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**Government of Maharashtra
Tribal Development Department**

**MINOR FOREST PRODUCE-ITS
ROLE IN THE LIFE OF
TRIBALS - A STUDY**



**Tribal Research & Training Institute
MAHARASHTRA STATE
28, QUEEN'S GARDEN PUNE - 411001.**

1992



P R E F A C E

Forests play an important role in a country's economic development and ecological stability. They provide a wide range of major and minor forest produce which provide raw material for several industries. The growth of different sectors of agricultural economy and more particularly, the over all rate of economic development depends, to a considerable extent on the efficiency of the marketing system in vogue.

A host of factors such as the predominantly agrarian nature of our economy with dependence of a very large proportion of people on agriculture for their sustenance, low rate of industrialisation, strikingly low level of purchasing power of masses have inhibited the growth of marketing in India. The marketing system in the tribal economy is still primitive. This backwardness can be attributed to the peculiar geographic, climatic and economic features. The tribals inhabiting these areas live in abject poverty though the area is rich in natural resources. What they realise for their goods or services is much less than the fair value thereof, but such is their dependence on the marketing mechanism operated by the predatory traders that trade on equal terms is still a distant dream.

What is common parlance is known as minor forest produce is what this study is all about. It seeks to explore the hidden dimensions of a wide range of

possibilities thrown up by a demand which needs to be defined in for greater detail that has been the case so far.

The study was entrusted to Shri V.P.Deole, Research Officer and Shri S.R.Shevkari, Research Assistant of this Institute who conducted the field investigation and prepared the draft report.

I am thankful to the Managing Director, Maharashtra State Co-operative Tribal Development Corporation, Nashik; Chief Conservator of Forests, Nagpur and the Deputy Conservator of Forests for making available extremely useful data.

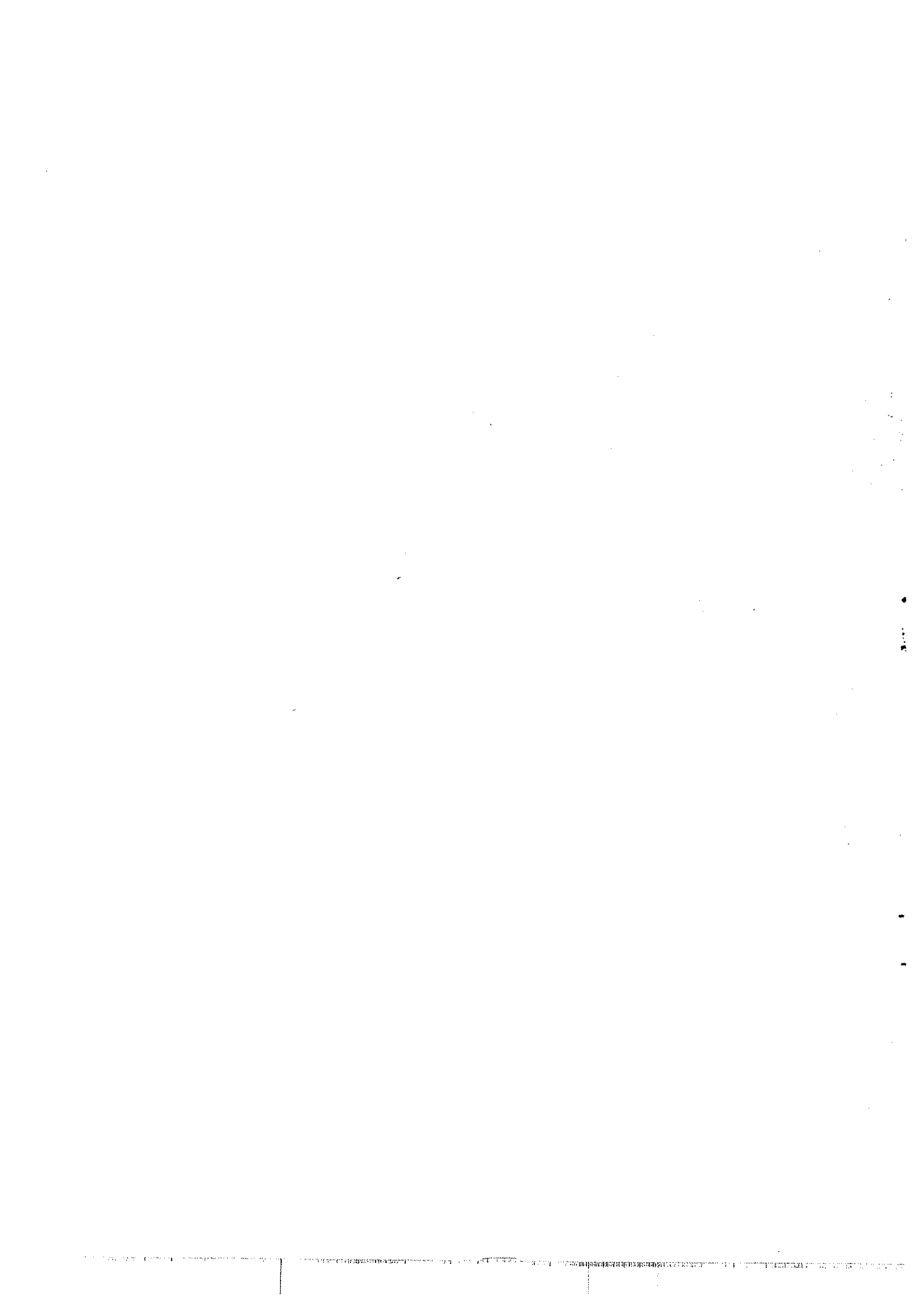
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DIRECTOR
TRIBAL RESEARCH & TRAINING INSTITUTE,
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Place : Pune

Date : 15-7-1992

The Tribal Research & Training Institute, Pune has completed an Evaluation Study of "Minor Forest Produce - it's role in the life of tribals". The list of officers who contributed for this is given below.

Sr No.	Name of Officer	Designation
1	2	3
1.	Shri R.S.Negi	Director
2.	Shri K.K.Naidu	Director
3.	Shri N.P.Bhanage	Director
4.	Shri S.K.Uike	Dy.Director (Eva.& M.)
5.	Shri P.J.Wani	Dy.Director (Eva.& M.)
6.	Shri M.B.Surana	Dy.Director (I.A.D.P.)
7.	Shri P.N.Tupsamudre	Dy.Director (I.A.D.P.)
8.	Shri H.M.Khadilkar	Dy.Director (I.A.D.P.)
9.	Shri V.P.Deole	Research Officer (I.A.D.P.)
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11.	Shri U.N.Chawdhari	Research Assistant (I.A.D.P.)



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C O N T E N T S

<u>Sr No.</u>	<u>CHAPTER</u>	<u>PAGE NO.</u>	
I	Historical perspective	1	22
II	Overview of Forests, Tribals and minor forest produce items - situation in the State	23	37
III	Objectives of the study and Research Design	38	42
IV	Profile of Primary Data	43	58
V	Field Observations	59	67
VI	Conclusions/Suggestions	68	77
VII	Profile of Medicinal Plants Resources in Tribal Sub Plan Area of Maharashtra State	78	114
	REFERENCES	115	-
<u>APPENDIX</u>			
I	Minor Forest Produce - its role in the life of tribals - - A study ... (Schedule I for implementing officers)	116	118
II	Minor Forest Produce - its role in the life of tribals - A study ... (Schedule II For Adivasi Co-op.Societies purchasing minor forest produce).	119	121
III	Minor Forest Produce - its role in the life of tribals - - A study ... (Schedule III Schedule of households)	122	126

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CHAPTER I
HISTORICAL PERSPECTIVE
BRITISH COLONIAL POLICY

1.1 Before the advent of the British in India, there was only customary regulation of people's rights over forests lands and forest produce. This did not pose any problem because while the population was small, forests were extensive. Such was their abundance that in most societies, the usufruct could be had without let or hindrance such as leaves, twigs, barks and fruits. Cutting of trees was occasioned only when the need arose for personal consumption. Commercial exploitation of forests was unknown.

1.2 But the situation changed with the advent of colonialism. The British realised the commercial value of forests and began to use them to augment revenue and in the process, tried to regulate people's rights over forests. All this was done in the name of conservation of forests. A memorandum providing guidelines restricting the rights of the forest dwellers was issued in August 1865. Its purported purpose was conservation of forests, it laid down that -

"the sole object with which state forests are administered is the public benefit. In some cases the public is the whole body of tax payers, in other the people in the tract within which the forest is situated; but in almost all cases the constitution and preservation of forests involve in greater or lesser degrees, the

regulation of rights and restrictions of privileges of users in the forest areas which may have previously been enjoyed by the inhabitants of its immediate neighbourhood. These regulations and restrictions are justified only when the advantage to be gained by the public is great and the cardinal principle to be observed is that the right and privileges of individuals must be limited otherwise than for their own benefit; only in such degree as is absolutely necessary to secure that advantage (quoted in Randhawa 1975-76)".

- 1.3 This policy was never implemented in full. In fact greater and greater restrictions were placed on community ownership of forests. The British viewed forests as timber resources and source of revenue. Moreover the British Government reserved to itself rights over large tracts of forests till then owned by local communities. Many tribals and other forest dwellers opposed this violent confiscation of the long cherished right of the people" (Bombay Forest-Inquiry Commission 1887, quoted in F.R.I.1981).

In 1894, the Government reviewed its forest policy and stated in clear terms that -

- 1) The sole object with which State forests are administered is public benefit. In general, the constitution and preservation of the forest involve the regulation of rights and the restrictions of the privileges of the user in the forest by the neighbouring population.

2) Forests situated in hill slopes should be maintained as protected forests to preserve the climate and physical conditions of the country and to protect the cultivated plains that lie below them from the devastating action of hill torrents.

3) Forests which are the reservoirs of valuable timbers should be managed on commercial lines as a source of revenue to the State.

4) Wherever the effective demand for cultivable land exists and can only be supplied by forest area, the land should ordinarily be relinquished without hesitation, subject to the following conditions :-

a) Honey combing of a valuable forest by patches of cultivation should not be allowed.

b) Cultivation must be permanent and must not be allowed to an extent as to encroach upon the minimum area of forest that is needed to meet the reasonable forest requirements present and prospective, and

c) Forests that yield inferior timber, fuel wood or fodder or are used for grazing should be managed mainly in the interest of the local population (care should be taken to see that the user is not exercised so as to annihilate its subject and the people are protected against their own improvidence F.R.I.1981 :

Thus, the policy emphasized the commercial use of the forest as also its ecological value. It paved the way for the regulation of rights and privileges of forest dwellers over forest land and produce.

It is important to note here that the only consideration behind this policy was meeting commercial needs and augmenting revenue collection. No systematic study was made of the requirements of forest dwellers before earmarking village forests.

The Forest Acts

1.4 The first act to give effect to rules for the management and preservation of Government Forests was passed in 1865. The Act empowered the Government to declare any land covered with trees, brush wood or jungle as Government forest by notification, provided that such notification did not abridge or effect any existing rights of individuals or communities (Section 2). Government was empowered to make rules relating to preservation of trees etc. The local Government were empowered to prescribe punishment for breach of the provisions of the Act. It can be seen from the provisions of the Act that the major objective was to establish Government's control over forests. The Act came into force on May 1, 1865.

The Indian Forests Act, 1878 repealed the Government Forest Act 1865. It was more comprehensive and it divided forest into (1)reserved forests, (2)protected forests, and (3)village forests. Persons

were to be notified to prefer their claims over land and forest produce in the proposed reserved forests. The forest settlement officer was empowered to acquire land over which rights were claimed by persons. The forests settlement officer was to record such rights and there were special provisions to ensure the exercise of such rights. These provisions included setting out some other forest tracts to ensure the right of pasture and to forest produce, altering the limits of the proposed forest so as to exclude forest land of sufficient extent for the purpose of claimants and recording in order to ensure claimant's rights in certain portions of the proposed reserved forest (Section 1 A). Trespassing or pasturing of cattle was prohibited in the reserved forests.

1.5 The local Government were given the right to notify any forest or land as protected forest after ascertaining the nature and the extent of the rights of Government and of private persons in and over the forest land or waste land comprised therein. They were also empowered to make rules to regulate and prohibit certain acts in protected forests. Certain provisions regarding protection of trees over forests and lands that were not the property of the Government were also incorporated. Thus the 1878 Act, continued and extended the Government Policy of establishing control over forests. It also made several provisions for the imposition of duty on timber.

1.6 The Indian Forest Act, 1878 was modified in parts by different acts of the local Government. It was later

on replaced by a very comprehensive Act called the "Indian Forest Act, 1927". This new Act brought together all the major provisions of the earlier ones including those relating to duty on timber.

- 1.7 The Government of India Act, 1935, created provincial legislatures. The subject of forests was included in the provincial legislative list under the Act. Thereafter several provinces made their own laws to regulate forests. Most of these laws were within the framework laid down in the 1927 Act (F.R.I.1981).

Post-Independence Policy

- 1.8 Forest was a subject in the State list in the 7th Schedule of the Constitution of India till 1976. It was transferred from the State list to the Concurrent list by the 42nd amendment in 1976. This resulted in the diminution of the powers of the States. The Government of India used its powers drastically to curtail States' right over forests by the promulgation of the Forest Conservation Ordinance issued on Oct.25, 1980. (No.17 of 1980). This ordinance prohibited the State Governments from allowing the use of any forest land for any non-forest purpose without prior approval of the Central Government. The ordinance was later on converted into an Act, (No.69 of 1980).

Social Objective

- 1.9 Today about 30 million persons derive some part of their livelihood from the forests. Most of these forest dwellers are adivasis whose welfare is proclaimed

to be an important part of Government Policy. During the lean season these forest dwellers live on leaves, wild fruits and roots and tubers collected from the forest. They also obtain fodder for their cattle from the forest. A number of Adivasi women collect fuel wood, the sale proceeds being their only means of income. Collection and sale of minor forest produce provides gainful employment to a considerable number of adivasis.

The relationship between the forests and the tribals has however never been defined in a manner equally consistent with the needs of both the forests and the tribals.

The traditional interdependence of the forests and the tribals came to an abrupt end once the State stepped in to exploit forests commercially. Tribals were marginalised in their home land and what were once rights recognised by customary law, over a period of time, degenerated into mere concessions. While a right can be enforced, a concession cannot. It can be abridged, revoked or withdrawn, unilaterally by the authority granting those concessions even without assigning any reasons.

1.10

"Forests are intimately connected with the life of tribals and play a vital role in their economy. The relationship has been recognised but has not been defined and interpreted in terms of clear-cut policies and programmes. This has caused adverse ecological

balance. In some cases, forests have suffered a great loss, while in other cases tribal economy has been badly affected. There is urgent need to review the relationship of forests to the life, culture and economy of the tribals (ECKHOLM 1979, 33").

The same sentiments have been echoed by M.R.Chakravarti, former Chief Conservator of Forests, Madhya Pradesh. He states that "for over a century, the forest department has been made to be a quasi-commercial department, but never a quasi-social or quasi-welfare department. The use and outside sale of fuel should be regulated subject to the availability of other sources of income to the villagers" (quoted in Shrikant 1982, 29.)

Rural needs for fuel, fodder fertilizer fibre, fruit and timber for housing must not only be recognised as basic needs but also be provided for in planning forest development and management. It is because forests meet some of the basic needs of the poor i.e. wood, food, clothing, shelter. In India millions of adivasis survive on fruits, tubers and roots found in the forest in the lean season. Thousands of adivasis use tamarind seed flour in lean season. Some use wild vegetables grown in forest which also supply fuel. The demand for wood as fuel is an important factor that contributes to forest depletion. The challenge is to plant enough trees to satisfy the elementary needs of the poor.

People-oriented forest policy

1.11 It is therefore necessary that the large parts of existing forests should be treated as social forests. Rights of the forest dwellers over the forest lands and produce should be listed and made public. These rights known as 'nistar' rights are even today noted in Government records but are not known to the public to whom these rights are supposed to belong. What is needed is their revision and publication. The present efforts to curb these rights should be given up, so as to minimise the constant state of confrontation between the forest officials and the forest dwellers and to continue the latter's sustenance till they are settled in their occupations.

1.12 Acceptance of the local people's rights on the nearby forests produce should form the core of a people-oriented forest policy. The local population should have the first claim over forest produce and that too limited to self-consumption and sale for sustenance. Efforts should be made to see that the Adivasis and other forest dwellers get remunerative prices for minor forest produce. The Tribal Development Corporation have done some good work in this field despite opposition from the merchants and their allies in the legislature and ministries.

Accepting the tribals' rights over Minor Forest Produce

1.13 The basic objective of reducing the abject poverty of the forest dwellers as early as possible can only be attained by accepting their rights over minor forest

produce, by encouraging small-forest based industries in their regions, by ensuring fair prices to minor forest produce and by developing forests which provide sustenance to forest dwellers instead of those that meet industrial needs and fetch high price. There is a need for a genuine social forest policy which alone can lead to forest preservation and development.

National Forest Policy (1952)

1.14 The National Forest Policy of the Government of India prescribed that the claims of communities near forests should not override the national interests, that in no event can the forest dwellers be permitted to use the forest wealth at the cost of wider national interests, and that relinquishment of forest land for agriculture should be permitted only in very exceptional and essential cases. The analysis of the provisions reveal that in the implementation of forest policy, the national interests remained confined to augmenting revenue earning from the forests. Whenever the interests of the local people or ecological considerations came in the way of thus raising revenue from forests, they were set aside by the Forest Department on the pretext of broader national interests.

In the process of permitting national interests to prevail over local interests, the forest dwellers have been dissociated from the management and exploitation of forest wealth. The contractual system which was adopted by the British and still continues in many States has resulted in unscrupulous exploitation of the local

people as well as of natural vegetation and wild life which the forest policy intended to conserve.

Restrictions on Forest Dwellers

1.15 It is evident that the backbone of forest dwellers' economy is the vegetation found in the forests. But the forest dwellers' rights to collect fuel, fodder and a host of commodities known collectively as minor forest produce are very restricted except in Arunachal Pradesh where the tribals have special rights to collect all forest produce and hunt and fish freely in all forests whether reserved or unclassified. This concession is not found anywhere else. In almost all other States, forest dwellers are given the facility of collecting the forest produce either free or at concessional rates only from the protected and unclassified forests. Even these are not legal rights, but are subject to such restrictions and regulations as may be imposed by the Government. These facilities can even be terminated if the capacity of forests does not permit the exercise of these rights. Secondly, the holders of these rights have the obligation to help the Forest Department in the prevention and extinguishing of forest fires and to render such assistance as the officials of the Forest Department may require from time to time.

Absence of legal statute

1.16 In the absence of any statutes protecting the traditional rights of the forest dwellers over the forests, the attitude of Forest Department in many States seems to be one of callousness, indifference and neglect,

where the tribals are concerned. The conclusion drawn in the Report of Study Team of Government of India is summarised below :-

"The impression gathered by the Team in the course of its tours in the various States is that the forest department with its essentially departmental outlook is making the life of the tribals unnecessarily difficult. The Team does not foresee any change in its attitude unless the State Government make the welfare of the Tribals living in the forests as one of the aims of the forest department. It is not impossible to reconcile the interests of scientific forestry with the interests of the tribals, who, if handled with sympathy, can be an asset to the Department (Government of India n.d. 35)".

Exploitation of Forest Dwellers

1.17 The various kinds of restrictions imposed on the forest dwellers virtually put them at the mercy of the Forest Department especially lower level functionaries. Illiteracy and poverty but above all their dependence on the good will of the lower functionaries of the Forest Department for their very survival makes them totally vulnerable.

Besides, their exploitation in the exercise of their customary rights over the forest, the forest dwellers also became helpless victims of the commercial exploitation of the forests. The British introduced a

system of forest exploitation through contractors, who employed the forest dwellers to do unskilled jobs for low wages and in appalling conditions. In the late 1940's Symington recommended the association of local inhabitants in the exploitation of forest produce. In 1946-47 the forest labour societies were initiated by B.G.Kher in the then Bombay State. The purpose of the Forest Labour Co-operative Societies was not only to give the adivasi labourers full wages alongwith a share in the profit, but also to train them gradually to take up the responsibility of conducting forest and other business by their co-operative efforts. The experiment of the Bombay State was complimented in the First Five Year Plan and it was recommended that it should be emulated in all the States.

1.18 With the expansion and development of forest based industries, the demand for minor forest produce has increased. Unlike major forest produce, minor forest produce in several States is collected by Government agencies while in the others it is collected by private agencies. Both the agencies however employ local forest dwellers for the purpose and both exploit the tribals equally. The payment of wages in the collection of Tendu leaves is on the basis of number of bundles collected. The rates per bundle are different even in State adjoining each other. Where the MFP is not nationalised, the businessmen exploit the forest-dwellers. In some tribal regions, there is no regular market. The mandis are held once a week. Private wholesale dealers go to the mandis to buy the MFPs at very low rates

and sell them at huge profits in the big cities.

Recently, some of the Tribal Development Corporations have taken up the sale of some Minor Forest Produces, but the money-lenders-cum-traders are yet to be eliminated by them (Randhawa 1971-263).

1.19 The term minor forest produce is itself an eloquent comment on the Forest Departments perception of the relationship between the forest, the forest dweller and the forest department. The question is "minor" for whom? Certainly not for the tribals in whose life minor forest produce plays such a significant role.

The classification of forest produce into major and minor forest produce is basically made having regard to the revenue fetched by the particular produce. The Major Forest Produce includes timber and the rest of the forest produce is classed as Minor Forest Produce. In fact, the distinction is made by the Forest Department. The minor forest produce is so considered by the Forest Department because it fetches comparatively less or little revenue to the Government. In fact, Minor Forest Produce is a major source of income and livelihood to the poor tribal communities. The very sustenance of the aboriginals hinges on the fruits, fibres, tubers, roots etc. from the forests.

1.20 As a matter of fact the very definition of this usufruct as "minor" should have prompted the Forest Department to forgo the insignificant revenue yielded by

minor forest produce and to enlarge the share of the forest dwellers, thus creating a vested interest amongst the forest dwellers in the preservation of the forest. Forest Department would have gained immeasurably in terms of the forest dwellers' active participation in the conservation of forests compared to the "loss" of revenue which is admittedly insignificant.

Tables attached indicate the availability of the minor forest produce in the various parts of the State.

Table No.1.1

DISTRICT/DIVISION-WISE LIST OF MINOR FOREST PRODUCEI. Division : BOMBAY

Sr No.	Name of MFP	Districts in which found		
		Thane	Raigad	Ratnagiri/ Sindhudurga
1	2	3	4	5
1.	Apta	A	A	A
2.	Bahava	NF	A	NF
3.	Chillari	A	A	NF
4.	Harda or Hirda	A	A	A
5.	Shem	NF	A	NF
6.	Shikekai	NF	A	NF
7.	Tad	A	A	A
8.	Timru	NF	A	A
9.	Palas flowers (Medical purpose)	A	A	NF
10.	Dhatri flowers (Medical purpose)	NF	A	NF
11.	Bamboo	A	NF	NF
12.	Grass	A	NF	NF
13.	Tembhurni leaves	A	NF	NF
14.	Bel	A	NF	NF
15.	Palm	A	NF	NF
16.	Ain	A	NF	NF
17.	Kadhi Patta	A	NF	NF
18.	Babul branches	A	NF	NF
19.	Mahua flowers and seeds	A	NF	NF
20.	Karvi	A	NF	NF
21.	Honey	A	NF	NF
22.	Gum	A	NF	NF
23.	Vavding	A	NF	NF

1	2	3	4	5
24.	Kada leaves	NF	NF	A
25.	Kaju	A	NF	A
26.	Tamalpatra	NF	NF	A
27.	Chiwari	NF	NF	A

A = Available

NF = Not found

(Source :- Dist. Gazetteer book)

Table No.1.2

DISTRICT/DIVISION-WISE LIST OF MINOR FOREST PRODUCEII - Division : PUNE

Sr No.	Name of MFP	Districts in which found				
		Kolhapur	Pune	Solapur	Sangli	Satara
1	2	3	4	5	6	7
1.	Kaju fruits	A	NF		A	NF
2.	Watsol	A	NF		NF	NF
3.	Cocumbs	A	NF		NF	NF
4.	Mango fruit	A	A	A	A	A
5.	Bibi fruits	A	NF	NF	NF	NF
6.	Shikekai	A	A	NF	NF	A
7.	Palas leaves	A	NF		NF	
8.	Kuchala seeds	A	NF		NF	
9.	Kumkumtal	A	NF		NF	
10.	Silver cotton	A	NF		NF	
11.	Honey & Wax	A	NF		NF	
12.	Karanj seeds	A	NF		NF	
13.	Rameta bark	A	NF		NF	
14.	Reeds	A	NF		NF	
15.	Wavding	A	NF		NF	
16.	Temburni leaves	A	NF		NF	A
17.	Pisa fruits	A			A	NF
18.	Grass (includes Rosha)	A	A			A
19.	Apta	A	A		NF	A
20.	Chillari	A	A		NF	NF
21.	Harda (Hirda)	A	A		A	A
22.	Moha	A	A		NF	NF
23.	Sag	A	A		A	NF
24.	Shemb	A	A		NF	NF
25.	Tad	A	A		NF	NF

1	2	3	4	5	6	7
26.	Timru	NF	A		NF	NF
27.	Takla	A	NF		NF	NF
28.	Dhaora	NF	NF		A	NF
29.	Jamun	NF	NF		A	NF
30.	Arjun	NF	NF		A	NF
31.	Bamboo	NF	NF		A	NF

A = Available

NF = Not found

(Source : Dist. Gazetteer book)

Table No.1.3DISTRICT/DIVISION-WISE LIST OF MINOR FOREST PRODUCEIII - Division : Nashik

Sr No.	Name of MFP	Dist. in which Area found			
		Nashik	Dhule	Jalgaon	Ahmednagar
1	2	3	4	5	6
1.	Bamboos and Pavranas	A	NF	A	NF
2.	Grass (Various types)	A	NF	A	A
3.	Gum	NF	A	A	A
4.	Safed Musali (Medicinal purpose)	NF	A	A	NF
5.	Ghatbor fruits (tanning)	NF	NF	A	NF
6.	Rosha Grass (Medicines & perfumes)	A	A	A	NF
7.	Charoli	NF	A	A	NF
8.	Moha tree	A	A	NF	NF
9.	Hirda	A	A	NF	NF
10.	Apta	A	NF	NF	A
11.	Tembhurni	A	NF	NF	NF
12.	Supali pala	A	NF	NF	NF
13.	Chillar bark	A	NF	NF	NF
14.	Sandal wood	NF	NF	NF	A
15.	Sissoo	NF	NF	NF	A

A = Available
NF = Not found

(Source : Dist.Gazetter book)

Table No.1.4DISTRICT/DIVISION-WISE LIST OF MINOR FOREST PRODUCEIV - Division : Aurangabad

Sr No.	Name of MFP	District in which area found				
		Auranga- bad	Beed	Par- bhani	Nanded	Osmanabad
1	2	3	4	5	6	7
1.	Tembhurni leaves			A		A
2.	Moha seeds			A		
3.	Gum (Dhawada, Babul)			A	A	A
4.	Rosha Grass			A		
5.	Fodder grass		A	A		A
6.	Tarwad Bars		A	A		
7.	Charoli			A		
8.	Biba fruits			A		
9.	Bidi leaves		A		A	
10.	Sitafal		A			
11.	Bor					A
12.	Neem					A

A = Available
NF = Not found

(Source : Dist.Gazetteer book)

Table No.1.5DISTRICT/DIVISION-WISE LIST OF MINOR FOREST PRODUCEV - Division : Amravati

Sr No.	Name of MFP	District in which area found			
		Akola	Buldhana	Amravati	Yavatmal
1	2	3	4	5	6
1.	Moha seeda	NF			
2.	Tembhurni leaves	NF		A	
3.	Grass	NF	NF	NF	NF
4.	Tendu leaves	NF	A	A	
5.	Gum	NF	A	A	
6.	Rosha grass	NF	A	A	
7.	Harra	NF		A	
8.	Fruits	NF		A	
9.	Bamboo	NF	A	A	

A = Available

NF = Not found

(Source : Dist. Gazetteer book)

CHAPTER II
OVERVIEW OF FORESTS, TRIBALS AND MINOR
FOREST PRODUCE ITEM'S
SITUATION IN THE STATE

Forests in the State Context

- 2.1 Out State is rich in forest wealth and forest produce. Apart from timber for house-building and wood for furniture, the forests also produces bamboo, lac, gum, tassar, resins, medicinal herbs etc. which are used as raw material for industries such as match, pulp, paper, plywood, sandalwood, oil-industries etc. These industries solely depend upon the raw material obtained from forests, and all this provides employment for a large number of people in the rural areas of the State.
- 2.2 The total geographical area and forest area and its proportion to the geographical area of the State is indicated in the table given below :-

Table No.2.1DISTRICTWISE GEOGRAPHICAL AND FOREST AREA WITH ITS
PERCENTAGE TO TOTAL GEOGRAPHICAL AREA DURING 1988-89

(Area in Sq.Kms.)

Sr No.	District	Total geographical area	Forest Area	Percentage of Forest area to geographical area
1	2	3	4	5
<u>KONKAN DIVISION</u>				
1.	Greater Bombay	603	51.60	8.56
2.	Thane	9558	4059.84	42.47
3.	Raigad	7148	1712.97	23.96
4.	Ratnagiri	8249	62.94	0.76
5.	Sindhudurga	5219	527.82	10.11
I	Total Konkan Division	30777	6415.17	20.84
<u>NASHIK DIVISION</u>				
6.	Nashik	15530	3302.39	21.84
7.	Dhule	13150	4503.47	34.25
8.	Jalgaon	11765	1971.56	16.76
9.	Ahmednagar	17048	1892.25	11.10
II	Total Nashik Division	57493	11759.67	20.45
<u>PUNE DIVISION</u>				
10.	Pune	15642	2075.98	13.27
11.	Satara	10484	1603.93	15.20
12.	Sangli	8572	499.80	5.83
13.	Solapur	14874	362.58	2.44
14.	Kolhapur	7633	1762.25	23.09
III.	Total Pune Division	57205	24479.38	11.02

(Table No.2.1 contd.)

1	2	3	4	5
<u>AURANGABAD DIVISION</u>				
15. Aurangabad		9172	890.78	9.71
16. Jalna		8656	92.71	1.07
17. Parbhani		11038	371.70	3.37
18. Beed		10624	216.06	2.03
19. Nanded		10502	1185.80	11.29
20. Osmanabad		7510	55.37	0.74
21. Latur		7304	11.40	0.16
IV. Total Aurangabad Division		64806	2823.91	4.36
<u>AMRAVATI DIVISION</u>				
22. Buldhana		9661	1558.44	16.13
23. Akola		10575	867.46	8.20
24. Amravati		12212	3574.35	29.27
25. Yavatmal		13584	3711.51	27.32
V. Total Amravati Division		46032	9711.76	21.09
<u>NAGPUR DIVISION</u>				
26. Wardha		6310	874.70	13.86
27. Nagpur		9931	2818.22	28.38
28. Bhandara		9213	4598.78	49.92
29. Chandrapur		10490	5013.18	47.79
30. Gadchiroli		15433	13522.49	87.62
VI. Total Nagpur Division		51377	26827.37	52.22
TOTAL MAHARASHTRA STATE		307690	63842.42	20.75

Source : A Statistical Outline Current Salient Forest Statistics
(1990)
Forest Department, Maharashtra State

Agriculture as a Prime Sector

2.3 Agriculture is the prime sector of tribal economy in the State. In the Tribal Sub Plan Area of the State, agriculture amongst the tribals is practised on poor and rocky soils. Irrigation facilities are negligible and the cropping pattern anything but scientific. Consequently the yields are low. About 80% of the tribals of the State are still engaged in agriculture.

2.4 Since the productivity from agriculture is low, tribal families cannot subsist on agricultural yield alone for all the twelve months. Hence forestry comes in an supplementary source for livelihood. The collection of minor forest produce and the wage labour are the two important sources of income from forestry. Minor Forest Produce also contributes to the food intake of the tribal family. It also fetches a nominal value in the market either in cash or in kind.

Symbiotic relation of forests & tribals in Maharashtra State

2.5 For majority of tribals, the forest is an important source of livelihood. Tribals get food, fruits, roots and tubers, herbs and honey from forest. Their religious and magical beliefs too rotate around forest. It also provides them with opportunities for hunting and fishing and grazing their cattle. For generations, the tribals have been forest dwellers and their lives have been shaped by the forest in many ways. Their unrestricted rights over forest products since time immemorial were gradually eroded, - rights became privilege, privilege became concession and while a right can be enforced, concessions

are entirely at the mercy of the agency granting those concessions. Today, the tribal is dependent on the forest but the forest is dependent not on the tribal but on the Forest Department. This dichotomy is the genesis of the conflict between the interests of the tribals and the management of the forests. The fact however remains that the forest is an integral part of the spiritual and economic heritage of the tribal society. For a tribal, the forest is of great cultural and psychological importance and binds him in a symbiotic relationship.

2.6 In short, forest provides a life-line catering food, employment and an impregnable abode. The tribals derive not only food, fuel, fodder and timber but also scores of minor forest products from the forest. The various edibles like roots, tubers, fruits, flowers, leaves, herbs are collected by the tribals. An idea of the symbiotic relationship of forest and tribals can be had from the following :-

(a) Forest as a source of raw material for their crafts

Forests supply a number of raw materials for crafts like rope making, basket making and fret work. The tribals sell these crafts in the market for cash or food-grains and thus supplement their daily earnings. Basketry is a traditional occupation of some of the tribals. Almost all the tribals know carpentry for which wood is procured from the forest.

(b) Forest as a source of indigenous medicines

Forest provides the tribals with a host of indigenous medicines which of late are finding acceptance

even outside India. The tribals lore of medicine embraces a wide range of roots, tubers and herbs.

(c) Forest as a source of marketing produces

Minor Forest Produce plays an important role in the tribal economy and also in the exports from the country. The tribals collect the minor forest produces to supplement their meagre income. They collect these minor forest products and sell them in the weekly markets.

Minor Forest Produce (MFP) : Definition

2.7 The Minor Forest Produce Act, 1969 defines the Minor Forest Produce so as to include all kinds of forest produce other than timber and firewood. Some example of Minor Forest Produce are seeds, roots, leaves, flowers of species like Mahua, fruits like Mango, guava, tamarind, chironji, herbs, honey, gums, broomsticks, lac, tassar etc. Some of these items are used for domestic consumption while others are sold in the market.

Significance of Minor Forest Produce in Modern Economy

2.8 If once it is conceded that the forests are for the people, as they indeed are, and not for the Forest Department, the question that arises is 'minor' for whom? For the tribals, that which sustains him, particularly during the lean season, can be anything but "minor". But for the Forest Department, with its traditional emphasis on generation of revenues, all forest produce other than timber can not but be minor. This dichotomy is the genesis of the one of the causes of conflict between the Forest Department and the tribals. Minor Forest Produce

was traditionally accorded a low priority, mostly because of its negligible contribution to the overall revenue of the Forest Department. However, the value of Minor Forest Produce cannot be under-rated since they constitute an important raw material for the various industries which are the focal points of economic development in the State. The importance of Minor Forest Produce is to be judged not by the money they fetch but by the service they render to the society at large. The Ayurvedic and Unani systems of medicines more or less fall back upon these products.

2.9 The collection of Minor Forest Produce in terms of quality and value varies from region to region and year to year in the State due to lean and peak periods of crops as well as fluctuations in market prices. The collection and marketing of minor forest produce is generally handled by the Forest Department and the Maharashtra State Co-operative Tribal Development Corporation Ltd. Nashik under its monopoly procurement scheme (Maharashtra Tribal Economic Conditions (Improvement) Act, 1976) in the Tribal Sub Plan Area of the State. The fixation of prices is done by the State Government on the recommendations of an Advisory Committee. It is done in respect of both nationalised and non-nationalised items of Minor Forest Produce found in the State.

2.10 The Minor Forest Produce which are generally marketed are enlisted as under :-

- (1) Plants for the use in tanning (Hirda),
- (2) Natural gums and resins,
- (3) Plants/seeds used in pharmacy and perfumary,
- (4) Bidi leaves (Tendu/Apta leaves)
- (5) Mahua seeds/flowers/fruits,
- (6) Grass,
- (7) Bamboo,
- (8) Karvi,
- (9) Chironji (Charoli)
- (10) Tamarind,
- (11) Khilkhila (Kadhipatta),
- (12) Shikekai.

Marketing of Minor Forest Produce in Tribal Areas

2.11 Marketing of minor forest produce has a significant role to play in improving the standard of living of even the most primitive people inhabiting in the remote, inaccessible forest areas of the State. The salient features of tribal economy of the State can be summarised as under :-

- (a) Traditional type of Agriculture,
- (b) Low rate of literacy,
- (c) Inaccessibility,
- (d) Primitive technology,
- (e) Low per capita income

2.12 The tribals mostly grow food crops which are mainly needed for domestic consumption. However, a marginal quantity of agriculture produce is brought into the market not because there is marketable surplus but because of dire necessity either for the repayment of

loans taken from the traders in the previous year or to meet the immediate domestic and social needs.

- 2.13 Besides the agricultural activities the tribal people collect the minor forest produce like tamarind, hirda, addaleaf, gum, myrabolan which have considerable commercial value. These are sold to the purchasers operating in the tribal belt. They include private traders, money-lenders and middlemen from the tribal areas as well as from the plains. They have their own dubious practices perfected over a period of time and what the tribals got is much less than the market price.

Percentage of income contributed by Minor Forest Produce/Forest Resources to a tribal family

- 2.14 Information obtained during the course of Bench Mark Survey 1980 is indicated in the table 2.2.

Table No.2.2

Percentage of income contributed by forest resources to the tribal family
in Tribal Sub Plan Area in Maharashtra State

Sr No.	District	Block	Sourcewise income derived			Total income	Average income of a family	Percentage of income from forest and allied sources
			Forest labour	Forest resources	Total			
1	2	3	4	5	6	7	8	9
1.	Thane	Dahanu	2,67,800	1,18,200	3,86,000	214,22,200	1274.00	1.80
2.	Pune	Junnar	69,100	2,19,400	2,48,500	66,37,800	1730.00	3.74
3.	Dhule	Dhadgaon (Akrani)	10,57,900	20,22,800	30,80,700	175,71,400	1933.00	17.53
4.	Yavatmal	Pandhar-kawada	1,41,800	2,00,000	1,61,800	79,90,100	1731.00	2.02

Source : Universal Bench Mark Survey (1980) Report No.29.

2.15 The analysis of the data on sourcewise income and more particularly the income accruing from the forest labour and forest resources to the Scheduled Tribes families in the Tribal Sub Plan Area of the State as ascertained during the Universal Bench Mark Survey 1980, reveals that the contribution of income from the forest resources to a tribal family in Dahanu tahsil of Thane district works out to 1.80% where Grass is the main minor forest produce, which is not accounted for. Similarly, it works out to 3.74% in Junnar Block of Pune district, 17.53% in Dhadgaon (Akranl) Tahsil in Dhule district and 2.02% in Pandharkawada Block of Yavatmal district in Maharashtra State.

The comparative study of the contribution of income from forest resources to a tribal family amongst the selected regions brings out that it is the highest in Dhadgaon block of Dhule district which is located in the forested region along the Satpuda ranges.

2.16 Since the prime sector in the tribal economy is agriculture, the contribution of income from agriculture and agricultural labour is sizable as compared to other sources of income to the tribal families. The average income of a tribal family is highest in Dhule district among the districts selected for the field study.

Maharashtra Tribals Economic Conditions (Improvement) Act, 1976

2.17 This is an important piece of legislation for the protection of the tribals in the State. It envisages among

other things the prohibition of -

- (i) lending by private agencies, and
- (ii) marketing of scheduled agricultural and minor forest produce in the specified tribal areas by private agencies.

With the prohibition of private money lending in the tribal areas under the provisions of the above Act, it was necessary to provide credit facilities to the tribals for their consumption needs also. In view of this, a scheme of consumption finance has been introduced since 1978-79. Under this scheme, a tribal cultivator is eligible for a loan of Rs.250/- and the landless tribal family of a loan of Rs.100/- in the lean period of the year.

Maharashtra State Co-operative Tribal Development Corporation
Ltd, Nashik

2.18 The State Government has appointed the Maharashtra State Co-operative Tribal Development Corporation as a 'Chief Agent' for the purpose of buying specified agriculture and minor forest produce of the tribals. It acts as a welfare-cum-marketing organisation for the tribals. Today, it is functioning as a chief instrument for the eradication of economic exploitation in the tribal areas. The Corporation undertakes the following activities :-

- (1) To purchase/sell the agricultural/minor forest produce of the tribals as an agent of the Government under the provisions of Maharashtra

Tribals Economic Conditions (Improvement) Act, 1976.

- (2) To prepare and implement schemes, either on its own or through individual beneficiaries for setting up small scale industries in the tribal areas.
- (3) To act as wholesale or retail distributor of consumer articles like foodgrains, cloth, etc. for the affiliated large scale multipurpose Adivasi Societies (LAMPS) or on its own by opening retail shops.
- (4) To act as an instrument of Government or any public undertaking or Corporation in the tribal areas and carry out such functions as entrusted by the Government or other agencies.

Against the background of rampant exploitation by the traders, money-lenders and the middlemen operating in the tribal belts, the Government of Maharashtra formulated a scheme to cater to the basic needs of the tribals with respect to -

- (a) Providing cheap credit.
- (b) procurement of the agriculture produce and such minor forest produce as may have been collected by the tribals.
- (c) Supply of domestic requirements at fair price.

With this object in view, the Maharashtra State Co-operative Tribal Development Corporation was

established and duly registered under the Co-operative Societies Act 1972 with its head quarter at Nashik.

2.19 The Maharashtra State Co-operative Tribal Development corporation Ltd., has set up regular marketing centres at many places in tribal areas. In fact, the Corporation has realigned the mandis (marketing centres) and located many of them adjacent to all weather roads so as to facilitate the transportation of goods. With the development of communication facilities, these centres have been attracting a greater number of people.

Monopoly Procurement of foodgrains and Minor Forest Produce by the Tribal Development Corporation

2.20 Maharashtra State Co-operative Tribal Development Corporation Ltd., is designed to play a key role in bringing about a new relationship between the tribals and the market economy through an integrated credit-cum-marketing service. It is engaged in purchase/sale of agricultural produce of the tribals and to make available to them the necessities of life. Similarly, it undertakes the marketing of minor forest produce collected by the tribals in the State. The Tribal Development Corporation Ltd., operates the purchase centres in the Tribal Sub Plan areas of the State for the purchase of foodgrains and minor forest produce from the tribals under Monopoly Procurement Scheme. Regionwise marketing centres operating in the Tribal Sub Plan Area of the State have been shown in Annexure-I.

2.21 With the advent of markets in the remote regions, the tribals for the first time have an opportunity to interact with their counter-parts from the plains. They are able to understand the worth of the produce either produced or procured by them which was hitherto being purchased by the merchants for a nominal value. The tribal economy is thus slowly leaning towards a market economy.

CHAPTER IIIOBJECTIVES OF THE STUDY AND RESEARCH DESIGN

3.1 The collection of Minor Forest Produce also entails its marketing. In a developing economy which is poised for achieving rapid economic growth, marketing system is considered to be a potential instrument for effective demand and supply of the goods. The growth of different sectors of agricultural economy depends considerably upon the efficiency of the markets.

3.2 It is widely known that the minor forest produce has considerable untapped potential. In order, however, to precisely determine the role it can play in the economy of the State, an in-depth study of the entire gamut is an essential pre-requisite.

3.3 Government of Maharashtra in Tribal Development Department has entrusted this study to the Tribal Research and Training Institute.

The Institute has set forth the following objectives:-

- (1) To identify important Minor Forest Produce which play a decisive role in the tribal economy in the State.
- (2) To review the existing arrangement of collection, processing and marketing of the Minor Forest Produce procured in the State.

- (3) To assess the participatory role of the tribals (collectors of Minor Forest Produce) in both collection and marketing of these products.
- (4) To specify the draw-backs/bottle-necks, if any, in the present system of collection/marketing of Minor Forest Produce.
- (5) To examine the feasibility of enlarging the share of the tribals, both in cash and kind, in what they collect and sell.

II Research Design and Methodology

3.4 Selection of Geographical Area

There are in all 30 districts including Greater Bombay in the State. The Tribal Sub Plan area, however, covers only 14 districts which are divisible into two distinct tribal belts viz. Sahyadri and Gondwana. The sample area was therefore selected from these two belts having regard to the geographical and climatic conditions and the varieties of Minor Forest Produce found in the regions.

Table No.3.1DISTRIBUTION OF THE DISTRICTS UNDER TRIBAL BELTS

Sr No.	Tribal Region	Name of district
1.	Sahyadri	1. Thane
		2. Raigad
		3. Nashik
		4. Dhule
		5. Jalgaon
		6. Pune
		7. Ahmednagar
2.	Gondwana	1. Nanded
		2. Amravati
		3. Nagpur
		4. Yavatmal
		5. Bhandara
		6. Chandrapur
		7. Gadchiroli

3.5 There are eleven forest circles which exercise control over divisional offices managed by the Divisional Forest Officers of the Forest Department in the State. The districtwise list of divisional forest offices is appended at the end.

3.6 Selection of District/Tahsil for field enquiry

While selecting a district or a particular tahsil within the district, the range and quality of commodities was the primary consideration. Hence the sample selection of district/tahsil was based on the purposive

sampling method. Accordingly, from Sahyadri region, Thane/Pune/Dhule districts having specific Minor Forest Produce items in abundance were favoured. Consequently Dahanu/Ambegaon/Dhadgaon from Thane/Pune/Dhule districts respectively were chosen for detailed enquiry.

- 3.7 The same consideration weighed while selecting specific territories in the Gondwana region. Yavatmal district was selected. The field enquiry in the district was restricted to Maregaon/Pandharkawada (Kelapur) tahsils.

The offices of Tribal Development Corporation Regional Manager/Sub Regional Manager are located at Yavatmal and Pandharkawada respectively.

3.8 Selection of villages and tribal Minor Forest Produce gatherers

The purposive sampling technique was adhered to in the selection of villages.

3.9 Collection of Data

The requisite data for the study were collected through primary and secondary sources. The rather included the study of records available with the Regional Manager/Sub-Regional Manager of Maharashtra State Co-operative Tribal Development Corporation and the Divisional Forest Officers in the selected areas. The views of the Divisional Forest Officers and the Regional Managers/Sub-Regional Managers of the Tribal Development Corporation and the Adivasi Co-operative Society's

Manager entrusted with the implementation of the scheme were also ascertained. Information from the selected respondent tribals were also collected. For this purpose, three structured questionnaires were designed. The questionnaire no.1 was designed to collect the views of Divisional Forest Officers/Regional Manager/Sub-Regional Managers of Tribal Development Corporation, while the questionnaire no.2 was designed to ascertain the views of the co-operative society which acted as a sub-agent in the collection of Minor Forest Produce items for the Tribal Development Corporation. The questionnaire no.3 was distributed at the tribal gatherers living in the areas selected.

3.10 Limitation of the study

The evaluation study being in the nature of quick evaluation study, covered the sample selection of tahsils/district/tribal households as Minor Forest Produce gatherers on the purposive sampling basis. In view of the paucity of both the time and the personnel to carry out the extensive field enquiries, the evaluation study was confined to the few selective organisations in the State. The findings in the evaluation study are arrived at on the generalised principles.

CHAPTER IV
PROFILE OF PRIMARY DATA

4.1 Maharashtra forestry sector is the second largest Landuse after agriculture. The forests have a rich variety of flora and fauna.

Table No.4.1
COMPARATIVE STATEMENT OF TOTAL GEOGRAPHICAL AREA,
AGRICULTURE (NET AREA SOWN) AND FORESTS OF
MAHARASHTRA & INDIA 1988-89

Sr No.	Land utilisation	Maharashtra 1988-89		India 1988-89	
		Area in Sq.Kms	Percentage to total geographical area	Area in Sq.Kms.	Percentage to total geographical area
1	2	3	4	5	6
1.	Total geographical area	307690	100.00	3287727	100.00
2.	Agriculture (Net area sown)	178810	58.11	1402700	42.66
3.	Forests	63842	20.75	757630	22.86
4.	Other lands	65038	21.14	1133394	34.47

(Base : A Statistical Outline of Current Salient Forest Statistics 1990...Series No.22 Forest Department, Government of Maharashtra).

4.2 The percentage of net area sown to the total geographical area in the State thus works out to 58%, as against 43% for the country as a whole. Similarly, the forest area of the State accounts for 21 percent as against 23 percent for the India Union. The ideal forest cover is expected to be about 33 percent of the geographical area in order to maintain the ecological balance.

The Statistical data on Forest classified according to administrative agency in-charge of them and by type have been collected and presented in the table below :-

Table No.4.2
CLASSIFICATION OF FOREST AREA BY
MANAGEMENT AND LEGAL STATUS

(Area in Sq.Km.)

Administrative	Forest area by legal status			Total	Percentage to status
	Reser- ved fore- sts	Protect- ed	Uncla- ssed fore- sts		
1	2	3	4	5	6
1. Forest Department	38491	15123	2286	55900	18.17
2. Private Forests brought under possession of Forest Dept.	1236	-	-	1236	0.40
3. Forest development Corporation of Maharashtra Ltd.	1559	92	-	1651	0.54
4. Revenue Department	1416	137	3502	5055	1.64
Total Maharashtra State	42702	15352	5788	63842	20.75
Percentage of the total Forest area	67	24	9	100	-

(Source : A Statistical Outline of Current Salient Forest Statistics 1990).

4.3 It is seen from the above table that percentage of forest area to the total geographical area of Maharashtra State is about 21 percent.

The total forest area of Maharashtra is 55,900 sq.kms. Out of which area under working plans and working schemes already prepared cover an area of 51,270 sq.kms. which comes to about 92 percent of the area presently being administered by the Forest Department.

4.4 Information regarding circlewise and Divisionwise Forest area in the State for the year 1988-89 is indicated in the table given below :

Table No.4.3
DISTRIBUTION OF FOREST AREA BY FOREST CIRCLES
AND FOREST DIVISIONS YEAR 1988-89

(Area in sq.kms.)

Sr Region/Forest No.Circle/Forest	Forest incharge of Forest Department			Total	
	Reserved Forests	Protected Forests	Unclassed Forests		
1	2	3	4	5	6
I. WESTERN MAHARASHTRA REGION					
A. THANE CIRCLE					
1. Thane		697.05	305.60	0.16	1002.81
2. Dahanu		937.50	391.12	0.11	1328.73
3. Shahapur		885.43	266.09	-	1151.52
4. Alibaug		902.42	101.55	5.07	1009.04
5. Roha		384.13	31.95	146.55	562.63
Total Thane Circle		3806.53	1096.31	1151.89	5054.73

(Table No.4.3 contd.)

1	2	3	4	5	6
B. <u>NASHIK CIRCLE</u>					
6. East Nashik	2017.74	18.08	-	2035.82	
7. West Nashik	824.01	225.58	1.60	1051.19	
8. Ahmednagar	1457.33	12.66	9.54	1479.53	
Total Nashik Circle	4299.08	256.32	11.14	4566.54	
C. <u>DHULE CIRCLE</u>					
9. North Dhule	1828.21	-	206.59	2034.80	
10. West Dhule	1389.16	-	-	1389.16	
11. Jalgaon	869.84	-	-	869.84	
12. Yawal	994.12	-	-	994.12	
13. Mewasi	194.84	-	-	194.84	
Total Dhule Circle	5276.17	-	206.59	5482.76	
D. <u>PUNE CIRCLE</u>					
14. Pune	609.24	-	84.0	693.24	
15. Junnar	613.54	-	13.33	626.87	
16. Bhor (sub div.)	191.49	-	156.78	348.27	
17. Solapur	170.37	-	11.41	181.78	
Total Pune Circle	1584.64	-	265.52	1850.16	
E. <u>KOLHAPUR CIRCLE</u>					
18. Kolhapur	561.98	400.68	713.28	1675.94	
19. Satara	1358.40	85.48	85.43	1529.31	
20. Sawantwadi	14.80	9.48	382.71	406.99	
21. Sangli (sub div.)	350.02	1.58	16.72	368.32	
22. Chiplun (sub div.)	11.29	-	48.42	59.71	
Total Kolhapur Circle	2296.49	497.22	1246.56	4040.27	
Total Western Maharashtra	17262.91	1849.85	1881.70	20994.46	

(Table No.4.3 contd.)

1	2	3	4	5	6
II. <u>MARATHWADA REGION</u>					
F. <u>AURANGABAD CIRCLE</u>					
23. Nanded		955.91	57.32	167.27	1180.50
24. Parbhani		334.12	-	37.67	371.79
25. Aurangabad		836.30	69.54	75.74	981.58
26. Beed (sub div)		199.03	16.74	0.29	216.06
27. Osmanabad		28.53	-	38.24	66.77
Total Aurangabad Circle					
		2353.89	143.60	319.21	2816.70
Total Marathwada Region					
		2353.89	143.60	319.21	2816.70
III. <u>VIDARBHA REGION</u>					
G. <u>AMRAVATI CIRCLE</u>					
28. East Melghat		906.05	-	-	906.05
29. West Melghat		929.73	18.67	-	948.40
30. South Melghat		729.45	48.27	-	777.72
31. Amravati		516.18	-	0.56	516.74
Total Amravati Circle					
		3081.41	66.94	0.56	3148.91
H. <u>YAVATMAL CIRCLE</u>					
32. Buldhana		1057.31	94.52	-	1151.83
33. Akola		783.52	15.27	-	798.79
34. Yavatmal		904.51	80.87	-	985.38
35. Pusad		1105.40	17.67	-	1123.07
36. Pandharkawada		745.51	90.39	-	835.90
Total Yavatmal Circle					
		4596.25	298.72	-	4894.97

(Table No.4.3 contd.)

1	2	3	4	5	6
I. <u>NAGPUR CIRCLE</u>					
37. Nagpur		1416.18	822.76	-	2238.94
38. Wardha		527.88	319.03	-	846.91
39. Bhandara		1034.28	286.12	-	1320.40
40. Gondia		1137.08	779.03	-	1916.11
Total Nagpur Circle		4115.42	2206.94	-	6322.36
J. <u>NORTH CHANDRAPUR</u>					
41. Chandrapur		1336.46	255.72	-	1592.18
42. Gadchiroli		169.96	1997.54	-	2167.50
43. Brahmapuri		1024.82	532.93	-	1557.75
44. Wadsa		396.69	1147.66	-	1544.35
Total North Chandrapur Circle		2927.93	3933.85	-	6861.78
K. <u>SOUTH CHANDRAPUR CIRCLE</u>					
45. Bhamragarh		-	3732.50	-	3732.50
46. Sironcha		1281.70	1590.11	-	2871.81
47. Allapalli		1435.22	1133.10	-	2568.32
48. Central Chanda		961.26	152.35	44.55	1158.16
Total South Chandrapur Circle		3678.19	6608.06	44.55	10330.79
Total Vidarbha Region		18399.19	13114.51	45.11	31558.81

(Table No.4.3 contd.)

1	2	3	4	5	6
WILD LIFE MANAGEMENT UNITS					
1. Melghat Project Tiger Paratwada	308.24	-	-	308.24	
2. Tadoba National Park	119.75	14.48	-	134.23	
3. Boriwali National Park	47.20	0.13	40.52	87.85	
Total Maharashtra State	38491.18	15122.57	2286.54	55900.29	

(Souce : A Statistical Outline ... Current Salient Forest Statistics 1990 Forest Department, Maharashtra State)

4.5 It will be observed from the above table that the area under reserved forest in the tahsils selected for the present study is comparatively much more is also spread over extensively. Hirda, Gum, Charoli, Grass, Mahua flowers and Mahua fruits are available in abundance in these forests. These talukas were therefore preferred for field enquiry. The following table indicates the quantity and value of all forest produce.

Table No.4.4

**OUTTURN OF MAJOR FOREST PRODUCE
IN MAHARASHTRA STATE**

Major Forest Produce	Unit	Outturn (Yearwise)		
		1986-87	1987-88	1988-89
1	2	3	4	5
1. Timber	000 Cu.M.	297	280	147
2. Firewood	000 Cu.M.	892	576	576

4.6 The yearwise value (in crores) realised through the sale of above Major Forest Produce is shown in the table below :

Table No.4.5
VALUE OF MAJOR FOREST PRODUCE
IN MAHARASHTRA STATE

(Rupees in crores)

Sr No.	Major Forest Produce	Year	Value
1	2	3	4
1.	Timber	1987-88	85.64
		1988-89	51.81
		1989-90	54.24 (*)
2.	Firewood	1987-88	10.49
		1988-89	8.05
		1989-90	5.21 (*)
3.	Total	1987-88	96.13
		1988-89	59.86
		1989-90	59.45

(* Provisional)

(Source : Forest Department Statistics 1990)

4.7 Similarly, the figures of quantities of outturn of some important Minor Forest Products are obtained and shown in the following tables :-

Table No.4.6

**QUANTITIES OF OUT-TURN OF SOME IMPORTANT
MINOR FOREST PRODUCTS IN MAHARASHTRA STATE**

Sr No.	Year	Minor Forest Produce		
		Bamboos (M.T.)	Tendu leaves (Std.bags)	Grass and Grazing M.T.
1	2	3	4	5
1.	1986-87	112363	486539	134950
2.	1987-88	92406	509887	34221
3.	1988-89	354654	466889	80342

Sr No.	Year	Minor Forest Produce			
		Gum (Qtl.)	Hirda (Qtl.)	Rosha (Qtl.)	Mahua flowers (Qtl.)
1	2	6	7	8	9
1.	1986-87	7851	8601	1375	23773
2.	1987-88	7880	13265	1219	27639
3.	1988-89	5416	7286	3492	23709

(Source : A Statistical Outline of Current Salient Forest Statistics, Forest Department, 1990)

4.8 The yearwise and itemwise quantities of Minor Forest Products collected by the Forest Department and other agencies like Tribal Development Corporation are presented in the above tables.

4.9 The yearwise information of value (in thousand rupees) in respect of some important Minor Forest Produce is indicated in the table below.

Table No.4.7VALUE OF OUT-TURN OF IMPORTANT MINOR FOREST
PRODUCE IN MAHARASHTRA STATE

(Rupees in thousand)

Sr No.	Minor Forest Produce	Value (yearwise)		
		1986-87	1987-88	1988-89
1	2	3	4	5
1.	Bidi leaves	131459	146445	161483
2.	Bamboo	18656	27865	44913
3.	Grass & Grazing	10409	9934	8477
4.	Gum	2665	3429	4821
5.	Hirda	359	368	687
6.	Other items	6203	10269	8197
Total		169751	198310	228578

(Source : A Statistical Outline of Current Salient Forest Statistics, Forest Department, 1990)

The data in the table indicate the increasing trend in the revenue accretion through the Minor Forest Produce items over the years under review.

4.10 Comparative statistics for forest revenue obtained from the sale of major and minor forest produce respectively are presented in the table given below.

TABLE NO.4.8
STATEMENT SHOWING THE TOTAL YEARWISE
REVENUE AND FOREST DEPARTMENT FROM THE
MAJOR AND MINOR FOREST PRODUCTS

Sr Major/Minor No. Forest Produce	Yearwise Revenue (Rs.in lakhs)				Percentage to total Revenue of Forest Department	
	1986- 87	1987- 88	1988- 89	Annual average of the 3 years 1986-87 to 1988-89		
1	2	3	4	5	6	7
1. Timber		7588	9064	7774	8142	71.53
2. Firewood		661	999	817	826	7.26
3. Bamboo		245	347	506	366	3.21
4. Bidi leaves		1322	1503	1522	1449	12.73
5. Grass, Grazing Fodder		105	90	103	99	0.87
6. Other Minor Forest Produce		60	87	82	76	0.67
7. Other sources		315	364	593	424	3.73
Total from Area incharge of Forest Department		10296	12454	11397	11392	100.00

(Source : A Statistical Outline of Current Salient Forest Statistics, Forest Department, 1990)

- 4.11 The collection and marketing of minor forest produce items through the Maharashtra State Co-operative Tribal Development Corporation Ltd., Nashik, is carried on under Monopoly Procurement scheme. The Purchases effected during 1986-87 to 1988-89 are shown in the following table.

Table No.4.9MONOPOLY PROCUREMENT OF MINOR FOREST PRODUCE BY
THE TRIBAL DEVELOPMENT CORPORATION, NASHIK

(Figures in actuals Rs.)

Sr No.	Name of Minor Forest Produce	Purchase value as incurred by Maharashtra State Co-operative Tribal Development Corporation Ltd, Nashik		
		1986-87	1987-88	1988-89
1	2	3	4	5
1.	Hirda	2,67,453	2,18,968	4,34,540
2.	Mahua fruits	2,56,352	2,70,332	1,53,720
3.	Mahua flowers	38,29,689	24,87,407	31,67,274
4.	Gum	21,26,044	19,41,582	25,43,780
5.	Charoli	17,256	47,040	64,740
6.	Others	1,36,091	2,33,475	1,57,850
Total		66,32,885	51,98,804	65,21,904

(Source : A Statistical Outline of Current Salient Forest
Statistics, Forest Department, 1990)

Monopoly Procurement Scheme of Minor Forest Produce

4.12 The Maharashtra State Co-operative Tribal Development Corporation Ltd., Nashik, handles the purchases of Minor Forest Produce. The purchase values of Hirda, Gum and Charoli exhibit an increasing trend. Similarly, collection of Mahua fruits and flowers also shows increasing trend.

4.13 The statistical information collected during the course of field enquiry for the selected areas and for the specific years has been compiled and presented in the table below. The details of quantity and value of procurement and the average price are also presented commodity-wise. The requisite data pertain to the procurement and sales effected by the Maharashtra State Co-operative Tribal Development Corporation Ltd., Nashik.

Table No.4.10

MINOR FOREST PRODUCE/SOLD FOR THE YEAR 1986-87, 1987-88, 1988-89 BY THE MAHARASHTRA STATE CO-OPERATIVE TRIBAL DEVELOPMENT CORPORATION, NASHIK

Sr Regional No. Manager T.D.C.	Year 1986-87							Year 1987-88							
	Quantity procured in Qtl.	Value in Rs.	Average in Rs.	Quantity sold in Qtl.	Value in Rs.	Average in Rs.	Quantity procured in Qtl.	Value in Rs.	Average in Rs.	Quantity sold in Qtl.	Value in Rs.	Average in Rs.	Quantity procured in Qtl.	Value in Rs.	Average in Rs.
1 2	3	4	5	6	7	8	9	10	11	12	13	14			
M.F.P. : Charoli															
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	118	605770	5134	22	121217	5510	76	411277	5412	-	-	-	-	-	-
3. Jawhar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Yeotmal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.F.P. : Mahua flower															
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	142	28709	202	94	27486	292	29	5624	194	-	-	-	-	-	-
3. Jawhar	131	26441	202	134	31992	239	90	21246	236	-	-	-	-	-	-
4. Yeotmal	3795	757782	200	-	-	-	9	1448	165	3674	933381	254	-	-	-
M.F.P. : Mahua seed															
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	75	27602	368	59	28049	475	38	18121	477	23	12259	533	-	-	-
3. Jawhar	17	5220	307	37	15289	413	9	2832	315	26	7307	281	-	-	-
4. Yeotmal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.F.P. : Grass															
1. Dahamu	27214	16637526	611	25215	26476020	1050	123575	86281405	698	59775	68168777	1140	-	-	-

(Table No.4.10 contd.)

Sr Regional No. Manager T.D.C.	Year 1988-89					Year 1989-90						
	Quantity procured in Qtl.	Value in Rs.	Average in Rs.	Quantity sold in Qtl.	Value in Rs.	Average in Rs.	Quantity procured in Qtl.	Value in Rs.	Average in Rs.	Quantity sold in Qtl.	Value in Rs.	Average price
1 2	15	16	17	18	19	20	21	22	23	24	25	26
<u>M.F.P. : Charoli</u>												
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	70	460480	6578	-	-	-	159	978953	6157	50	357500	7150
3. Jawhar	-	-	-	-	-	-	-	-	-	-	-	-
4. Yeotmal	-	-	-	-	-	-	-	-	-	-	-	-
<u>M.F.P. : Mahua</u>												
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	1328	386845	291	-	-	-	6	1177	196	71	36815	604
3. Jawhar	1757	489376	279	58	17389	300	40	11029	276	1660	581376	350
4. Yeotmal	541	150641	279	1.15	460	400	11	2998	283	454	146509	323
<u>M.F.P. : Mahua Seed</u>												
1. Junnar	-	-	-	-	-	-	-	-	-	-	-	-
2. Nandurbar	514	219031	426	958	277704	290	63	27158	431	-	-	-
3. Jawhar	5	1636	327	12	5400	450	10	3323	332	-	-	-
4. Yeotmal	-	-	-	-	-	-	-	-	-	-	-	-
<u>M.F.P. : Grass</u>												
1. Dahahu	49204	17713926	360	20802	4738710	228	4528	1285182	284	3745	3090912	825

(Table No.4.10 contd.)

	1986-87							1987-88						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<u>M.F.P. : Hirda</u>														
1.	Junnar	-	-	-	-	-	-	-	12603	2168788	172	10498	2579896	2462
2.	Nandurbar	732	46819	64	500	54000	108	995	79692	80	937	190274	203	
3.	Jawhar	-	-	-	-	-	-	-	-	-	-	-	-	-
4.	Yeotmal	433	25271	58	-	-	-	156	12491	80	370	54471	147	
<u>M.F.P. : Gum</u>														
1.	Junnar	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Nandurbar	1519	1074284	707	954	1285416	1347	1793	1899559	1059	1193	3416446	2864	
3.	Jawhar	140	97278	695	310	248011	800	129	118343	917	-	-	-	-
4.	Yeotmal	464	366163	789	373	613833	1643	343	537887	1569	445	1093558	2456	57

CHAPTER VFIELD OBSERVATIONS

- 5.1 With a view to assess the factual position and the status of collection, marketing procedure of the minor forest produce in the State, the study team visited areas selected for study. The field enquiries revealed that the important minor forest produce from the areas had their peculiarities depending upon the climatic and agro-physical conditions. The important minor forest produce identified according to spatial climatic conditions can be enumerated as under :-

Table No.5.1

IMPORTANT MINOR FOREST PRODUCE IDENTIFIED
ACCORDING TO SPATIAL CLIMATIC CONDITIONS
IN MAHARASHTRA

Sr No.	Area	Taluka	Important minor forest produce
1	2	3	4
1.	Junnar	Ambegaon	Hirda
2.	Thane	Dahanu/Palghar	Grass
3.	Dhule	Dhadgaon	Charoli, Gum
4.	Yavatmal	Pandharkawda	Tendu leaves, Gum
5.	Nagpur		Mahu flowers Mahu seeds

- 5.2 The assessment of the status report of collection and marketing of the important minor forest produce in the State during the year 1986-87 to 1988-89 is highlighted in the statistical table given below.

Table No.5.2
ITEMWISE PROCUREMENT OF MINOR FOREST PRODUCE
1986-87 to 1988-89

Sr No.	Minor Forest Produce	Unit	Procurement during		
			1986-87	1987-88	1988-89
1	2	3	4	5	6
1.	Bamboos	M.T.	112363	92406	354654
2.	Tendu leaves	Std.bags	486539	509887	466889
3.	Grass & Grazing	M.T.	134950	34221	80342
4.	Gum	Quintal	7851	7880	5416
5.	Hirda	Quintal	8601	13265	7286
6.	Rosha	Quintal	1375	1219	3492
7.	Mahu Flowers	Quintal	23773	27639	23709

(Source : A Statistical Outline of Current Salient Forest Statistics, Forest Dept., 1990).

5.3 Tribal Development Corporation as a Chief agent in procurement and marketing

The scheme of collection of minor forest produce in the Tribal Sub Plan Area is operated through the Tribal Development Corporation which is the "Chief Agent" for the execution of scheme of Monopoly Procurement of foodgrains/minor forest produce in the State of Maharashtra. As regards, Tendu leaves, the Divisional Forest Offices of the Forest Department are saddled with the responsibility of collection, marketing of these products. The Tribal Development Corporation Ltd. carried out the purchase of the minor forest produce as is available in the particular region with the help of the purchase centres either operated by themselves or the

Adivasi Co-operative Societies in their area of operation.

5.4 Collection of minor forest produce - A seasonal activity

The collection of minor forest produce is purely a seasonal activity depending upon the availability of the minor forest produce during the specific period of the year which may vary from item to item. For example, Grass is procured in the months of October/November /December; Hirda in February/March; Gum in March/April; Tendu leaves in April/May; Mahua flowers/seeds in March/ April.

As the flush season is spread over the specific period of the year, it becomes quite imperative to mobilise the collection machinery for the achievement of targets of collection/procurement of certain minor forest produce from the respective areas where they are found in abundance.

5.5 The inability of the producers to expand their market is related to three facts -

- (1) The seasonability of production,
- (2) The lack of holding power,
- (3) The uneconomic size of production.

The season is limited, for example, Tendu leaves are collected during April/May when the new flush of leaves is maturing. The Hasro myrobalan is collected when it is shed on ripening easily in the cold weather. Thus, the collection of specific minor forest produce is seasonal. In the absence of local processing facilities most of these products have to be sold during the season when the buyers (inter-mediaries) visit the area. Even those products with longer shelf-life are sold because of immediate need for cash. The small size of production further aggravates the problem. Limited

surplus makes them more vulnerable and make their exploitation easier because it continuously erodes their bargaining capacity as their need for conversion of small production into cash becomes more acute. Collection of myrobalan is done by the tribals living in the interior forests. The collectors have no guarantee about the size of the market. An export market shows a wide fluctuations of quantities and prices. Even if the prices showed an upward trend in the export market it does not benefit the collectors. The potential of myrobalan has not been realised. In fact, whatever the poor collectors gather is not bought by the intermediaries because of lack of demand by the down stream tanning export units and the fluctuating export market in this behalf.

5.6 Occurrence in widely scattered area

Most of the minor forest produce occur in widely scattered areas making economic exploitation difficult with the recent scale of deforestation. It is observed that the search of minor forest produce is becoming more arduous and back-breaking and unremunerative to the tribal gatherers.

5.7 Constraints in the effective collecting/marketing

It is noticed that the scheme of Monopoly Procurement of minor forest produce has to operate within the following constraints :-

- (1) Want of storage facilities,
- (2) Absence of processing units,
- (3) No special funds for the purchase of minor forest produce
- (4) Insufficient number of purchase centres.

The minor forest produce purchased by the Maharashtra State Co-operative Tribal Development Corporation Nashik is kept in the custody of Adivasi Co-operative Societies till the marketing arrangements are made. But the operational difficulties particularly of the storage of minor forest produce items multiply with the meagre quantity. The Maharashtra State Co-operative Tribal Development Corporation Ltd., Nashik is not in a position to make its own arrangements of storage. With the result, the preservation of the procured items of minor forest produce becomes problematic.

5.8 Sale of marketing without value additions

The minor forest produce items are sold by the Tribal Development Corporation without any value addition. The value addition is effected only through the processing of the products. But at present the Tribal Development Corporation has not so far set-up processing units for the minor forest produce. One of the reasons assigned is that the procurement is not sufficient to launch processing units. However, the tribal people in certain pockets are contemplating setting up of such processing^{units} themselves in the Co-operative Sector e.g. Hirda processing units at Ghodegaon, Taluka Ambegaon, District Pune. The fact however remains that the value addition to the minor forest produce has not received adequate and serious attention so far.

5.9 No plan by Tribal Development Corporation for maximum exploitation of minor forest produce

Minor forest produce found in areas other than Tribal Sub Plan area is not covered under the Monopoly Procurement Scheme currently operated in the Tribal Sub

Plan Area. The Tribal Development Corporation has not thought of any plan for the maximum exploitation of the minor forest produce items from all the areas in the State for one reason or the other. Nor has the Forest Department or for that matter the Forest Development Corporation of Maharashtra seem to have given any thought to the matter.

5.10 Purchase Centre inadequate in number

It has been observed that the purchase centres opened in the Tribal Sub Plan area are also not adequate in number. With the result the tribal gatherers have to traverse a long distance to reach the purchase centre. The procurement operations therefore have rendered themselves uneconomic, the expenditure on establishment is heavy which the actual collection is far too meagre. Under the present arrangement, neither the Tribal Development Corporation nor the tribals stand to gain. A net work of mobile purchasing units could perhaps be the answer to this problem.

- 5.11 There are certain difficulties even in running the sanctioned purchase centres. The staff deployed there is unwilling to work, want of accommodation being a major instant. Operating from centres which have at least a medium of such facilities as a good school, a market and a hospital apart of course from reasonable accomodation, through a chain of mobile purchase centres will also mitigate the hardships of the employees.

5.12 Collection of minor forest produce through private Traders/Businessmen

It is observed that the collection of certain minor

forest produce items is entrusted to the agents who are private contractors/traders by the Tribal Development Corporation e.g. Gum. But the private traders sell gum of inferior quality to the Tribal Development Corporation after having sold the first grade produce in the open market. The tribals who are in need of cash do sell away their minor forest produce to these authorised agents at the meagre prices. The private traders acting as authorised agents of Tribal Development Corporation very often defraud the tribals in both weight and the price. Thus, this system of appointing private agents in the areas where purchasing centres are not viable does work adversely to the detriment of the interests of the tribals. The real benefit of the scheme is reaped by these agents who are disguised private traders.

5.13 Want of Government Notification

It has been noticed that the private businessmen/traders are more active in the dealing of minor forest produce items in the areas covered under Monopoly Procurement for the specific items. The Tribal Development Corporation authorities contended that their operations were restricted to the items and the areas notified by the State Government. The Tribal Development Corporation incidentally has never proposed the enlargement either of the schedule or the area of operation.

The forest authorities depend upon private agencies for the sale of minor forest produce. They contend that the paucity of staff for the purpose forces them to depend upon private agencies for handling the collection/ marketing of minor forest produce.

5.14 Operational Areas of Tribal Development Corporation

The tribal Development Corporation organises the procurement activities only in the Tribal Sub Plan areas of the State. That leaves ample room for the activities of private agencies to undertake operate freely in the non-notified area.

5.15 Want of trained labour force

During the course of field enquiry, the views of the private traders were also elicited :-

(1) Private traders dealing in Gum stated that at present, Gum is imported from foreign countries like Sudan/Nigeria in sufficient quantity. The imported gum is comparatively of better quality than the indigenous one. The local variety is thus of little commercial value to the private trade.

(2) Secondly the labour force engaged in the collection of minor forest produce item such as Tendu leaves is not trained and skilled one as compared to the workers in the nearby States. The local people (tribals) fall short of the standard expected therefrom. They are unskilled workers. Hence the percentage of losses go on increasing with their employment in the collection of minor forest produce items so the labourers are hired from the outside areas i.e. other States.

(3) The labour force is also available only in the off-season when they are free from agricultural operations and the works under Employment Guarantee Scheme are not available in the vicinity.

(4) The private traders/businessmen engage the tribals on minimum wages of Rs.20/- per day. But they are not adequately paid for their labour.

5.16

The Maharashtra State Co-operative Tribal Development Corporation Ltd., Nashik has appointed Adivasi Co-operative as their sub-agent for the purchase of minor forest produce items found in their areas of operation. But they are being re-organised and one society for 5000 population is being formulated for effectively and efficiently carrying out the developmental activities viz. Monopoly food-grain procurement scheme, crop loan, distribution of electric pumps/oil engines, digging of new wells. The officials of co-operative society expressed their willingness to go in for the collection of minor forest produce items more particularly Tendu leaves/Gum.

CHAPTER VI
CONCLUSIONS / SUGGESTIONS

6.1 From the field observations certain conclusions of specific and general nature have been drawn. The specific conclusion so as to find out bottlenecks in the implementation of the provisions of Minor Forest Produce Act are elaborated. Similarly, specific suggestions as to the efficient and effective implementations of these provisions of the Act through the administrative machinery have also been putforth.

Strict Observance of Minor Forest Produce Act Provisions

6.2 At the outset it is asserted that the provisions of the Minor Forest Produce must be strictly observed and adhered to by the implementing agencies either in Forest Department or the Tribal Development Corporation Ltd. Nasik. The private contractors usually take undue advantage of the situations and follow their own practices in the respective areas.

6.3 The collection of Minor Forest Produce from the areas which are covered under Monopoly Procurement should exclusively rest with the Tribal Development Corporation. The interference of the private traders should be severely dealt with penal action. As a corollary, the implementing agencies may be properly manned to look after the specific activities in time and in the manner expected of.

It is very essential to remove the constraints which adversely affect the smooth functioning of the scheme, very often the problem of storage of purchased minor forest produce become acute. The extension of facilities for the

storage of collected Minor Forest Produce need to be urgently attended to.

- 6.4 At present, the Maharashtra State Co-operative Tribal Development Corporation Ltd, uses Adivasi Co-operative Societies' godowns for the storage of Minor Forest Produce material. But these godowns usually are not in good state. It appears that the maintenance of these godowns receives scanty attention. For want of storage facility of its own, the Tribal Development Corporation is handicapped. The condition becomes worst in the rainy season. Even the pre-monsoon rains makes the problem grave for the storage of grass and the Minor Forest Produce harvested during the period.

Assuring reasonable and optimum price to the Minor Forest Produce

- 6.5 The effective elimination of the private traders in the dealings of Minor Forest Produce is necessary step to ensure the reasonable and optimum price for the tribal gatherers. The position of Adivasi Co-operative Society is required to be strengthened. They need to be financially assisted. Their participation in the Tribal Development must be sought. The Government has taken move to re-organise the Adivasi Co-operative Societies and define their limits with the population in small numbers. The active participation and co-operation in the Minor Forest Produce trade in the respective area will achieve spectacular results.

Training to the tribals for collecting Minor Forest Produce

- 6.6 The Tribals who are illiterate and backward, are necessarily to be employed in the collection of minor forest produce. They need some practical training for handling the

job in the scientific manner. The staff engaged for the purchase of the minor forest produce should also be given extensive training in respect of grading, weighing and other matters connected with the collection and marketing of these products. The practical training to both the staff and the tribal gatherers will help to create congenial atmosphere and establish good relationship of mutual understanding.

Accommodation problem of the staff

- 6.7 The staff employed for the execution of the scheme of Monopoly Procurement of foodgrains and minor forest produce in the Tribal Sub Plan Area by the Tribal Development Corporation, Nashik has to face the acute problem of accommodation. The paucity of housing in the rural area aggravates the situation further more. The problem of accommodation of the staff engaged in purchase and sale in the remote and inaccessible area need to be looked into at administrative level for proper solution, so that this staff reappointed will do their best to make the scheme a grand-success.

Sale of Minor Forest Produce without value addition - Setting up of processing units

- 6.8 The minor forest produce currently purchased are marketed without any value addition by the Maharashtra State Co-operative Tribal Development Corporation, Nashik. The value addition calls for the setting up processing units (industries). The processing units based on the minor forest produce processing units such as grass, Hirada, Mahua seeds, Gum, in the areas of optimum production will certainly hold good promise for employment to the tribals in the tribal areas and provide additional income to

them.

Employment Oriented processing units

- 6.9 The processing units for certain minor forest produce will thus serve dual purpose one providing employment to the needy tribals and second value addition to the products. The feasibility of such units may be assessed and studied before they are launched. The field enquiry affirms that the small and medium sized paper industries based on the grass, bamboo, the tanning material extracted from the myrobalan (Hirida), leaf plates from 'Apta' leaves are some of the examples in this behalf. Besides, the processing of some oil-seeds widely found in the respective area will also keep the industry rolling throughout the year. Thus the purchase centres may be converted into production-cum-training centres. The value addition of minor forest produce through the small and medium industries will bring more revenue in return. The tribals engaged in the collection and processing and marketing will have a chance to share the additional resources created in the area. The setting up of industries in the selected tribal pockets reach in minor forest produce will change the entire scene with the people's participation.

Creation of Raw Material Base

- 6.10 The processing units will flourish only when there is assured source of requisite minor forest produce raw material. The requisite raw material can be guaranteed on the execution of plantation programme of suitable species. The biggest threat to the livelihood of the tribal people dependent on minor forest produce collection has come from the large scale deforestation. New Afforestation efforts and composition of new plantation do not seem to hold much

promise for the tribals and the proposed processing units. The changing composition of forest shows the predominance of species which do not yield or yield very little of the minor forest produce. In the collection and processing of the minor forest produce the village communities particularly tribal women have been getting employment. The efforts have, however, largely contributed to the development of raw material base for large industries with absolutely no regard for the requirement of forest and tribal folk. It is estimated that about 75% of the species being planted in the area for the purpose of large industries and even the remaining 25% have very little relationship with the minor forest produce currently collected.

New Afforestation of minor forest produce species

6.11

Not only the deforestation decimated the tribals but new afforestation also does not hold any promise for their livelihood. Under the circumstances the tribal groups and other village communities are protesting widely against the changing composition of their forests and organising protest. For them erosion of the raw-material base is essentially an erosion of their life-support system. Therefore, it is suggested that the new plantation programme must be so executed that the species of minor forest produce must find wide scope of inclusion. The forest working plans must be formulated with the appropriate consideration for the minor forest produce peculiar to the tribal areas and the climatic conditions as well.

Total Elimination of private Contractors for collection of minor forest produce

6.12

The collection of forest produce through contractors has led to heavy exploitation of the tribals all over the State. Firstly, the contractors rarely hire local tribals

who inhabit the forest but in need bring in work-gangs from outside. Secondly, even if they do hire tribals, they pay them very little. This calls for serious thinking to overcome the problematic situation. The Tribal Development Corporation's intervention for the elimination of the middlemen, is not amply justified against the background. The Tribal Development Corporation authorities need to take the stock of the existing situation and try for meaningful solutions for the dilemma.

Tribal Development Corporation's procurement of both foodgrain/minor forest produce ...

Separate wing for minor forest produce

6.13

The Tribal Development Corporation authorities during the course of field enquiry apprised that they have to undertake the procurement of both food grain and minor forest produce with the help of the scanty staff. They have contended that no separate staff is deployed for the purchase of minor forest produce. Naturally the present staff cannot cope up with the work of grading and purchase of minor forest produce which are not received in optimum quantities. The tribal gatherers also pay little heed towards the quality of the minor forest produce collected and brought by them to the purchase centres. It is not properly graded. Thus the procurement of food grain is concentrated against this background. The collection and marketing activities of minor forest produce, thus recedes back in comparison with the food grain.

6.14

It is, therefore, suggested that two separate cells for the collection and marketing of foodgrain and minor forest produce of the tribal communities should be clearly devised for the effective and efficient handling of the scheme. The

distinct administrative machinery may be saddled with the responsibility of collection/marketing of minor forest produce in the Tribal sub plan as well as other areas where they are found in abundance.

Special Fund exclusively for procurement of minor forest produce

- 6.15 The Maharashtra State Co-operative Tribal Development Corporation authorities have stated that they have to carry out the procurement of the minor forest produce with the funds available. They expect that the special funds for the purchase of minor forest produce must be earmarked in order to facilitate immediate and prompt payment of money to the tribal minor forest produce gatherers. The paucity of special fund for the purchase causes inconvenience in the execution of scheme to the entire satisfaction of the tribal communities. The present system of 'Hundi' again hampers the smooth functioning of the scheme. The deferred payment to the tribal gatherers causes them hardships. It is therefore, suggested that a special fund may be earmarked for the purpose of the minor forest produce from the tribal gatherers. That will facilitate cash-down payment immediately after the weighing of the minor forest produce.

Joint-venture for enhancing potential of minor forest produce

- 6.16 The Maharashtra State Co-operative Tribal Development Corporation which has been appointed as a chief agent in the procurement of foodgrains/minor forest produce from the tribal cultivators and gatherers do very little to enhance the potential of these minor forest produce. Some remedial measures for perpetual procurement of the

items need to be devised. The joint venture of forest department/social forestry and the Tribal Development Corporation must endeavour for the plantation of all sorts of species of minor forest produce. The co-operation of village panchayat and publicity wing in the afforestation programme will achieve tremendous success.

- 6.17 The fixation of annual targets for the staff and thus involving the Tribal Development Corporation Nashik, in actual plantation programme will ensure perpetuity and potentiality of the requisite items of minor forest produce. The encouragement by the field staff to go in for the afforestation of minor forest produce species will fetch, in return the unexpected gain and constant resource base. Unless the efforts are concentrated on the plantation of species of minor forest produce there will not be sizable increase in the potential output over a period of time. The heavy deforestation on the one hand and little or no plantation of the minor forest produce species will embark on the situation as would prove a threat to the life of tribals and their struggle for existence. Likewise it will also affect the development of forest. The Tribal Development Corporation need to act as a main catalyst in building up the resource base of minor forest produce for the tribals who mostly subsist on the forest produce.

Creation of resource base through co-operation of tribals

- 6.18 When the minor forest produce collection is categorised as the seasonal activity. The concentrated efforts of the staff and the tribal workers will bring about the change in the attitude of the tribal community. It will engage them in creating the resource base for the industries not through the deforestation but through the afforestation

of the species of minor forest produce of their choice and having potentiality of providing gainful employment round the year either through the minor forest produce based processing units or the rearing of herbs/other botanical plants.

Local agro-forest based industries

- 6.19 This will enable the development of tribals as the suppliers of raw material for both the local agro and forest based industries. The vest wood resources should give fillip to allied industries such as furniture work. Agricultural waste can be turned into fuel. They should be run by the tribals.

Updating the traditional technology

- 6.20 It is very important to update the traditional skills of the tribal collectors. They should be provided with suitable implements for collecting the minor forest produce alongwith training.

Participation of Voluntary Organisation

- 6.21 The developmental type of approach that keeps the balance between the forest dwellers' needs, environmental imperatives and production of raw-material in the State is well imbibed by the Voluntary Organisations working in the tribal areas. Their participation in raising the potential of minor forest produce must not be underrated and undermined. The sincere and concentrated efforts on the part of the Voluntary Organisation in the programme would work out commandable results.

Introduction of bio-gas renewal projects as a substitute for firewood

6.22

It is quite necessary that the tribals must identify themselves with the programme and its success. It depends upon the respect accorded to the traditional wisdom of the villagers. In many ways it does indicate a possible way of handling the problem of deforestation. Better returns from their traditional holdings by improved agricultural and aqua-culture are bound to reduce the pressure on forests. Of course, the entire system of forest management also requires major changes in order to reduce the alienation of the villagers. A greater awareness is bound to come as the protection of the villagers. The setting up of bio-gas renewal projects pave the way for the preservation of the forests which is the life-support of the tribals and the overall environment in the tribal areas.

CHAPTER VII
PROFILE OF MEDICINAL PLANTS RESOURCES
IN TRIBAL SUB PLAN AREA OF
MAHARASHTRA STATE

Introduction

- 7.1 Due to the climatic variations the herbaceous flora of the State is very rich in variety and number of species run into hundreds. The general climate of Maharashtra is conducive to the growth of wide ranges of plants of medicinal and other value.
- 7.2 The forests and common lands in the rural areas including assigned grazing lands have always produced several medicinal plants used by local communities. But in the process of degradation of these lands over the decades much of this type of vegetation has also been decimated. It has altogether disappeared from many localities. But the local communities and the aboriginals living in the areas and the voluntary organisations see an opportunity to grow such species again in their common lands if we could take up for development.
- 7.3 The forests of the State are important for yielding large volume of commercial timber. They are also pregnant with commercially useful plants including plants of medicinal value. Therefore, there exists two categories of forests : One yielding timber and the other yielding products other than timber which are generally referred to as 'Minor Forest Produce/Products'. But the collection of some of the minor forest produce is done by the tribal local communities. The Maharashtra State Co-operative Tribal Development Corporation Ltd, Nashik under the Monopoly

Procurement Scheme undertakes the marketing of some specified Minor Forest Products. But a vast of Minor Forest Produce lay untouched and uncovered under the scheme. In the absence of any marketing facility the collection of important minor forest produce having medicinal value is left unattended leading to the colossal loss to the State Exchequer and the sheer waste of national natural forest resources.

7.4 The State's forested regions endowed with vast ethnic and vegetational diversity offer an immense scope for ethno-batanical studies. The study of such type has remained neglected for some reason or the other. The study will encompass the following aspects -

- (1) Folk-lore survey : Collection, identification, documentation of plants used by the tribals for food, fuel and medicines etc.;
- (2) Data Collection on tribal/local names : methods of collections and processing the medicinal plants;
- (3) Investigation of new uses of plants or new plants having potential economic value;
- (4) Phytochemical and biological screening of plants used by the primitive tribes for medicine;
- (5) To preserve the vanishing ethno-botanical folk-lore and traditional uses of plants prevalent amongst primitive tribal groups/societies;
- (6) To promote the location oriented production techniques based on easily available plant resources for the development of the tribals.

7.5 The tribals are known for treating different types of ailments with the help of herbal remedies and witch craft. It is, therefore, necessary to undertake bulk collection of

plant species used as ethno-medicine by the tribals since major requirements of the tribals are met from the forests rather than through employment. The tribals are ignorant of the real market value of Minor Forest Produce collected by them. The traders exploit them while procuring the same. It is quite imperative that the co-operative society can be organised to purchase the forest produce directly from the tribals rather than selling in the market. Besides cottage industries based on simple technology and easily available raw material can be established in tribal areas. It will certainly boost tribal economy. The cottage industries like bamboo-crafts, oil extraction units, fibre processing units, lac and gum collection centres, dye-tanning processing units, match industries etc. can flourish with the bountiful minor forest resources of the State.

7.6 As a part of the study of Minor Forest Produce, a glossary of herbal and medicinal plant resources found in the tribal tract of the State has been collected by contacting the officials from the Botanical Survey of India (Western Circle, Pune), Maharashtra Association for Cultivation of Science, Pune. The information about the plants alongwith their botanical names and their medicinal uses has been presented in the tabular form as under :-

Table No.7.1

LIST OF MEDICINAL PLANTS FOR MEDICINAL USE IN MAHARASHTRA STATE

Sr No.	Botanical Name	Eng./Common Trade Name	Local Name	Distribution	Propagation	Brief medicinal use	Remark/suitable Area
1.	<u>Datura Stramonium L.</u>	Thorn apple, Jimson weed	Dhotra	Throughout the area	Propagated by seeds	Leaves & seeds are narcotic, fruit sedative, used in many compound ayurvedic preparations	Suitable for Western Maharashtra Khandesh, districts, Seasonal herb.
2.	<u>Aloe Vera L/ A. barbadensis Mill</u>	Barbadsaloe	Kumari	Throughout the area	Bulbils	Whole plant is stomachic. Fresh and dried pulp is used as medicine. It is cooling, colic & used in menstrual suppressions.	Can be grown in all Tribal districts of Maharashtra. Succulent shrub.
3.	<u>Rubia cordifolia L.</u>	Indian Madder	Manjistha	Thane, Nashik, Raigad, Pune	Seeds and cuttings	Roots are tonic, astringent. Used in many compound ayurvedic preparations.	Hilly Parts of Konkan, Western Maharashtra, Khandesh, Vidarbha, Herb preparations.
4.	<u>Andrographis paniculata less</u>	King of bitters kalmegh	Chira-yet, Kira-yet, Kalmegh.	Raigad, Thane, Pune, Nashik, Kolhapur	Seeds	Plant is febrifuge Tonic, anthelmintic. Used in debility and dyspepsia	Konkan area. Common herb in Nagpur and adjacent areas. Annual herb.

Table No.7.1 (contd.)

Sr No.	Botanical Name	Eng/Common/Trade name	Local Name	Distribution	Propagation	Brief medicinal use	Remarks/suitable area
5.	<u>Tinospora Cordifolia</u> (Wild) Miers,	Tinospora	Gul.vel, Gilo, Guduchi,	Throughout the area	Cuttings and seeds	Bitter stomachic, nutrient, starch is used as single drug as well as in compound preparations.	Giant climber, In all tribal belts of Maharashtra.
6.	<u>Centrathe-rum anthel-minticum</u> (Wild) Kuntze.	Centrathe-rum, Somraj,	Kadu-jire	Throughout the area, common in waste places	Seeds	Seeds are anthelmintic useful in skin diseases.	Herb in monsoon. All medium rainfall tracts having moist deciduous forests (Herb).
7.	<u>Cleroden-drum serratum</u> (L)	-	Bharangi	Throughout the area	Seeds and cuttings.	Roots and leaves are used medicinally febrifuge.	Seasonal plant in Hilly areas of Western Maharashtra, Vidarbha, Amravati area.
8.	<u>Costus speciosus</u> (Koen) sm.	-	Kostha, Penva, Peva, Kemuk	Kolhapur, Pune, Thane, Raigad	Surers and seeds	Bitter, astrigent, purgative, tonic, stimulant for steroidsynthesis	Mansoon herb in Konkan, Hilly parts of Pune, Nagpur districts. Thane, Raigad
9.	<u>Asparagus Sacemosus</u> Wild	-	Satavari, Satawar	Throughout the area	Tuberous roots and seeds	Root is refreshing, galacfogogue, antiseptic antidyserteric, tonic.	Climbing bushes in barren rocky grasslands. All tribal areas in Maharashtra.
10.	<u>Cyperus rotandus</u> L	Nut grass	Motha, Mustak, Nagarmotha.	Throughout the area	Tubers.	Tubers are diuretic, stimulant, alterative, useful in stomach dis-orders and compound ayurvedic preparations.	Very common weed in culti-vated lands. In all parts of Maharashtra.

(Table No.7.1 contd.)

Sr No.	Botanical Name	Engg/common/Trade name	Local name	Distribution	Propagation	Brief medicinal use	Remarks/suitable area
11.	<u>Psoralea corylifolia L.</u>	Psoralea, Babchi	Bawachi	Throughout the area, a weed in waste places	Seeds	Seeds are atomachic used in skin diseases and poisonous bites.	Monsoon herb. Common everywhere in open waste fields.
12.	<u>Embelia ribes Burm.f.</u>	Embelia	Vavding	Throughout the area	Seeds & cuttings	Fruits and roots are used medicinally anthelmintic, tonic.	Shrub. Konkan, hilly w. Maharashtra, Khandesh, Forests of Nanded area suitable.
13.	<u>Fagonia cretica L.</u>	-	Dhamasa	Pune, Dhule, Jalgaon, Gadchiroli	Seeds	Whole plant is astringent, tonic, febrifuge.	Monsoon Herb, Drier parts of Pune, Nashik, Nagar, Dhule, Jalgaon, Nanded, coarse soils are suitable.
14.	<u>Plumbago zeylanica L.</u>	-	Chitrak	Throughout the area	Seeds	Roots are useful in skin diseases dyspepsia, abortifacient.	Perennial undershrub. common in shady places in Konkan Western Maharashtra and Vidarbha area.
15.	<u>Plantago Ovata Forsk.</u>	Blonde psyllium	Isapgol	Thane, Pune, Dhule, Jalgaon, Bhandara, Chandrapur	Seeds	seeds and husk are demulcent, cooling, given in cronic dysenteries.	Cultivated Herb Khandesh, Vidarbha, areas suitable.

(Table No.7.1 (contd.))

Sr No.	Botanical Name	Eng./common/Trade name	Local name	Distribution	Propagation	Brief medicinal use	Remarks/suitable area
16.	<u>Withania sornnifeca</u> Dunal	-	Asvagan-dha.	Thane, Pune Nashik, Dhule, Jalgaon, Bhandara, Chandrapur	Seeds	Roots are tonic diuretic, alterative, deobstruent	Fairly common and also cultivated undershrub in most part of tribal areas.
17.	<u>Rauwolfia serpentina</u> Benth & Kurtz.	Rauwolfia, Serpentine.	Sarpagan-dha, Hadki, Harkaya.	Pune, Nashik, Kolhapur Raigad	Seeds, root cuttings,	Roots are hypnotic, sedative, useful in reducing blood pressure	Shrub. common in lower ranges of Sahyadri. Also found on plains. Now under cultivation.
18.	<u>Mucuna Prurita</u> Hook.	Horse eye bean	Kuhili, Khajkuhili	Throughout the area	Seeds	Seeds are nervine tonic. Roots are purgative.	Perennial large climber. In moist Forest and along river banks in tribal belts.
19.	<u>Gymbopogon citratus</u> (DC.) Stapf.	Lemon grass	Gavti-chaha	Throughout the area	Rhizome	Leaves - stimulant Oil is extracted, carminative.	Tall aromatic herbs. can be cultivated in all parts of Maharashtra
20.	<u>Mentha arvensis</u> L.	Field mint.	Podina	Throughout the area.	Root suckers.	Plant is antiseptic, carminative, stimulant, Oil is extracted.	Perennial, aromatic herbs. cultivated everywhere.

(Table No.7.1 contd.)

Sr Botanical No. Name	Eng/common/ Trade name	Local name	Distribution	Propagation	Brief medicinal use	Remarks/suitable area
21. <u>Lawsonia innermis</u> L.	Henna	Hena, Mendi	Throughout the area	Cuttings & seeds	All plant parts are useful in medicine. Oil and essence is extracted.	Large shrub. Cultivated in all parts of Maharashtra

(Source : Botanical Department, Maharashtra Association of Cultivation of Science, Research Institute, Pune 4)

तक्ता क्रमांक 7.2

मद्याराष्ट्रीय उपयुक्त औषधी वनस्पती व त्यांचे उपयोग

अ.क्र.	औषधी वनस्पतीचे नांव	वनस्पती शास्त्रप्रमाणे नांव	केणत्या रोगावर गुणकारी
1	अगस्ता	3	4
1.	अगस्ता	Sesbania Grandiflora	उदरालील कृमि, कफ, काडू विषदोषणे रक्तपित्त
2.	अडुवसा	Adhatoda Vasica	रक्तपित्त, कास, श्वास राजयक्ष्मा, उरःक्षत
3.	अनंता	Taberrae Montana Cernaria	त्वचारोग शुभ्रकृष्ठ वैकण्य तारुण्यपिटीका, ज्वर
4.	अर्जुन	Terminalia Arjuna	हृद्रोग मेदवृद्धी, क्षत व्रण, अस्थि-संयमंग अधिक स्वेदप्रवृत्ती
5.	अट्ठी	Linum Usitatissimum	वातरोग, त्वचारोग गूरूम, हिक्का, रक्त व वायुसंबंधी रोग
6.	आयाडा	Achyranthes aspera	कफ, काडू, दद्रु, मेदोदोग, अर्धा, उदर
7.	आपट	Bacchinia racemosa	गण्डमाला, गतगण्ड, कुष्ठरोग, विषरोग, व्रण, रक्तमिर्कार, विषमज्वर
8.	आंबा	Mangifera indica	तृष्णा, दाह, पित्त, अरुचि, श्रम
9.	अंबेहळद	Curcuma amada	वैकण्य, त्वचारोग, व्रण, योनीरोग
10.	आवळा	Phyllanthus embellica	प्रमेह, तृष्णा, अरुचि, सर्दी, रक्तपित्त, मालावट्टंम
11.	इंद्रावण	Citrus Colcothis	गुल्म, कुष्ठ, कृमि, व्रण, विष, जानाह, कामला
12.	इसबगोल	Plantago orata	प्रवाहिक, वातरोग, मलावरोध
13.	उपळसरी	Hemidesnus indicus	कुष्ठ, काडू, ज्वर, दुर्गंधी, तृष्णा, दाह, रक्तपित्त
14.	उंबर	Ficus glomerata	रक्तदोष, योनीरोग, दाह, शूल, व्रणनाशन
15.	उद	Styrax bengoin	ग्रह पीडा, प्रतिश्याय, कफनाशन

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. औषधी वनस्पतीचे नांव वनस्पती शास्त्रप्रमाणे नांव

1

2

केवल्या रोगावर गुणकारी

4

16.	उस	Saccharum Officinarium	कार्य, रक्तदोष, रसता, मूत्रकृच्छ्र
17.	एरंड	Ricinus Communis	उदावर्त, सर्व प्रकारचे वातरोग, उदर, शोष, आमवात, गुल्म
18.	एतची	Etattaria Cardamonium	आरचरी, हून्हास, बुद्ध हिक्का, कफ, शुद्धश्वास, शुद्धकास
19.	ओला	Carum Copticum	आय्यान, उदरशूल, कृमि, अरुची, गुरूम
20.	अंकेल	Alanguiam Lamarekil	विसर्प, शोष, कृमि, विषदोष कुत्रे, उंदीर
21.	अंजीर	Ficus Carica	रक्तरोग, दाह, अरुचि, कार्य, बलावष्टम
22.	अतिबला	Abutilon indicum	कार्य, शुक्काय, क्षेत्रय, रजोदोष
23.	अमृता	Tinospora Cordifolia	ज्वर, कुष्ठ, आमदन, शोषदन, व्रण, वार्षिक्य, कुष्ठ, कमला
24.	अंबळा	Cissampelos Pariera	वातरोग, संधिगतवात, आमवात, ज्वर
25.	अग्निमंथ	Premna integrifolia	अग्निमोष, मलावष्टम, आमज व्यधि, आमवात, अर्श
26.	अतिविषा	Aconitum heterophyllum	ज्वर, उदर, कृमि, अतिसार लहान मुलांचे
27.	अम्लिका	Tamarindus indica	अरुचि, अग्निमाषा, अजीर्ण
28.	अरीष्टक	Sapindus trifoliatus	पित्त, ललित, कफरोग, दाह, शूल, ग्रहपीडा
29.	अरीसेद	Acacia farnesiana	कुष्ठ, शिवत, कृमि, त्वक्रोग, रक्तद्रुष्टी
30.	अर्क	Calatropis procera	कृमि, श्वेतकुष्ठ, कफ व पित्त विकार

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. औषधी वनस्पतीचे नांव वनस्पती शास्त्राप्रमाणे नांव

2

क्षेपल्या रोगावर गुणकारी

4

31.	अश्वत्थ	Ficus religiosa	वंपल, ब्रण, अरुचि, योनीरोग
32.	अशोक	Saraca indica	कप्यतव, रक्तप्रदर, गुल्म, सूतिकरोग, कृमि, अपची
33.	असन	Terminalia tomentosa	प्रमेह, स्यौल्य, मेदरोग
34.	आढकी	Cajanus indicus	वातकर, कफनाशक, तूप घालून भक्षण केल्यास विदोषनाशक
35.	आरवंप्य	Cassia Fistula	मलाबध्दं, पित्तनाशन, कुष्ठ, शोथ, रक्तपित्त
36.	उशीर	Panonia Odorata	पित्तरोग, दाह, ज्वर, रक्तपित्त, त्वचारोग
37.	एंडिकर्कीटी	Carica papaya	
38.	कदफल	Myrica nagi	श्वास, कास, प्रतिश्याय, मुत्ररोग, ग्रहणी
39.	कटुकंज	Caesalpinia bonducella	कुष्ठ, शिक्ल, गुल्म, ब्रण, कण्डू, विचर्चिका, मेद, प्लीहा, कृमि
40.	कट्ठी	Albizia procera	शिररोग, अजीर्ण, विष, कृमि
41.	कटुकी	Celsia coromandeliana	विषमज्वर, कुष्ठ, कामला, विष, श्वास, कास, कफ
42.	कंठकारी	Solanum Xanthocarpum	कास, श्वास, एजयस्मा, वातरोग, पित्तरोग
43.	करती	Musa Sapientum	मूत्रकूच्छ, रक्तपित्त, योनीदोष
44.	कदम्ब	Anthrocephalus Cadumba	अरुचि, रक्तपित्त, वातरोग,
45.	कपिकच्छु	Macuna pruriens	शुक्रशय, स्तैल्य, कश्यप
46.	कपिल्य	Feronia elephantum	मस्तकशूल, विष, हिक्का, वातरोग, रक्तरोग

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. औषधी वनस्पतीचे नांव वनस्पती शास्त्राप्रमाणे नांव
1 2 3

केणत्या रोगावर गुणकारी
4

47.	कौपिल्लक	Maleotus philippensis	कृमि, रक्तदोष, उदर, गुल्म, आनाह, अशमरी
48.	करमर्दक	Carissa carandus	अरुचि, अग्निमान्द्य, अजीर्ण
49.	कल्बिर	Nerium Odorum	सर्पदंश, नेत्ररोग, नेत्ररोग, मस्तकशूल लेप, विषरोग, काडू
50.	कांज	Pongamia glabra	कृमि, गुल्म, ब्रण, कुष्ठ, विचरिचिका, काडू, शिवत
51.	कर्कटक	Moniordica Cochinchinensis	
52.	कर्कटी	Cucumisutilirsimus	पित्तरोग, दाह, शोथ, अरुचि
53.	करोर	Capparis aphylla	
54.	कर्पूर	Curacuma Caecia	त्वचारोग, दुर्गंधी, गतगण्ड, गण्डमाला, ब्रण, कृमि, रक्तपित्त
55.	कसाय	Pisum Satinus	
56.	काकमाची	Solanum nigrum	शूल, अर्श, कास, श्वास, हिक्का
57.	काकौली	Lenanga scadens	क्षय, तृष्णा, रक्तपित्त, दाह, वातरोग, पित्तरोग
58.	काकौदुंबर	Ficus hispida	
59.	कांचनार	Bauchinia variegata	गतगण्ड, गण्डमाला, कफ, ब्रण, कृमि, रक्तपित्त, कुष्ठ
60.	कासन्जी	Tragia inmorata	कास, श्वास राजयस्मा, हिक्का, उरःक्षत

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. 1 औषधी वनस्पतीचे नांव 2 वनस्पती शास्त्राप्रमाणे नांव 3 कोणत्या रोगावर गुणकारी 4

61.	कासमर्द	Cassia occidentalis	कास, उर्ध्वपात, श्वास, कुष्ठरोग, अरुचि
62.	किराततिक्त	Swertia Chirota	ज्वर, सन्निपातज्वर, रक्तपित्त, दाह, कृमि, व्रण
63.	कुंकुम	Crocus sativus	मुसयुधी, मस्तकशूल, कृमि, हिक्का
64.	कुटज	Holarrhea antidysentrica	अतिसार, रक्तविकार, पित्तविकार
65.	कुमारी	Aloe indica	रक्तविकार, पित्तविकार, यकृत-क्षीण विकार, त्वक्दोष
66.	कुंभी	Careya arobaorea	दाह, कफ, अतिसार, योनीरोग, प्रमेह, कृमि
67.	कुंटक	Barleria promitis	रक्तविकार, वातरोग, शोथ, आय्मान
68.	कुठ	Aplotaxis auriculata	अरुचि, मुसदोष, कफ, कास
69.	कुष्मांड	Benicassa cerifera	रक्तपित्त
70.	कुमनाशिनी	Drosera peltata	कृमि, अर्श, उदर, आय्मान
71.	कृष्णजीरक	Nigella Sativa	दंतरोग, योनीरोग, अरुचि, आय्मान
72.	केतकी	Pandamics odoratissimus	विषदोष, कफदोष, केशरोग, नेत्ररोग
73.	संदिर	Acacia catechu	कुठ, कृमि, शिक्त, शोथ, काडू, आम व मेद रोग
74.	सर्पूर	Phoenix dactylifera	मदात्मय, दाह, मुच्छा, मद, वात, पित्तरोग
75.	सुरसनी औषा	Hyoscyamus reticulatus	निद्रानाश, मानसरोग, उन्माद, अपस्मार

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. 1 औषधी वनस्पतीचे नांव 2 वनस्पती शास्त्रप्रमाणे नांव 3 कोणत्या रोगावर गुणकारी 4

76.	गजपिप्पली	Scindapous officinatlis	शवास, कस, कण्ठरोग, कृमि,	वातरोग
77.	गंभारी	Gamalina arhorea	मतावष्टंम, त्वक्रोग, आमदोष	
78.	गोरोस्की	Randia uliginosa		
79.	गिरीकरीक	Chitoria terreata		
80.	गुगुलु	Balsamodendron mukul	कफरोग, वातरोग, क्सेद, शोथ, ग्रंथी, अपची, आमवात	
81.	गुंजाफ्त	Arbus precatiorious	मुसुरोग, मस्तकशूल, तुष्णा, मोह, मद	
82.	गोजिन्ना	Elephantopus scaber	त्वक्रोग, ग्रंथी, अपची	
83.	चित्रक	Plumbago Zeylanica	शोथ, अर्श, उदर, कण्डू, आम	
84.	जया	Hibiscus rosasinensus	केशरोग, इंद्रलुप्त, प्रदर, शुक्रस्त्राव, दाह, प्रमेह, अर्श	
85.	जंबीर	Citrus liminum	अरुचि, अग्निमांघ	
86.	जंबू	Pugenia jambolana	अरुचि, प्रमेह, अतिसार, कफ, व्रण	
87.	जयपाल	Croton tigliem	उदर, कुष्ठ, मतावष्टंम, गुल्म, रक्तादोष	
88.	जालि	Jasminus grandiflorum	दंतंरोग, व्रण, विस्फोट, नेत्ररोग	
89.	झेंडू	Calendula officialis		
90.	तरंग	Tarbeanace montana coronaria	वैक्यं, त्वचारोग, व्रण	

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. 1 औषधी वनस्पतीचे नांव 2 वनस्पती शास्त्राप्रमाणे नांव 3

कोणत्या रोगावर गुणकारी 4

91.	तमाल	Carcinia morella	अरुचि, अग्निमाद्य, श्वास, कस
92.	त्रपुसी	Cucumis sativus	
93.	ताल	Borasis flaberifera	मसृमकुरुरग, दाह, शुरग, श्रम, कृमि
94.	त्रायमण	Deliphimium Zalil	
95.	तुलसी	Ocimum sanctum	वातरुरग, कृपुरुग, शुरग, कृमि, छर्द, श्वास, कस
96.	दंती	Croton polyandrum	खिरुवनीय, कुठ, उदर
97.	दाडिम	Punica granatum	अरुचि, अग्निमाद्य, अतिसार, युरनीरुरग, रक्तुरग
98.	दाढरीदुरा	Berberis aristata	त्वचरुरग, व्रण, वैकृपुय, रक्तुरग
99.	देवदारु	Pinus deodara	वातघ्न, आमवात, सीयशूल, सीयगतवात, कृपुरुग
100.	धतूर	Datura Stramonium	वातघ्न, निघ्नानाशन, वातरुरग लेपासाठी
101.	धन्वयास	Fagonia aribica	पूत्रकृषु, पूत्राशुररी, प्रमेह, गुल्म
102.	धातकी	Woodfirdia floribunda	कृमि, अतिसार, रक्तदुरेष, वृण्ण, खिसर्प
103.	धात्री	Phyllanthus ambelica	प्रमेह, कास, श्वास, अरुचि
104.	नागकैशर	Mesua ferrea	रक्तस्त्राव, रक्तपित्त, प्रसृत, रजःस्त्राव
105.	नागदमनी	Climum ascitum	युरनीदुरेष, सृपखिष, छर्द, कण्ठरुरग, कस, सर्व प्रकरची खिष

तक्ता क्रमांक 7.2 पुढे चालू..

अ.क्र. औषधी वनस्पतीचे नाव वनस्पती शास्त्राप्रमाणे नांव

2

3

कोणत्या रोगावर गुणकारी

4

106.	नागबला	<i>Esida carpinifolia/Spinosa</i>	द्रण, कुष्ठ, कंडू, वातरोग, पित्तरोग
107.	नागरमुस्तक	<i>Cyperus Scariosus</i>	ज्वर, दाह, पित्तरोग, शोथ, तृष्णा, वैष्य, त्वचारोग
108.	नारिकेल	<i>Cocos nucifera</i>	तृष्णा, शोथ, दाह, रक्तदोष, वातपित्त रोग
109.	निंब	<i>Azadirista indica</i>	कुष्ठ, कण्डू, द्रण, कृमि, कफ पित्तरोग, रक्तदोष, ज्वर, तृष्णा
110.	निगुंडी	<i>Vitex Nirgundi trifolia</i>	कृमि, कुष्ठ, कफरोग, दाह, अरुचि, वातरोग
111.	न्यग्रोध	<i>Ficus bengalensis</i>	दंतारोग, योनीरोग, द्रण, रक्तस्राव, वंपत्व, दाह, विसर्प
112.	पटेल	<i>Iricosanthus diocia</i>	कफ व रक्तदोष, कस, ज्वर, कृमि, काशय
113.	पद्मकलठ	<i>Prunus puddum</i>	पित्तरोग, दाह, तृष्णा, अस्यरोग
114.	पनस	<i>Artocarpus integrifolia</i>	रक्तपित्त, क्षत, क्षय, वातरोग, काशय, मुसदुर्गंधी
115.	परुषक	<i>Grewia ascitica</i>	पित्त, दाह, तृष्णा, ज्वर, क्षतकाय, रक्तारोग
116.	पर्यट	<i>Hedytos fiflora,</i> <i>Fumeria Paruflora</i>	ज्वर, दाह, तृष्णा शोथ, भ्रम
117.	पलाश	<i>Butea frondosa</i>	द्रण, गुल्म, कृमि, प्लाहा, अर्श, योनीरोग
118.	प्लस	<i>Ficus infectoria</i>	दाह, पित्त, कफरोग, रक्तदोष, मुचर्छा
119.	पाटला	<i>Stereo spurmum suaneolens</i>	
120.	पाठा	<i>Cissampelos hexandra</i>	वातरोग, संधिगत वात, आमवात, ज्वर, योनीरोग

तक्ता क्रमांक 7-2 पुढे चालू.

अ.क्र. औषधी वनस्पतीचे नांव वनस्पती शास्त्राप्रमाणे नांव

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कोणत्या रोगावर गुणकारी

4

121.	पारिमद्र	<i>Erythrina indica</i>	अरोचक, कृमि, कफरू मेद, शोथ
122.	पाषाणभेद	<i>Sexiifraga lagulata</i>	मूत्रकृच्छ, मूत्रारमरी, योनीरोग, प्रमेह, दाह, व्रण
123.	पुन्नाग	<i>Calophyllum inophyllum</i>	रक्तपित्त, रक्तदोष, कफरोग, पित्तरोग, मूत्रबाधा
124.	पुष्करमूल	<i>Iris germanica</i>	शोथ, कास, श्वास, वायू, पार्श्वशूलरू अरुचि, हिक्का
125.	पुनर्नवा	<i>Boerhanea diffusa</i>	शोथ, मूत्रकृच्छ, क्वास, वातरोग, शूल
126.	बदर	<i>Zizyphus Vulgaris</i>	अरुचि, दंतारोग, ज्वर, नेत्ररोग
127.	बबुल	<i>Acacia arabica</i>	कफरोग, वातरोग, अर्श, कृमि
128.	ब्राम्ही	<i>Herpestis monniera</i>	कफवातजन्य विकार, स्मृतिभंग, ज्वर, शोथ, कण्डू, स्तीघा
129.	विभीतक	<i>Terminalia bellerica</i>	कफरोग, नासरोग, कण्ठरोग, पतित, वृष्णा, श्वास, हिक्का
130.	भल्लातक	<i>Semicarpus anacardium</i> <i>Coridalls gonaniana</i>	ग्रहणी, अर्श, व्रण, गुल्म, शोफ, जानाह, कृमि
131.	भूतकेशी	<i>Nordostachys Jatanianse</i>	निद्रानाश, मानसरोग, केशरोग, अधिक रक्तदाह
132.	भूम्यामलकी	<i>Phyllanthus urinaria</i>	
133.	मंजिष्ठा	<i>Rubia Cordifolia</i>	रक्तारोग, पित्तारोग, त्वचारोग, ज्वर, योनीदोष
134.	मदन	<i>Randadumetorum</i>	कफरोग, मेदरोग, आमरोग, श्वास, क्वास, हिक्का
135.	मधुक	<i>Glycyrrhiza glabra</i>	कास, श्वास, क्वास, हिक्का, पित्तारोग, दाह, ज्वर, वातरोग, त्वचारोग

तक्ता क्रमांक 7-2 पुटे चातू.

अ.क्र. 1 औषधी वनस्पतीचे नांव 2 वनस्पती शास्त्राप्रमाणे नांव 3

कौण्ट्या रोगावर गुणकारी 4

136.	मरीच	Piper nigrum	कफरोग, श्वास, क्वास, मेदरोग, अग्निमांस, अजीर्ण, ग्रहणी
137.	रक्तचंदन	Pterocarpus santalinus	दाह, तृष्णा, शोथ, शूल त्वचारोग, वेण्य
138.	रसोन	Alium Sativum	अरुचि, अग्निमांस, अजीर्ण, वातरोग
139.	रास्ना	Innula racemosa; Innula helenium	सौप्यगतवात, आमवात, शूल, शोथ
140.	वचा	Acorus calamus	संज्ञानाश, मानसरोग, वृध्दीमांस,, ग्रहपीडा, प्रतिश्याय
141.	विडंग	Embelica ribes	कृमि, कृष्ठ, रक्तदोष, शूल
142.	विषतिंदुक	Strychnos nux vomica	स्नायुरीशित्य, मूत्राशय, दौर्बल्य, वातव्याधी, मर्दनासठी तेल
143.	शंखापुष्पी	Conscora decussata	निद्रारोग, मानसरोग, भ्रम, मुर्च्छ
144.	शठी	Hedycium spicatum	त्वचारोग, दुर्गंधी, दाह, शोथ, तृष्णा
145.	शतवरी	Araragus racemosus	पित्त, कफ, वातदोष, शोथ, गुल्म रक्तदोष, अतिसार, स्तन्यक्षय
146.	शिंग	Moringa Pterigosperma	गतमण्ड, गण्डमाला, नेत्ररोग गुल्म,, कृमि, मुलाचे जडत्व
147.	सर्पगंधा	Ophioxylom Serpentinum	निद्रानाश, मानसरोग रक्तदाब वृध्दी
148.	सुधी	Euphorbia perifolia	उदर, कु अर्श क्षारसूत्र
149.	ह्रितिकी	Terminalia Chebula	त्रिदोषनाशक, प्रमेह, उदर, नेत्ररोग, अश्चमरी, मूत्रकूटू
150.	हरिद्रा	Curcuma Longa	प्रमेह, त्वक्दोष, अरुचि, कृमि, विष, अपची
151.	हिंग	Ferula aliacea	अग्निमांस, अघ्यान,, आनाह,, गुल्म, शूल,, कृमि, उदर

आधार : ससून सर्वोपचार रुग्णालय आयुर्वेद विभाग, पुणे 1

Medicinal plants

7.7 Forests are, in the first place, store houses of food grains such as cereals, roots, tubers, vegetables, fruits and nuts that are known as "Minor forest produce" (MFP). Forests also provide tribals and forest dwellers with medicinal plants.

7.8 The tribals have survived on the herbal medicines for centuries. A study of tribal medicine in the Attapadi Valley of Kerala showed that the tribals used 39 different types of roots, 15 species of fruits, 30 species of leaves and several types of barks, flowers and even entire plant for treatment of diseases. Tribals in Bastar use forest produce as abortifacient and anti-fertility preparations (KFRI 1980-235). Most of these plants with food and medical potential are unknown to modern science. What is known is the role plants play in today's commercial products. It is estimated that over 40 percent of all drugs have a natural base.

The earlier plan documents especially Vth Five Year Plan 1978-83, for example, declared that stress had to be laid on the regeneration of forests "to meet the economic demands for forest product, maintain and improve the quality of the environment as well as provide substantial employment particularly to the poor sections of the society". With this in view, it suggested the expansion of "production forestry", encouragement to social forestry including farm forestry and linking forestry development with the economy of the forest dwellers. The purpose of production forestry was to meet the raw material demands of forest based industries. This was to be carried out primarily in reserved forests by concentrating on the quick-growing hard wood species. Social forestry on the

contrary, was to be undertaken by creating forest raw material resources on degraded forest areas, waste lands, panchayat lands, lands on the side of roads, canals and railway lines. The prime objective was to meet the fuel-wood and small timber needs of the rural areas, to increase fodder supply and protect agricultural lands from wind and soil erosion.

7.9 This programme was to combine fast-growing species for village timber and fuel-wood needs with fruit and other species that are required for the village economy. The major objective was to increase rural employment potential and give support to tribal economy. (Government of India 1978, 149-150). In short, the "production forestry" meant for industrial raw material was to be practised in reserved forests while 'Social forestry' meant for fuel-wood and timber needs of the rural areas was to be implemented in waste lands and the commons. But the studies indicate that praise-worthy goals have not been attained by the projects programmes implemented.

7.10 It has been observed that the traditional access of the rural poor and the forest dwellers to the forest resources has been gradually abridged over the years. Given the present pressure and the depleted state of the resources a continuation of these traditional pattern of resource use is just out of question. What is needed is to resist the present pattern of industrial use of forest wealth which brings little or nothing in return to the forest dwellers, draining all profits away from the regions which produce the resources.

7.11 It is, therefore, suggested that those who have the interest of the rural poor at heart should not merely press for a continuance of old privileges. Rather we should press for new privileges of productive employment in; participation and control over; a major share in the benefits from the pasture and tree lands of our country.

7.12 In order to achieve this purpose, the type of plantation have to be geared to the people's needs. If the trees are viewed only as industrial timber or commercial fire-wood, then one cannot expect the people to take interest in their conservation. Fruit trees and archards may be a solution, Social forestry, today, used as another term for getting the people involved in the production of industrial raw material needs to be given a new orientation and turned into community forestry geared to the needs of the tribal people in particular. This policy will introduce the variety of flora required for a ecological balance and also attain to the environmental aspects which are often ignored by commercialised monoculture.

Drug Plants

7.13 For the purpose of Economic Botany we are most interested in the branch of medical science which deals with drug plants themselves. This is pharmacognosy and it is concerned with the history, commerce, collection, selection, identification and preservation of crude drugs and raw materials. Pharmacology is the study of the action of drugs. Throughout the world several thousand plants have been and are still used for medicinal purposes. Many of these are known and utilised only by savage people - or by herb doctors and dwellers in primitive places who are forced to depend upon the nature plants of the vicinity.

The most valuable of the drugs and drug plants have been standardised as a result of the Pure Food and Drugs Act of 1906. These are referred to as official drugs.

7.14 Comparatively few drug plants are cultivated. Most of the supply of drugs is obtained from wild plants growing in all parts of the world and especially in the tropics. These drug plants are collected and prepared in a crude way of shipment and eventually reach the drug centres in the country and abroad. In some instances one country or another has built up a monopoly of some particular drug. Japan for example formerly controlled the output of camphor, agar and pyrethrum, while the Dutch in Java supplied nearly all the quinine that entered the world trades. The United States is an important market for drug plants. From 1920 to 1930, the importation of crude drugs increased 140 percent. Most of the processing of crude material is carried on in the United States. In addition several drugs are produced in this country either from wild or cultivated sources. These include ginseng, Golden seal, Casarea, digitalis, hemp and wormseed. Still others, such as belladonna, hanbane and stramonium are grown during periods of shortage. The medicinal value of drug plant is due to the presence in the plant tissues of some chemical substance or substances that produce a definite physiological action on the human body. The most important of these substances are the alkaloids, compounds of carbons, hydrogen, oxygen and nitrogen. Glucosides, essential oils, fatty oils, resins, mucilages, tannins and gums are all utilised. Some of these materials are powerful poisons so that the preparation and administering of the drugs should be left entirely in the hands of pharmacists and physicians.

7.15 Classification of drugs/drug plants are difficult for there are many methods of approach. The classification might be based on the chemical nature or the therapeutic value of the plant product, natural affinities of the various species or the morphology of the plant organ from which the drug is obtained for our purposes, it seems best to consider the more important drug plants on a morphological basis. In general, we find that the active principles are present in the storage organs of the plants, particularly in roots and seeds and to a lesser extent in leaves, bark, wood or other parts of the plants.

- I Drugs obtained from Roots and other underground parts
-
Aconite, Golden seal, gentian, colchicum, ginseng
- II Drugs obtained from barks -
cascara, curare, quinine, chinchona, slippery
- III Drugs obtained from stems/woods -
Ephedrine (cold) hay fever
Guaiacum Asthma
Quassia
- IV Drugs obtained from leaves Bellodana Cocaine
Digitalis (heart stimulant)
Eucalyptus
- V Drugs obtained from flowers Santonin (intestine worms)
- VI Drugs obtained from fruits/seeds -

7.15 (contd) chaulmoogra

The information about medicinal plants with their local names that are found in the State is indicated in the table. overleaf.

Table No.7.3

MINOR FOREST PRODUCE - RESOURCES
MEDICINAL PLANTS IN MAHARASHTRA STATE

Sr No.	Common Name	Botanical Name	Habitant/location	Parts used	Local uses
1	2	3	4	5	6
1.	Gunja	Abrus precatorious	Moist and open littoral forests -Common in Konkan	1)Root 2)Leaves 3)Seeds	1)Cure fever stomatitis. 2)Tuberculousis, curies of teeth head complaints. 3)Useful in eye diseases 4)Externally need in skin diseases are commonly used as weights by goldsmiths.
2.	Babhul	Acacia Arabica	Dry hot regions - Extensive forests along the rivers in Pune/Ahmednagar/Solapur Districts	1)Bark 2)Leaves 3)Flowers 4)Fruits 5)Gum	1)Tender shoots are used as Tooth brush. They strengthen teeth & gum. 2)Gum - in diarrhoea, disentary, diabetes, mellotus.
3.	Khair	Acacia Catechu, Wild	1)Dry open thorn forests - Common in the State - Coasts of Konkan	Bark	1)Ointment with veseline or is a good local application for ulcer.

(Table No.7.3 contd.)

1	2	3	4	5	6
4.	Sikakai	Acacia Concinna D.C.	Tropical moist monsoon forests - Common in Konkan	1)Leaves 2)Pods	1)Powdered leave act as a mild laxative. 2)Used externally as detergent Decoction of pods remove dandruff, and promotes growth of hair.
5.	Aghaca	Achyranthes Aspera (Line)	- Wasteplaces and rubbish heaps - Common weed growing all over the State in Waste places	1)Root 2)leaves 3)Flowers 4)Seeds	- is considered useful in dropsy, piles, boils, skin eruptions. - decoction of the whole plant is good diuretic and is given in renal dropsy and general anasarca and pneumonia.
6.	Veknand	Accrus Calamus	- Marshy places cultivated in gardens in many places in the State	1)Root	- improves appetite, voice, throat, - good for mouth diseases - useful in abdominae pains fevers, epilepsy, bronchitis, hysteria, delirium, tumours loss of memory, rat-bite

(Table No.7.3 contd.)

1	2	3	4	5	6
6. contd..					
7. Adulsa (Vasuka)	Adhatoda Vasica (Nees)	- Commonly cultivated, Sometimes gregarious in waste places - abundant in the Deccan and Konkan districts	1.Root 2.Leaves 3.Flower 4.Fruits		- brain tonic, useful in general weakness, tooth ache, livers, chest pains, Kidney troubles - Externally, it is used in chronic rheumatism. - Powder is effective in septicide, keeps off moths from woolen goods and fleas from rooms. - useful in bronchitis, - asthma, bilious vomiting - improves blood circulation lessen strangury and jaundice. - Juice extracted from leaves mixed with ginger or honey is generally used in chronic bronchitis and asthma.
8. Bel	Agle Marmelos	- Dry places, wild & cultivated - Konkan, Deccan - in dry and hilly places	1.Root 2.Root-bark 3.Leaves 4.Flowers 5.Fruits		- Cures fevers due to tridosha urinary troubles. - astringent, digestive, laxative useful in ophth - allay thirst, vomiting

(Table No.7.3 contd.)

1	2	3	4	5	6
8. contd..					
					- unripe fruits cure dysentery, removes pain
					- ripe fruits - tonic, restorative good for heart and brain.
					bad for lungs and chest
9. Kaju	Anacardium occidentale (Linn)	Coastal regions very common near the seashore in Konkan, cultivated.		1. Bark 2. Leaves 3. Flowers 4. Fruits	
					- alterative, root is purgative, fruit apple is anti-diarshoeal.
					- It is a good application for cracks of the feet.
					- Oil good for liniments or other external applications.
10. Korphad Korkand	Alge Veera	- Perennial herb - driest & poorest soils - growing wild in Bassein creek		1. Leaves	
					- Tender leaves mixed with powder of cumin seed and sugar candy is an excellent remedy in dysentery with bloody stools.
					- Leaf juice with turmeric is given in grandular enlargement and spleen diseases.

(Table No.7.3 contd.)

1	2	3	4	5	6
11. Ananas	Ananas Sativus Schue	- Hot moist regions along sea coast	1.Roots 2.Leaves 3.Fruits	The juice of the ripe fruit is antiscorbutic also allays gastric irritability in fever. Useful in Jaundice. It also acts as diuretic.	
12. Phanas	Artocarpus integrifolia (Linn)	Rain forests in West Ghats - Konkan - planted along road sides - Sites of deserted villages - grown in gardens	1.Root 2.Leaves 3.Fruits 4.seeds	- used internally in diarrhoea - younger leaves in skin diseases - unripe fruit is astringent. ripe fruit laxative - The juice of the plant is applied externally to granular swelling and abscessite, promote suppuration. - ripe fruit contains vitamin A & C.	
13. Shatawari	Asparagus race mosus	dry deciduous moist monsoon forests, common in Deccan	1.Root	- is refrigernant, demulcent, diuretic and alterative tonic used in diarrhoea, calic & dysentery - root boiled in milk is used as appetisar.	

(Table No.7.3 contd.)

1	2	3	4	5	6
14. Apta (Kancnan)	Bauhinia Tomentosa Linn	Wild & cultivated as ornamental shrub		1.Root bark 2.buds 3.Flowers 4.Fruits	- decoction of the root-bark is administered in inflammation of the liver - used as vermifuge - diuretic. - Seed paste made with vinegar is an efficacious applications to wounds infloated by poisonous animals.
15. Palas	Butea Monosperma	- Mixed monsoon forests		1.Root 2.bark 3.leaves 4.flowers 5.seeds 6.gum	- Cures night blindness & other defects of sight - externally used to disperse boils pimples, tumours - Kino gum used in diarrhoea & dysentery of young children.
16. Tarwad	Cassia Auriculata (Linn)	- growing in black cotton soil & dry stony ground		1.Root bark 2.Leaves 3.Flowers, fruits 4.seeds	- is much used as a spiggle in sore throat. - A decoction of the while plant especially of flower-buds has been tried with good results in diabetes and diuresis.

(Table No.7.3 contd.)

1	2	3	4	5	6
16. contd..					- finely powdered decorticated seeds have been used as a dusting
17. Man Takala	Cassia Sophera (Linn)	uncultivated places		1.Root 2.Bark 3.Leaves 4.Seeds	Bark infusion and powdered seeds mixed with honey are given in diabetes. Root & leaf juice is specific in ringworm when mixed with sanddlwood paste, decoction of the whole plot is said to be useful in diminishing urine.
18. Takala	Cassia Tora	Along roadside and waste grounds		1.Root 2.Leaves 3.Seeds	- Root rubbed into a paste with Lime juice is said to be specific - Leaves & Seeds are a valuable remedy in skin diseases. - The decoction of leaves relieves of feverish attack while teething.
19. Rosha gavat	Cymbo pogon Mastini stapf	Open grass lands, particularly the Deccan trap area		The whole plant	- The oil distilled from the leaves called "Rosha oil" is stimulaent. Carminative and diapheretic and is found useful in flatulence, and

(Table No.7.3 contd.)

1	2	3	4	5	6
---	---	---	---	---	---

19. contd..

spasmodic affections of the bowels.
It is also used in rheumatism and
neu ralgia.

20. Temburni Diospyros - Near Creeks
embryopteris & back waters
pers in the beds of
river & streams
- Konkan, Ghats

1.Wood - used for the intermittent fevers.
2.bark -
3.flowers - used in buliounes & blood diseases
4.seeds - given as astringent in diarrhoea
5.fruits - juice of unripe fruit makes a good
application to fresh wounds.

21. Vavding Embella Konkan
Ribes (Burm)

1.Fruit - It is effective against tape-worm only.
- Few berries in milk given to children
prevent flatulence.

22. Avala Emblica In deciduous
officianalis forests, Konkan
(Gaertn) Western Ghats
& Deccan

1.Root - In the Konkan, Juice of fresh bark
2.Bark with honey & turmaric is given on
3.Leaves gonorrhoea
4.Flowers - Milky juice is good application to
5.Fruits offensive sores.
6.Seeds - Triphala used as laxative and
astringent.

(Table No.7.3 contd.)

1	2	3	4	5	6
22.	contd..				
					- decoction prepared from fruit combined with Hirada/Beheda is useful in chronic dysentery and biliousness.
23.	Moha	Madhuka Indica (Gmel)	deciduous forests - thrives in deccan trap	1.Bark 2.Leaves 3.Flowers	- decoction is astringent & tonic used as remedy for rheumatic affections. - as cooling tonic and nutritive honey from flowers is used in the treatment of cyco diseases. - Dried flowers are used as fomentation in orcnitis for their sedative effect
24.	Shevaga	Moringa Oleifera (Lam)	Cultivated in fields & gardens	1.Root 2.bark 3.Leaves 4.flowers 5.fruits 6.Seeds	- Root juice with milk is useful for administration in asthma, gout, rheumatism. - leaf paste with garlic, turmeric Salt & pepler is given internally in dogbite - Pods useful as vegetable - is used to relieve rheumatic pains.

(Table No.7.3 contd.)

1	2	3	4	5	6
25. Karanj	Pongamia Pinnata (Pierre)	In moist situation along river & nallas	1)Root 2)Bark 3)Leaves 4)Fruit & seeds	- Juice is use for cleansing foul - used internally in ulcers and sores bleeding piles - bath prepared from leaves is used for relieving rheumatic pains. - Oil expressed from seeds is held in high espiem as an application in Scabies, herpes and other cutaneous diseases.	
26. Peru (Jamb)	Psodium Gnayara	- Cultivated in medium soils - Pune Centre	1)Bark 2)Leaves 3)Flowers 4)Fruits 5)Gum	- bark decoction applied with much benefit prolopsus ami of children. Also employed in scurry - mouthwash for swollen gums. - Leaf decoction is given internally in cholera for arresting vomiting and diarrhoes. - leaves when chewed are a remedy in toothache. - leaves are applied locally in rheumatism. - A ripe fruit is a good asperient raw one is used in diarrhoea.	

(Table No.7.3 contd.)

1	2	3	4	5	6
27. Bibla	Pterocarpus Marsu pium (Roxb)	- Akrani, Khandesh - Common in Konkan	1)Leaves 2)Flowers 3)Gum	- Bruised leaves are used in external application to boils, sores and skin disease. - Called kino-administered in diarrhoea - used for tooth ache.	
28. Manjishta	Rubia Cordifolia (Linn)	- Higher ghats - Konkan & in hilly districts	1)Root 2)Leaves 3)Fruit	- Plant is much used in dropsy, paralysis, Jaundice, - Useful in hepatic obstructions. It is regarded astringent and useful as an application in external inflammations, ulcers and skin diseases.	
29. Ritha	Sapindus Trifoliatus (Linn)	- Ever green - monsoon forests, - Konkan	1)Root 2)Fruit 3)Seed	- said to be expectorant - considered tonic - internally emetic nauseant, - externally it is detergent and used in stings and bites of poisonous insects. - fruits are used as substitute for soap.	
30. Agasta	Sesbania Grandi	Cultivated in many parts	1)Root 2)Leaves	- Juice given with honey as an expectarant in catariti.	

(Table No.7.3 contd.)

1	2	3	4	5	6
30. contd..					
		3)Flowers			- Juice of leaves and flowers is a popular remedy in nasal catarrh and headache
		4)Fruits			- flower- juice is squeezed into the eyes to relieve dimness of vision.
		5)Bark			- is recommended as a Tonic.
31. Hirda	Terminaka Chebula Retz	Moist parts & Mansoon forests		1)Bark 2)Fruit	- fruit forms one of the constituents of "Triphala", a valuable preparation used - used in many diseases. - dried unripe fruit is commonly used as purgative and antibilious. It is a popular liver regulator and aperient. - fruits finely powdered is used as a dentifrice, useful in caries of teeth, bleeding and ulceration of gums.
32. Gulvel	Tinospora Cordifolia (Miers)	Growing on mango & other trees		1)Stem 2)Root	- Watery extract is much used as febrifuge and given the name of Indian Quinine. Infusion as a valuable tonic in debilitating diseases, intermittent fever and dyspepsia.

(Table No.7.3 contd.)

1	2	3	4	5	6
33. Bor	Zizyphus Jujuba Lamk	- Open dry forests & dry situations on poor soil in rockh places - abundant in the Deccan.	1)Root 2)Bark 3)Leaves 4)Fruit 5)Seeds	- are tonic - leaves good in stomatitis and gum-bleeding. Heal wounds. cure good in liver complaints. Bark is a simple remedy on diarrhoea - useful in fevers, wounds & ulcers. - Tonic to heart and brain, allays thirst.	

(Source : Gazetteer of Bombay State, Bombay, Part-I - Medicinal Plants.)

The planttion of medicinal plants in the tribal areas should be undertaken in conjunction with the Forest Department / Department of Horticulture and the voluntary organisations operating in the areas.



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by Author "Hill"
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1990 Forest Department, M.S.

MINOR FOREST PRODUCE - IT'S ROLE IN THE LIFE OF TRIBALS- A STUDYSchedule No.1

(For Implementing Officers)

IDENTIFICATION

Name _____ Designation _____

1) Divisional Forest Officer _____ Dist. _____

2) Gen. Manager, T.D.C. _____

3) Regional Manager, T.D.C. _____ Dist. _____

4) Contractor _____

5) Khadi & Village Industries Board :- Name _____

Designation _____

1) What are the important items of M.F.P. procured in the jurisdiction.

1)

2)

3)

4)

5)

2) Collection procedure :- Describe the procedure followed :-

a) Whether M.F.P. is collected through

(1) By the Deptt. personnel :- YES/NO

(2) Contractual basis :- YES/NO

(3) Others :- YES/NO

(Please specify)

b) Whether tribals are engaged in the collection of M.F.P. ?

YES/NO

3) Whether the M.F.P. procured (M.F.P. items are processed) at your end. :- YES/NO

If yes, give details _____

4) a) What is the marketing arrangement of M.F.P. procured by you.

1) Whether sold in the State Trading Corporation :-

2) Other agencies (specify) :-

b) Describe the sale procedure in brief.

5) a) Whether there is a scope to enhance the potential of M.F.P. items, with reference to

1) Production YES/NO

2) Collection YES/NO

b) For which M.F.P. items there exists potential in the area of operation with estimated quantity.

6) What steps do you suggest to increase the potential of important items of M.F.P. items.

7) Do you think that the present marketing system are followed needs overhauling ? YES/NO

8) Do you agree that the present M.F.P. exploitation is not optimum. YES/NO

9) If not, what are the causes of under exploitations of the M.F.P.

10) A) While fixing up the amount of royalty, whether the following points are taken into account.

1) Tentative production of M.F.P. in the T.S.P. area only.

2) Tentative production In General ?

3) Prevailing market rates of M.F.P. at that time.

4) Total expenditure incurred in the collection of M.F.P. for last year.

- B) What other considerations are weighed in the fixation of royalty amount ?
- C) Do you feel that a fair share of royalty should go to the tribal M.F.P. gatherers in addition to their wages ?
- D) If yes, what should be the percentage of royalty distribution to gatherers.
- E) Whether the distribution of royalty share be made either through T.D.C. of your department?
- 11) Whether certain amount has been earmarked for the purchase of M.F.Ps. (special fund) YES/NO
- 12) If no, from what source the expenditure on monopoly procurement meted out.
- 13) Do you think that the monopoly procurement has helped the tribals to fetch optimum/fair price for their forest produce ? If so to what extent ? YES/NO
- 14) What arrangements are made for storage & sale of stock / residue M.F.Ps. left with the tribals ?
- 15) What difficulties do you experience in handling the system of collection/storage/sale of M.F.P.

Date :-

Place :-

Signature of
interviewing
Officer _____

Designatin _____

**"गौण वनोपज" व त्याचा आदिवासींच्या जीवनामधील असलेला सहभाग
एक मुल्यमापन अभ्यास अहवाल**

प्रपत्र - 2

आदिवासी सेवा सोसायटीसाठी पत्रक
गौण वनोपज खरेदी करणा-या

चौक-1

1. संस्थेचे नांव :- -----
2. जिल्हा :- ----- 4. गाव -----
3. तालुका :- ----- 5. पाडा -----

चौक-2 : संस्थेचेसंबंधी माहिती

1. संस्थेची स्थापना : वर्ष :
2. संस्थेचे एकूण सभासद : आदिवासी / बिगर आदिवासी
3. संस्थेचे एकूण भाग भांडवल रुपये :
4. संस्थेच्या कार्यक्षेत्रातील एकूण गावे :
5. संस्थेच्या कार्यक्षेत्रातील गौण वनोपजाचा तपशिल 1. 3.
2. 4.

गौण वनोपजासाठी खरेदी केंद्र संख्या :

6. खरेदी करित असलेले प्रमुख गौण वनोपज
1.
2.
3.
4.
5.
6.
7.
8.

चौक-3

गेल्या 4 वर्षांत खरेदी करण्यात आलेले गौण वनोपज कास्तकरांकडून आदिवासी

वर्ष	बाब	1. गवत	2.	3.	4.
		वजन किंमत	वजन किंमत	वजन किंमत	वजन किंमत
1986-87					
1987-88					
1988-89					
1989-90					

चौक-4

वन खात्याकडून खरेदी केलेले गौण वनोपज

वर्ष	गौण वनोपज वजन किंमत रुपये
1. 1986-87	
2. 1987-88	
3. 1988-89	
4. 1989-90	

चौक-5

वर्षनिहाय सोसायटीला गौण वनोपजाच्या खरेदीपोटी मिळालेले/रॉयल्टी इ.

वर्ष	मिळालेले कमिशन रु.	रॉयल्टी रु.
1. 1986-87		
2. 1987-88		
3. 1988-89		
4. 1989-90		

चौक-6

गौण वनोपनाच्या उपलब्धतेसंबंधी संस्थेच्या काही योजना :-

1. प्रतवारीकरण :
2. प्रक्रिया :
3. साठवणूक :

चौक-7सर्वसाधारण :

1. आदिवासी सभासदांना गौण वनोपजासाठी खरेदी
लाभश देता काय ? होय/नाही
2. नसल्यास का दिला जात नाही :
कारण : 1.
2.
3.
4.
3. आदिवासी गौणवनोपज गोळा करण्याच्या सुविधेबाबत आपल्या
काही योजना राबविल्या जातात काय ? होय/नाही
हत्यारे/साधने पुरविले जातात काय ?
4. इतर माहिती :-

ठिकाण :

दिनांक :

मुलाखत घेणा-या अधिका-यांचे नांव

**"गौण वनोपज" व त्याचा आदिवासींच्या जीवनामधील असलेला सहभाग
एक मुल्यमापन अभ्यास अहवाल**

प्रपत्र - 3

कुटुंब पत्रक

गौण वनोपज गोळा करणा-या कुटुंबासाठी

चौक-1 : ओळख

- | | |
|---|-------------------|
| 1. जिल्हा ----- | 2. तालुका ----- |
| 2. गांव ----- | 4. पाडा ----- |
| 5. कुटुंब प्रमुखाचे नांव ----- | |
| 6. अनुसूचित जमात ----- | 7. पोट जमात ----- |
| 8. कुटुंबाचा प्रमुख व्यवसाय ----- | |
| 9. दुय्यम व्यवसाय ----- | |
| 10. कुटुंब दारिद्र्य रेषेखालील दुर्बल घटक आहे कां ? ----- | |

चौक-2 : कुटुंबाची माहिती

पुरुष स्त्री एकूण

1. कुटुंबातील एकूण व्यक्ती
2. कुटुंबातील मिळवत्या व्यक्ती
3. कुटुंबातील शाळेत जाणारी मुले
4. कुटुंबातील प्रौढ साक्षर व्यक्ती
5. कुटुंबातील प्रौढ निरक्षर व्यक्ती

चौक-3 : कुटुंबाची शेती/पशुधन/गौण वनोपज झाडे इ.

उ अ.

अ.क्र.	बाब	मालकी	खंडाची	जंगल	इतर	एकूण
				खात्याची		

हे. आर. हे. आर. हे. आर. हे. आर. हे. आर. हे. आर.

1. जिरायत
2. बागायत

- 3 ब. कुटुंबाच्या मालकीची
वनोपज देणारी झाडे
- झाडे प्रकार संख्या इतर माल
1.
2.
3.
- 3 क. नवीन झाडांची लागवड
केली आहे काय ?
नसल्यास कां नाही ?
- होय / नाही
- कारणे : 1.
2.
3.
- उड. कुटुंबातील पशुधन
- प्रकार संख्या
1.
2.
3.

चौक-4 : गौण वनोपज जमा व विक्री

1. कुटुंब सहकारी संस्थेचे सभासद आहे काय ? होय / नाही
खावटी कर्ज घेतले आहे काय ? होय / नाही
असल्यास केव्हां व किती ?
2. कुटुंबातील व्यक्ती गौण वनोपज माल गोळा करते काय ? होय / नाही
3. गौण वनोपज माल गोळा करित असल्यास -

पुरुष स्त्री एकूण

अ. किती व्यक्ती त्यामध्ये भाग घेतात ?

आ. किती दिवस काम मिळते ?

महिने ----- दिवस -----

कोणाकडून काम मिळते ?

खा. ठेकेदार ----- शासन -----

सोसायटी -----

इ. किती मजुरी मिळते ?

दर दिवशी ----- मासिक -----

प्रत्येकी -----

- ई. जंगल विभागातून गौण वनोपजापेकी कोणता माल तुम्ही गोळा करता ?
तपशिल 1. -----
2. -----
3. -----
4. -----
- ए. मजुरी शिवाय जादा रक्कम नफा
बोनस/कमिशन स्वरूपात मिळते कां ? होय / नाही
- ऐ. मिळत असल्यास गेल्या हंगामात
किती रक्कम मिळाली ? रु. अंदाजित किंमत रु.
- ओ. 1. तुम्ही व्यक्तीगत गोळा केलेला
गौण वनोपज कोणास विकता ? बिगर आदिवासी
1. व्यापारी
2. आदिवासी व्यापारी
3. महामंडळ खरेदी केंद्र
4. सोसायटी सेवासह
5. इतर
2. विकून काही माल शिल्लक
राहिल्यास त्याची साठवणूक
किंवा विनियोग कसा करता ?
- ओ. जर व्यापा-यास विकत असाल तर होय / नाही
त्याचेकडून सोदे पोटी आगाऊ रक्कम
स्वीकारता कां ?
होय असल्यास -
- क. अ. गेल्या हंगामात किती रक्कम
खाजगी व्यापा-याकडून आगाऊ
मिळाली. रु.
ब. किती माल खाजगी व्यापा-यांना
विकला. रु.

- ख. खाजगी व्यापारी आपण गोळा केलेल्या
गौण वनोपजास योग्य भाव देतात
असे आपणास वाटते कां ? होय / नाही
- ग. नसल्यास का देत नाहीत ? कारणे -
1. -----
 2. -----
 3. -----
 4. -----
 5. -----
- च. तुम्ही गोळा करित असलेले गौण
वनोपज एकाधिकार खरेदी योजनेत
येत नसेल तर तसा समावेश करण्या-
बाबत तुमचे मत काय ?
- छ. आदिवासी महामंडळाकडून गौण
वनोपज खरेदीबाबत आपला अनुभव
1. मालाचे योग्य माप/वजन -----
 2. मालाचा योग्य भाव -----
 3. ठराविक वेळेमध्ये मालाची
विक्री रक्कम हाती येते कां ? -----
 4. माल विकल्याबरोबर मालाची
चिठ्ठी वजन व पैसे ताबडतोब
मिळतात काय ? होय / नाही
 5. नसल्यास किती दिवसांनी
पैसे हाती येतात. -----
 6. इतर माहिती

चौक-5 : गौण वनोपज साठवणूक अडीअडचणी

5. 1. गौण वनोपजामध्ये गोळा करण्यात, त्या
साठविण्यासाठी, विकण्यासाठी तुम्हाला काही
अडचणी येतात का ? असल्यास त्या नमूद करा.
2. वरील अडचणी दूर करण्यासाठी कोणत्या
प्रकारच्या सहाय्याचा/मदतीची तुम्हाला
आवश्यकता आहे ?

3. तुम्ही गोळा करित असलेल्या गौण वनोपजापासून -----
 नवीन घंटे काही सुरु करता येतील कां ? असे -----
 तुम्हाला वाटत असल्यास स्पष्ट करा. -----

कुटुंबाचे वार्षिक उत्पन्न साधनानुसार सन 1989-90

अ.क्र.	उत्पन्नाचे साधन	मिळालेले उत्पन्न रु.
1.	शेती	-----
2.	शेतमजूरी	-----
3.	इतर मजूरी	-----
4.	जंगलकाम मजूरी	-----
5.	गौण वनोपज गोळा करण्यापासून मजूरी	-----
6.	गौण वनोपज माल विक्री स्वतःच्या मालकीचे	-----
7.	जंगल माल विक्री स्वतःच्या मालकीची	-----
8.	व्यवसायापासून -	-----
	1. दुधदुभते	-----
	2. नोकरी	-----
	3. इतर	-----
	एकूण उत्पादन	-----

दिनांक : ----- पत्रक भरणा-या
 ठिकाण : ----- अधिका-यांचे नांव -----
 हुद्दा -----

