involve in each of the phases. The social intermediaries shall be engaged for working along with the villagers and forest officials in all the phases. The initial meeting with the villagers may be facilitated through local NGOs and panchayaths.

A Participatory Management action plan should be made at the state level, with focus on sustainable management of NWFPs, consisting of sustainable harvesting and regeneration, along with biodiversity conservation. The active participation of all

interest groups, regarding the development of these products should be given prime importance.

As part of the preparation of participatory action plan the following strategies are suggested to tackle some of the issues, which may crop up.

- Management of NWFPs is to be carried out by the interest groups, giving more emphasis to local level planning.
- Stress should be given for opening new communication channels between the Forest Department officials and the local communities for establishing mutually beneficial co-operative activities.
- The areas selected for implementing participatory management should be need based.
- Participating communities, as far as possible, must be homogeneous groups with common interest and socio-economic conditions.
- The objectives of the participatory management should be limited. The micro plans in the participatory management must be prepared on the basis of elaborate pre-plan survey with the help of participating communities.
- Since the ownership of forest is vested with the Forest Department it must expedite official formalities on various issues such as permission for collection of NWFPs and its transportation from the collection centers to the godowns, etc at the appropriate time.

The removal of NWFP should be allowed as per the permits in vogue. The collecting agency should be strictly instructed to file monthly returns. A register of NWFP should be maintained in each range with all relevant details including lease value, period, date of agreement, quantity removed, place removed to etc.

Objectives: The objectives of the PFM programme in the state during the pilot phase are two fold:

1. To explore the potential of PFM in different forestry and socio-economic contexts having direct influence on factors like forest fires, grazing, encroachment, timber smuggling, unsustainable removal of NWFPs and environmental degradation.
2. To develop appropriate approaches to introduce PFM in Kerala.

Selection of site: All the degraded forests located in the vicinity of habitation, prone to high biotic interference such as grazing, fuel wood collection, encroachments etc. are proposed for working under PFM. Each site should be treated after preparing site specific plan. Besides collection of NWFP through the tribal cooperative societies can also be brought under the purview of tribal VSS.

Method of Treatment: Accordingly, three small but degraded forest patches are proposed for treatment under PFM. The treatments of these areas are being carried out in accordance with the guidelines laid down in Kerala Forestry Project.

Preparation of Micro plan: The above objectives are to be achieved through people's participation. This shall be executed by implementing micro plans prepared for each site. Guidelines for preparing micro plans are furnished below.

- i. Initially one site may be selected in each of the two ranges to meet the objectives already set out through PFM. The PFM activities may be extended to cover other areas after analyzing the results of the already initiated activities and making modifications wherever necessary.
- ii. In a major shift from the earlier system of forest management, the Ministry of Environment and Forests, Government of India issued policy instructions to all the State Forest Departments on June 1st 1990, promoting active participation of people to improve degraded forest tracts.
- iii. The Micro plan should be written in simple regional language, so that the field staff and villagers can understand it. It should be flexible, brief and objective. There should be a provision to review the plan and scope for amendment. After modifications at different stages, the prerogative of finalization and adoption of the plan should rest with the General Body of the village institution. Micro plans should be prepared for a period of five years. There should be one micro plan valid for a period of five years for each village, which will take responsibility for implementation of the plan. A system of monitoring should be built within the plan.

Prescriptions to be carried out:

1. All the pre-requisites including treatment plans developed for all the areas proposed to be prepared and submitted.

2. The treatment plans should be approved by the Conservator of Forests.
3. Micro plan to be prepared. The preliminary works are to be carried out as per the schedule proposed in Site Specific Plan such as formation of VSS.
4. This being a new experiment adequate caution has to be exercised in implementing this program.

Control: The following control records will be maintained

1. Control book
2. Record of works (common to all working circles)

174. Tribal Forest Protection Committee (VSS):

Tribal Forest Protection Committee (VSS) justifies the necessity of ensuring tribal communities participation in effective management of the Non Timber Forest Produces of Kerala. The committee should function as per the guidelines issued by the Govt. of Kerala in G.O. (Rt) No. 40/2001/F&WLD (G) Department dt. 2.2.2001 which is appended as **Annexure-XIV**. Tribal Forest Protection Committee (VSS) formed in North Wayanad division during 2000 – 01 are given below.

Table No. 59 Tribal Forest Protection Committee (VSS) formed in North Wayanad

Sl. No.	Range	Place	Registration No.	Date of formation
1.	Begur	Thirunelly	121-1/2000	28-12-2000
2.		Makkimala	121-1/2001	24-7-2001
3.		Appapaara	121-2/2001	29-7-2001
4.	Mananthavady	Chaalil	122-1/2001	23-7-2001
5.	Peria	Peria	123-1/2001	24-7-2001
6.		Kunhome	123-2/2001	27-7-2001

175. Monitoring:

Control Book may be maintained noting work as well as the change at section level and Range level. Inspection note may also be maintained. It should be brought to the notice of the senior officers and suggestions if any, may be got recorded.

176. Control:

The removal of the NWFP collected should be controlled by permit system. Necessary passes may be issued strictly in according with the law. The societies should be insisted in the filing of monthly returns in time in the form prescribed. Necessary registers may be maintained for the record of the collection details and the welfare activities done.