

# PEOPLE'S BIODIVERSITY REGISTER: ILLUSTRATIVE TABLES FOR METHODOLOGY MANUAL

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Ych kriyavan, sapanditch: True learning entails action.

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This supplement to the Methodology Manual provides illustrative examples, largely based on actual data, from four localities where PBR exercises have progressed substantially; (a) Mala village in Udupi district of Karnataka, (b) Bada-Yermal village in Dakshina Kannada district of Karnataka, (c) Mendha-Lekha village in Gadchroli district of Maharashtra, and (c) Pune city in Maharashtra.

### **1.1 Common data elements:**

All PBR tables would pertain to some locality:

Name of the locality	Pin-code

Each row of all tables would include the following columns pertaining to data collection, access and validation:

Date of data collection	Data collector ID	Access of information: 1. Open to all, 2. Restricted	If restricted, Conditions under which access would be permitted

Data validation 1:			
Date	Validator ID	Decision: 1. Confirm, 2. Revise, 3. Reject	Database manager response: Agree, Disagree

Data validation 2:			
Date	Validator ID	Decision: 1. Confirm, 2. Revise, 3. reject	Database manager response: agree, disagree

Data validation 3:			
Date	Validator ID	Decision: 1. confirm, 2. revise, 3. reject	Database manager response: agree, disagree

Data validation 4:			
Date	Validator ID	Decision:	Database

		1. confirm, 2. revise, 3. reject	manager response: agree, disagree

Form 0 for Mala: Details of locality and study team:

1	Locality of exercise	Mala Panchayat
2	Village/ city name :	Mala
3	Type of Local body :	Gram Panchayat, Mala
4	Name of the Local body:	Mala Gram Panchayat
5	Pin Code of principal post office within study area	574 123
6	Taluk	Karkala
7	District	Udupi
8	State	Karnataka
9	Languages for primary education	Kannada
10	Spoken languages	Tulu and Kannada

### Study Team

Sr. No.	Name of the Participant	Role in the PBR process	Time Period	
			From	To
1	Madhav Gadgil	Project Director	2000	2003
2	K.P. Achar	Project Co-ordinator	2000	2003
3	Shrikant Gunaga	Project Assistant	2000	2003
4	Sivan V.V.	Project Assistant	2000	2003
5	Subramanyan K.A.	Project Assistant	2000	2003
6	M.B. Naik	Field Assistant	2000	2003
7	Shridhar Patagar	Field Assistant	2000	2003
8	Jayanthi Shetti	Science Teacher	2000	2003
9	Madhav Marate	Social Worker	2000	2003

**1.2 Form 1.1 for Bada-Yermal: Activities of local people, especially those linking them to the natural resources (Group discussions)**

	<b>Category of Activities/ specific activities</b>	<b>Whether a significant activity(Y/N)</b>
<b>1</b>	<b>Gathering of forest /shellfish produce</b>	
	Cashew nut collection	N
	Fuelwood collection	Y
	Litter collection	Y
	Medicinal plants collection	N
	Climbers collection	N
	Grass collection	Y
	Collection of Karanda (Carissa carandas)fruits for pickle	N
	Shellfish collection	Y
<b>2</b>	<b>Fishing / Hunting</b>	
	Fishing	Y
	Fishing nets weaving	Y
<b>3</b>	<b>Agriculture/Horticulture</b>	
	Agricultural/Horticultural labour	Y
	Coconut saplings planting	Y
	Driving monkeys	N
	Irrigating orchards	Y
	Preparing organic manure	Y
	Fencing	N
	Making scarecrows	N
	Guarding agricultural fields at night	N
	Removing weeds from the fields and orchards	Y
	Spraying pesticides onto the agricultural crops	Y
	Harvesting coconut	Y
	Harvesting paddy	Y
	Separation of paddy grains	N
	Making bundles of paddy hay	N
	Adding fertilizers to fields	Y
	Mudi' (Storing paddy grains) making	N
	Drying paddy	N
	Channelizing water from ponds for the cultivation	N
<b>4</b>	<b>Animal husbandry</b>	
	Rearing cattle (Dairy)	Y
	Rearing chicken (Poultry)	Y
	Making cattle shed	N
	Making poultry shed	N
	Collection of fodder	Y

	Collection of green leaves	N
<b>5</b>	<b>Labour in unorganized sector</b>	
	Sand mining	Y
	House construction	N
	Road construction	N
	Cleaning the surroundings	N
<b>6</b>	<b>Craft in unorganized sector</b>	
	Brooms making	N
	Making serving spoons from coconut shells	N
	Basket weaving	Y
	Mat weaving	Y
	Carpentry	N
	Blacksmithy	N
<b>7</b>	<b>Service in unorganized sector</b>	
	Rice mill labour	N
	Bidi rolling	Y
<b>8</b>	<b>Trade in unorganized sector</b>	
	Fish selling	Y
	Agricultural/Horticultural products trading	Y
	Trading woven coconut leaves	N
	Dry fish selling	Y
<b>9</b>	<b>Employment in organized sector</b>	
	Government employees	Y
<b>10</b>	<b>Service in organized sector</b>	
	Lawyer	Y
<b>11</b>	<b>Manufacture in organized sector</b>	
	Coir rope making	N
<b>12</b>	<b>Trade in organized sector</b>	
	Fish trading	Y
	Toddy trade	Y
	Sand trading	Y
	Horticultural products trading	Y
<b>13</b>	<b>Seeking recreation/religious experience</b>	
	Serpent worship (Nagaraadhana)	N
	Devil worship (Bhootharaadhana)	N
	Sacred bath in sea	N
	Cock fighting	Y
	Buffalo race	Y
	Swimming in sea	N
	Beach walking	Y

**1.3 Form 1.2 for Mala: Activities of outsiders, with special emphasis on those linking them to the natural resources (Group discussions)**

	Category of Activities/ specific activities	Whether a significant activity
1	<b>Gathering of forest/shellfish produce</b>	
	Mushroom collection	N
	Medicinal plants collection	Y
2	<b>Fishing / Hunting</b>	
	Fishing	N
	Hunting wild animals	N
3	<b>Agriculture</b>	
	Agricultural labour	Y
	Rubber plantation labour	Y
5	<b>Labour in unorganized sector</b>	
	Sand mining	Y
	Construction labour	N
7	<b>Service in unorganized sector</b>	
	Dispensing folk medicine	N
8	<b>Trade in unorganized sector</b>	
	Food grains trading	N
	Grass trading	Y
	Dry fish selling	N
9	<b>Employment in organized sector</b>	
	Agricultural assistant	Y
	Teachers	Y
10	<b>Service in organized sector</b>	
	Medical practice	Y
12	<b>Trade in organized sector</b>	
	NTFP trading	Y
	Fertilizers trading	Y
	Toddy trading	N
	Sand trading	Y
13	<b>Seeking recreation / religious experience</b>	
	Performing folk art	Y
	Participating in Cock fights	Y
14	<b>Effluent generation</b>	
	Discharging of Kudrmukha Iron Ore Co Ltd slurry	Y

**1.4 Form 2.1 for Bada-Yermal: Composition of Local User Groups**

Sr. no.	User Group Name	Associated Significant Activities	Approximate no. of individuals involved including dependents	Languages

1	Fishermen	Fishing	1400	Tulu
		Fishing nets weaving		
2	Agriculturists	Cultivation	400	Tulu
		Making organic manure		
		Making scarecrows		
		Watching agricultural fields in the night		
		Removing weeds from the fields and orchards		
		Spraying pesticides to the agricultural crops		
		Harvesting paddy		
		Separation paddy grains		
		Putting fertilizers to fields		
		Mudi' (Storing paddy grins) making		
		Drying paddy		
		Driving water from ponds for the cultivation		
3	Horticulturists	Horticulture	1150	Tulu
		Coconut saplings planting		
		Putting water to the orchards		
		Putting soil to the plants		
		Making organic manure		
		Removing weeds from the fields and orchards		
		Harvesting coconut		
4	Agricultural and Horticultural labourers	Agricultural/Horticultural labourer	425	Tulu

### ***1.5 Form 2.1 for Pune city: Composition of Local User Groups***

<b>Sr. no.</b>	<b>User Group Name</b>	<b>Associated Significant Activities</b>	<b>Approximate no. of individuals involved including dependents</b>	<b>Languages</b>
1	Fishermen	Fishing	140	Katkari, marathi
		Hunting birds		
2	Roadside vendors	Selling a variety of relatively cheap articles or undertaking cycle repairs, etc.,	4000	Marathi, hindi,



		generally under shade of an avenue tree		gujarathi etc
3	Retail sellers of farm, fish and forest produce	Selling biological produce	10000	Marathi, hindi, gujarathi etc
		Purchase of biological produce from wholesale markets		
4	Organized sector sellers of farm, fish and forest produce	Selling biological produce through permanent establishments like timber merchants  Purchase of biological produce from wholesale dealers, government agencies etc	1000	Marathi, hindi, gujarathi etc
5	Organized sector engaged in processing of biodiversity like pharmaceutical companies	Purchase of biological produce from wholesale dealers, government agencies etc	2000	Marathi, hindi, gujarathi etc
		Processing of biological produce		
6	People whose livelihood is not directly related to biodiversity, but who enjoy nature	Marketing of value added products  Lobbying for protection of biodiversity rich localities such as hills, rivers and lakes	50000	Marathi, hindi, gujarathi etc
7	People whose livelihood is not directly related to biodiversity, and who are indifferent to nature		3000000	Marathi, hindi, gujarathi etc

### 1.6 Form 2.2 for Bada-Yermal: Description of External user groups

Sr. no.	User Group Name	Associated Significant Activities	Approximate no. of Individuals(I)/villages(V)/nomadic groups(N) involved including dependents		Languages
	Foreign Fishing company	Fishing	I	Not known	Japaneese, Korean
	Fishermen	Fishing	I	300	Malyalam, Kannada
	Sand miners	Sand Mining	I	10	Kannada, Tulu
	Tourists	Tourism	I	Not known	

Fishing labourers	Fishing, Nets weaving	I	75	Kannada, Tulu
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**1.7 Form 2.3 for Mendha-Lekha: Drivers and impact of (Local / External) user groups (Group discussions)**

Sr. No.	Local / External User Group name	User group code	Primary agent - who is primarily responsible for the activity	Secondary agent - who is responsible for execution of activity	Tertiary agent - who actually works on ground	Significant activities	Extent of Influence on ecosystem services	Effect
1	Bamboo collectors (external)		Paper mill	Paper mill contractors	Bamboo harvest labourers	Collection of fuelwood, mahua, gum, medicinal plants	Moderate	Negative
2	Graziers (local)		Cattle owners		Cattle graziers	Cattle grazing, Collection of fuelwood,	Moderate	Negative

**1.8 Form 2.4 for Mala: Recording the movement of Nomadic populations**

1	<b>Local name of the Group :</b>	Sillekyataru
2	<b>Nomad type :</b>	Traditional nomadic, non-pastoral
3	Place where registered as voters	
	<b>a. Village/ Panchayat :</b>	Ravuru meenu camp
	<b>b. Taluk :</b>	N.R.Pura
	<b>c. District:</b>	Chikmagalore
	<b>d. PIN</b>	
	<b>e. State:</b>	Karnataka

4	Composition :	
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POI community	No of males	No of females
	9	6

5m Movement in last ten years :									
	PIN of the nearest PO	Name of the village & district	Distance from habitation	Name of LSE / WSE of stay as reported by members of nomadic population	Frequency of visits Options: Daily/weekly/fortnightly/monthly/bi-monthly/quarterly/half-yearly/yearly/not regular	Duration of Stay in days	From month /nakshatra	To month /nakshatra	Significance of the locality for their livelihood
		Lakkolli dyam Shimoga	40 Km	Nadi	Monthly	15	Oct	Nov	Fish
		Kundapur Udupi	200 Km	Nadi	Yearly	7	Nov	Dec	Fish
		Hebri Udupi	150 Km	Nadi	Yearly	7	Nov	Dec	Fish
		Balehonnu r Chikmagal ore	75 Km	Nadi	Yearly	7	Nov	Dec	Fish
		Kadari Udupi	100 Km	Hole	Yearly	7	Nov	Dec	Fish
6	<b>Any other relevant information :</b>				One of the nomadic fishing communities of Karnataka				

**1.9 Form 3.1 for Bada-Yermal: List of Knowledgeable individuals: local**

Sl. No.	Name	Age group	Sex M/F	User Group Local	Expertise - related to biodiversity
1	Sri Sashidhar Shetty	51-60	M	Agriculturist	Agriculture
2	Sri Suresh M. Suvarna	31-50	M	Fishermen	Fishing
3	Sri Ravi M. Kotian	51-60	M	Fishermen	Fishing
4	Smt. Sesu N. Bangera	31-50	M	Fishermen	Fishes

5	Smt. Jayanthi Kotian	31-50	F	Fishermen	Fishes
6	Smt. Parvathi	51-60	F	Craftsmen	Folk-Medicine
7	Smt. Appi Belchada	31-50	F	Agriculturist	Folk-Medicine
8	Sri Umar Byari	51-60	M	Trader	Fish Trading
9	Sri Aitha Mugeru	31-50	M	Agricultural labour	Basket weaving
10	Smt. Malathi	31-50	F	Agricultural labour	Basket weaving

**1.10 Form 3.2 for Bada-Yermal: List of Knowledgeable Individuals: external (Group discussions)**

Sl. No.	Name	Age group	Sex M/F	User Group external	Expertise - related to biodiversity
1	K.P.Achar	60 above	M	Researcher	Zoologist
2	Karunakar Shetty	31-50	M	Social Worker	Ecological history
3	M.B.Naik	31-50	M	Researcher	Plant specialist
4	Shridhar Patagar	31-50	M	Researcher	Fish specialist

**1.11 Form 4.1 for Mala: LSE/ WSE types and subtypes (group discussions)**

Sl. No.	LSE/WSE type (from the standard list)	Local name of the type	LSE/WSE sub-type	Local name of the sub-type	LSE/ WSEs included	Name of associated User group(s)
1	Grassland	Hullugavalu	1.0	Hullugavalu	3	Dairy owners
2	Scrub-land	Kuruchalu kaadu	4.0	Kurucalu kaadu	12	Labourers
3	Forest	Kaadu	5.1	Hasiru Kaadu	2	NTFP collectors, Herbal healers, Horticulturists
4	Forest	Kaadu	5.2	Arenitya Haridhvna Kaadu	4	NTFP collectors, Herbal healers, Horticulturists
5	Paddy field	Gadde	6.0	Bhattada Gadde	25	Agriculturits

6	Plantation/Orchards	Neduthopu/Tota	7.1	Adike tota	30	Horticulturists
7			7.3	Rubber neduthopu	10	Rubber cultivars
8	Habitation	Janavasathi pradesh	9.0	Janavasathi pradesh	10	All usergroups
9	Streams/River	Tore/Nadi	11.1	Tore	6	Fishermen, Horticulturists, Agriculturists
			11.2	Hole	1	Fishermen, Horticulturists, Agriculturists

### 1.12 Form 5.1 for Mala: Locally known life-forms

Sl. No.	Type of organism	Local name of species	Scientific name	Person providing Scientific name	Local name of varieties of domesticated plants/ animals	Taxonomic species group	Language employed	Local value	Major uses	Major diseases	Selected as a focal species	Selected as a focal species	Selected as a focal species	Selected as a focal species
1	Flowering plants	Nayitulasi	Ageratum conyzoides	Shrikant			Tulu	4		Weed	Y	N	N	Y
2	Flowering plants	Gugguladhoo	Ailanthus malabarica	Shrikant			Tulu	1	Dhoo	No	N	N	N	Y
3	Flowering plants	Halsu /	Artocarpus	Shrikant			Kannada	1	Edible	No	N	Y	N	Y

	plant s	Pela	heterop hyllus											
4	Flow ering plant s	Dhoo ma	Dipter ocarpu s indicus	Shrika nt			Tulu	2	Timb er	No	Y	N	N	N
5	Flow ering plant s	Kam yunis t	Eupato rium odorat um	Shrika nt			Tulu	4	Medi cinal	Wee d	Y	Y	N	Y
6	Fish	Purio lu	Mastac embelu s armatu s	Shridh ar Patagar			Tulu	1	Food	No	Y	N	N	Y
7	Fish	Mug udu	Clarius batrach us	Shridh ar Patagar			Tulu	1	Food	No	Y	N	N	Y
8	Fish	Mad anji	Chann a maurul ius	Shridh ar Patagar			Tulu	1	Food	No	Y	N	N	Y
9	Repti le	Kalin ga	Ophiop hagus hunnah	Dr. Achar			Kannada	1	Sacre d	Poiso nus	Y	N	N	N
10	Repti le	Kere havu	Ptyas mucos us	Dr. Achar			Kannada	1	Natu ral Pest contr iller	No	Y	N	N	N
11	Repti le	Naga rahavu	Naja naja	Dr. Achar			Kannada	1	Sacre d	Poiso nus	Y	N	N	N
12	Repti le	Uda	Varanu s bengal ensis	Dr. Achar			Tulu	2	Food	No	Y	N	N	N
13	Mam mal	Pili	Panthe rea tigris	Dr. Achar			Tulu	1	Sacre d	Nuis ance	Y	N	N	Y
14	Mam mal	Kaad Hand i	Sus scrofa	Dr. Achar				4	Meat	Nuis ance	N	N	N	Y
15	Mam mal	Sing aleek a	Macac a lupus	Dr. Achar			Tulu	2	Sacre d	No	Y	N	N	N
16	Flow ering	Akki	Oryza sativa	Shrika nt	Gandhas ale		Tulu	1	Food		Y	Y	Y	Y

	plant s			Gunag a										
17	Flow ering plant s	Akki	Oryza sativa	Shrika nt Gunag a	Dudri		Tulu	1	Food		Y	Y	Y	Y
18	Flow ering plant s	Akki	Oryza sativa	Shrika nt Gunag a	Atikarya		Tulu	1	Food		Y	Y	Y	Y

**1.13 6.1: Functional species- groups Bada-Yermal**

S l. No.	Functional species groups (e.g. fuelwood sps., leaf manure sps, game birds.) for further study	Local names of Specie s involv ed if any	Loca l nam es of Vari ety involv ed if any	Lan guag e employ ed	Loca l value	Maj or uses	Maj or disu ses	Select ed as a focal functi onal specie s group (abun dance) Y/N	Select ed as a focal functi onal specie s group (uses) Y/N	Sele cted as a focal functi onal speci es group s (ecol ogic al know ledge) Y/N	Select ed as a focal functi onal specie s group (mana gemen t) Y/N
1	2	3	4	5	6*	7	8	9	10	11	12
1	Fuelwood	Sarolu		Tulu	Great	Fuel woo d	No	Y	Y	N	Y
		Olleko di		Tulu							
		Maruv a		Tulu							
2	Bivalves	Kadalu maruva yi		Tulu	Great	Foo d, Lim e	No	Y	Y	Y	Y
		Maruy avi		Tulu							



### 1.14 Form 7.1a for Mala: Background information -1

Sr. No.	Information Head	Information
1	Total area (hect)	4703
1a	Irrigated agriculture area (hect)	138
1b	Rainfed agriculture area (hect)	596
1c	Total agricultural area (hect)	734
2	Revenue Land (hect)	
2a	Total patta land (ha) -	184
2a	(i) Total revenue land (ha)-	
2a	(ii)Streams-	249.68
2a	(iii)Roads-	129.2
2a	(iv)Sea Coast	
2b	Community land (ha)-	
2c	Habitation (ha)-	61
2d	Other land (ha)-	
	e.g. Sacred Grove-	9.2
	e.g. Salt marshes (Gajani land) -	
3	Forest Land (hect)	
3a	Reserve Forests	
3b	Protected Forests	
3c	Protected Area	
3d	Village Forests	
3e	JFM/PFM/CFM	
3f	Usufructory rights land / waterscape	
3g	Total Forest area :	2336
4	Prohibited area (hect):	
5	Coastal Regulation Zone area (hect) if applicable	
6	No. of Wells :	646
7	Average depth of the wells (mts)	Max. 50      Min. 30
8	No. of bore wells :	46
9	Average depth of the bore wells (mts)	Max. 75      Min. 50
10	No.of houses :	1221
11	Total population (2001 census) :	5331
12	Total numbers of domestic animals:	1) Cattle- 320

		2) Buffalo-36
		3) Chiken - more than 1000
*explanatory note: Prohibited areas are areas such as those under the control of defence services		
JFM/PFM/CFM - Joint forest management, participatory forest management, community forest management		

**1.15 Form 7.1b for Bada-Yermal: Background information – 2**

<b>13</b>	<b>Languages</b>	<b>Spoken</b>	<b>Medium of instruction</b>		
	Kannada	Kannada	Kannada		
	Tulu	Tulu			
	Urdu	Urdu			
	Konkani	Konkani			
<b>14</b>	<b>Lakes &amp; Tanks</b>	<b>Name of the tank/lake</b>	<b>Area (ha)</b>	<b>Ownership - Govt./ Private</b>	<b>Current year' s auction value</b>
		Kattingeri	7 ha	Government	Auction did not take place
		Padukere (Kola)	2 ha	Government	Auction did not take place
		Majalakatte kere	0.5 ha	Government	Auction did not take place
		Muchil kere	0.5 ha	Government	Auction did not take place
<b>15</b>	Communities of the village: Mogaveera, Bunts, Billavas, Jains, Shivalli Brahmins, Vishwakarma, Byari's, Christians				
<b>16</b>	Educational / Scientific/ Technical Institutions in the village :	<b>Sl. No.</b>	<b>Name of the institution</b>	<b>Contact person</b>	<b>Designation</b>
		1	Saraswati Elementary School	Smt. Sarojani	Head Mistress
		2	Zilla Panchayat Higher Primary School	Prakash	Head Master
		3	Mahalakshmi English Medium Primary School	Smt. Jinraj Saiyan	Head Mistress
		4	Vidhya Prabhodhini Elemenray School	Smt. Jayalakshmi	Head Mistress
<b>17</b>	Facility of electronic media and equipments at study locality	<b>Sr. No.</b>	<b>Name of the media / Equipment</b>	<b>Owner</b>	<b>Note - Number in case of phone or configuration of computer</b>

**1.15.1.1 Form 7.1c for Bada-Yermal: Background information – 3**

18	<b>Voluntary organizations of the village</b>	<b>Sl. No.</b>	<b>Name of the institution</b>	<b>Name of the contact person</b>	
			Bhaskar Nagara Yuvaka Mandala® - Uchila	Chandrashekhar Shetty	
			Sridevi Mahila Mandala ® -Uchila	Smt. Shakuntala	
			Srinidhi Mahila Mandala ® - Yermal (Padu)	Smt. Sheela K. Shetty	
			Sadhana Yuvathi Mandala ®	Smt. Sujatha	
19	Major crops and crop products:	<b>Sl. No.</b>	<b>Name</b>	<b>Estimated quantity</b>	
			Paddy	500 tonnes	
			Coconuts	100000 nuts	
20	Major animals and animal products	<b>Sl. No.</b>	<b>Name</b>	<b>Estimated quantity</b>	
21	Significant forest produces	<b>Sl. No.</b>	<b>Name of the significant forest produces</b>	<b>Quantity recorded</b>	<b>self consumption/Commercial use</b>
22m	Significant fish productions	<b>Sl. No.</b>	<b>Names of the significant fishes</b>	<b>Quantity recorded</b>	<b>Type of fishing crafts</b>

Voluntary organizations may be Co-operative societies, self help groups, Yuvak & Yuvathi mandalis, Active NGOs

**1.16 Form 7.1d for Bada-Yermal: Background information – 4**

23m	<b>Significant estuarine &amp; marine productions</b>	<b>Sl. No</b>	<b>Significant produce - name</b>	<b>Quantity recorded</b>	<b>Catching crafts</b>	<b>Nearest ports</b>
			Bangude		Nets, Trawlers, Traditional Boats	Mulki (10 Km)

			Bhutayi		Nets, Trawlers, Traditional Boats	
			Anjal		Nets, Trawlers, Traditional Boats	
			Torake		Nets, Trawlers, Traditional Boats	
			Bili Manji		Nets, Trawlers, Traditional Boats	
			Madamal		Nets, Trawlers, Traditional Boats	
			Adai		Nets, Trawlers, Traditional Boats	
			Sorake		Nets, Trawlers, Traditional Boats	
			Balyar		Nets, Trawlers, Traditional Boats	
			Balanjir		Nets, Trawlers, Traditional Boats	
24	<b>Source &amp; extent of pollution of</b>	<b>Source</b>			<b>Extent</b>	
	Air	Vehicles			Great	
	Water	Boats & Petrochemical Company			Great	
	Sound	Vehicles			Great	
	Soil	Chemical fertilizers, Pesticides			Great	
25	Prevalence of water borne or vector borne diseases.	Malaria, Gastroenteritis				
26	Minerals available	<b>Sl. No.</b>	<b>Type of mineral</b>		<b>Area of mining or quarrying</b>	
		1	Silica Sand		50 ha	

**1.17 Form 7.2 for Mala: Historical and cultural information (group discussions, study of documents, field observations)**

1. Village history:	Mala village is situated in the foot hills of Western Ghats of Karkala taluk of Udupi district. Geographically it has 11614 acres of land. Mala village is rich in biodiversity mainly consists of Evergreen and Semi-evergreen forest towards east running like a wall. Agriculture and Horticulture is the main occupation of the village. Most of the labourers are engaged in Bidi rolling. Ecological history of Mala village could be traced back upto 300 years. The major benchmarks in the ecological history of recent past pertaining to Mala village include the Land Reform Act of 1974 and the declaration of Kuduremukh National Park in 1987.
2. History of immigrants:	Malekudiyas are the indigenous tribes. They are shifting cultivators. The Chitpavan Brahmins probably immigrated to Mala about 300-400 years ago from the neighboring states of Maharashtra and Goa. They settled along the foothills of Western Ghats and must have started cultivating arecanut and became horticulturists. Jains also immigrated to the village about 300-400 years ago from northern India. 30 years back Maliyali Christians have immigrated to the village from Kerala and introduced Rubber cultivation to the village.
3. History emigrants:	Lingayaths (Jangamas) were settled in the place called Mata about 300 years back. They have emigrated from the village before the arrivals Jains. Forces responsible for their emigration from Mala village in the distant past are unknown.
4. Folk dances of the village in relation to biodiversity:	Bhotada Kola, Nagabana worshipping, Tulu padadhana, Yakshagana, Kambala (Buffalo race), Koli anka (Cock fight) etc.

**1.18 Form 8.1 for Bada-Yermal: Key concerns (group discussions)**

Sl. No.	Issues	Interested User groups	Associated LSEs/ WSEs	Associated species	Associated species groups/ functional species groups	Associated varieties
1	Uncontrolled use of water, exhausting ground water	Horticulturists	Orchards	Areca, Coconut		
2	Reduction in soil fertility and use of chemical	Agriculturists	Paddyfields		Paddy	

	fertilisers and insecticides					
3	Loss of paddy cultivation due to lack of profits leading to loss of traditional cultivars.	Agriculturists	Paddyfields			Traditional cultivar
4	Depletion of marine fish production due to over harvest, fishing during breeding season & by mechanized fishing crafts	Fishermen	Sea		Fishes	

**1.19 Form 9.1a for Mala: Landscape status and dynamics (Group discussions)**

1	Name of LSE type as a whole:		Forest (5)
2	Local Name/s (if any):		Kaadu (Aranya)
3	LSE sub-type :		Evergreen forest (5.1)
	Local Name/s (if any):		Hasiru Kadu
4*	Topography:		Steep slope
5	Total area (ha):		350
6	Trend in change in area over past 10 years:		Substantial decrease
	a) Immediate reason & motivation:		Forest fire- for better growth grass & elimination of communist weed
	b) Long term reason & motivation:		Encroachment and overuse of resources - Competition
7*	Trend in change in vegetation strata over past 10 years	Big trees:	Substantial decrease
		Shrubs:	Substantial decrease
		Ground cover:	Moderate increase
	a) Immediate reason & motivation:		Forest fire- for better growth grass & elimination of communist weed
	b) Long term reason & motivation:		Encroachment and overuse of resources - Competition
8	Significant activities:		NTFP collection, Med. Plants collection, Timber collection, Use of stream water for orchards

9	Goods & Services:		NTFPs, Med. Plants, Timber, water
10	User groups gaining most from goods & services	Local groups:	NTFP collectors, Herbal healers, Horticulturists
		External groups:	NTFP traders, Herbal healers
11	Change in goods & services:		Canes are substantially decreasing, NTFPs, MED. Plants are moderately decreasing, Streams are drying
	a) Immediate reason & motivation:		Unsustainable use of resources- Competition
	b) Long term reason & motivation:		Harmful collection of resources- Competition
12	Bads & disservices:		Menace of wild animals
13	User groups affected most from bads & disservices	Local groups:	Horticulturists, Agriculturists
		External groups:	Nobody
14	Change in bads & disservices:		Raiding of wild animals are increasing due to the loss of forest. Due to the loss of forest cover seepage of water into the ground has reduced as a result streams coming from the forests are drying.
	a) Immediate reason & motivation:		Cultivation near to forest land by encroachment- Demand for arecanut
	b) Long term reason & motivation:		Shrinking of forest cover (Habitat)

Options 4\* - Topography

1. Plain
2. Undulating
3. Hilly
4. Moderate slope
5. Steep slope

Options 7\*Trend

1. Substantial increase
2. Moderate increase
3. Little / No change
4. Moderate decrease
5. Substantial decrease

### ***1.20 Form 9.1b for Mala: Landscape management (group discussions)***

1	Name of LSE type as a whole:		Forest (5)
2	Local Name/s (if any):		Kaadu (Aranya)
3	LSE sub-type :		Evergreen forest (5.1)
4	Local Name/s (if any):		Hasiru kaadu
5	Existing management authority:		Forest Department
6	Existing management system:		National park
7	Gainer User groups	Local groups:	Department
		External groups:	Nobody
8	Loser user groups	Local groups:	NTFP & Med. Plants collectors, Agriculturists, Horticulturists
		External groups:	Nobody
9	Other management patterns prevalent in recent past:		Reserve forest

	User groups	Desired changes / desired future:	Desired management system from the perspectives of different user groups	Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha:
10				
1	NTFP collectors	Must protect	* Those using harmful method collection must not give permission to collect NTFPs. * For the management of NTFPS, from the department there should be separate committees regarding this. NTFP collectors must be registered & identity card must give them.	Only sustainable collectors must be given permission to collect NTFPs.
2	Folk medicinal practitioners	Must protect	* Outsiders must regulate. * Vanishing med. Plants must be documented. * Medicinal plants garden must develop in the village.	Only village folk medicine practitioners allow to collect med. Plants sustainably.
13	Code numbers of focal elements selected for further study as marked on the map:			5.1.1 & 5.1.2

**1.21 Form 9.2a for Mala: Waterscape status and dynamics (Group discussions)**

1	Name of WSE type as a whole:	Stream/River (11)	
2	Local Name/s (if any):	Nadi	
3	WSE sub-type- Local Name/s (if any) :	River (11.1)	
4	Local Name/s (if any):	Hole	
5	Total length of stream / river (mtrs)	5000	
6	Trend in change in length over past 10 years:	No	
	a) Immediate reason & motivation:	No	
	b) Long term reason & motivation:	River originates in the village itself	
7	Water spread area of the tank/pond/lake (ha)		
8	Trend in change in water spread area over past 10 years:		
	a) Immediate reason & motivation:		
	b) Long term reason & motivation:		
9	Availability of water (No. of days) for WSE:	250 days	



10	Trend in change in availability of water over past 10 years:	Substantially decreasing	
	a) Immediate reason & motivation:	Increase in usage of water for agriculture & horticulture- High demand for agriculture	
	b) Long term reason & motivation:	Decrease in rainfall & catchment area - Loss of forest cover	
11	Change in flora & fauna over past 10 years	Substantially decreasing	
	a) Immediate reason & motivation:	Increase in usage of pesticides & chemical fertilizers in agriculture & horticulture & also use of dynamites in fishing	
	b) Long term reason & motivation:	Over harvest, siltation & fall in the flow of water	
12	Significant activities:	Fishing, Sand mining, lifting of water for horticulture & agriculture	
13	Goods & Services:	Fish, Sand, Water	
14	Gaining User groups most from goods & services	Local groups:	Agriculturists, Horticulturists
		External groups:	Fishermen
15	Change in goods & services:	Madenji, mugudu, Puriolu, Bale fishes are substantially decreasing. Water dries up in the early summer.	
	a) Immediate reason & motivation:	Increase in usage of pesticides & chemical fertilizers in agriculture & horticulture & also use of dynamites in fishing	
	b) Long term reason & motivation:	Over harvest, siltation & fall in the flow of water	
16	Bads & disservices:	Floods are common in monsoon & its increasing & decrease in the availability of water, Depletion of fish productions	
17	Most affected user groups from bads & disservices	Local groups:	Horticulturists & Agriculturists
		External groups:	Fishermen
18	Change in bads & disservices:	Floods increasing drying up of water in early summer	
	a) Immediate reason & motivation:	Increase in agri & horticultural activity	
	b) Long term reason & motivation:	Due to loss of forest cover flood is increasing	

**1.22 Form 9.2b for Mala: Waterscape management (Group discussions)**

1	Name of WSE type as a whole:	Stream/River (11)
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2	Local Name/s (if any):		Nadi	
3	WSE sub-type :		River (11.1)	
4	Local Name/s (if any):		Hole	
5	Existing management authority:		Minor irrigation department	
6	Existing management system:		No management system	
7	Gainer User groups	Local groups:	Agriculturists, Horticulturists	
		External groups:	Fishermen, Sand miners	
8	Loser user groups	Local groups:	Nobody	
		External groups:	Nobody	
9	Other management patterns prevalent in recent past:		No	
11	<b>User groups</b>	<b>Desired changes / desired future:</b>	<b>Desired management system from the perspectives of different user groups</b>	<b>Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha:</b>
1	Agriculturists	Must protect	* Minor irrigation department must give education regarding the sustainable use of water for agriculturists. * Rain water harvesting must be done	* Rain harvesting method will adopt each & every farmers. * Demonstration programme will conduct for the sustainable use of water as well as rain water harvesting.
2	Horticulturists	Must protect	* Check dams must be build across the streams and river for sustainable use of water. * Improved methods like Drip, Sprinklers must adopt horticulturists for sustainable use of water.	* Desiltation of sand in the river will take on the voluntary basis. * Timings of pumping of river water to the orchards will be given to each farmers depending upon the area of the orchard.
13	Code numbers of focal elements selected for further study as marked on the map:		11.1.1	

**1.23 Form 10.1 for Mala: Focal landscape elements field survey (Field observations)**

1	Name of LSE type as a whole:	Forest
2	LSE sub-type :	Evergreen forest
2	LSE code	5.1.1
3	Local name (if any)	Kuduremukh Rastriya Udhyavanava
4*	Topography	Steep slope
5	Area (Ha)	200
6	Surrounding LSE/WSE types:	Semievergreen forest & Grassland

7	Distance from Habitation (Km)	3
8	Distance from motorable Road (Km)	3
9**	Current management	Forest Department
10	Activities:	NTPF, Canes, Med. Plants collection
11***	Significant harvests/ removals:	NTPF, Canes, Med. Plants
12****	Significant additions:	No
13*****	Significant modifications:	Fire
14	Goods & services:	NTPF, Canes, MED. Plants , Stream water
15	Bads & disservices:	Manace of wild animals

11\*\*\* - Significant harvests / removals - Mineral e.g. sand, biological, e.g. particular species or species groups such as fuelwood; pin code of the destination of the harvests/ removals

12\*\*\*\* - Significant additions - Mineral eg. Soil, chemical: pesticides or effluents from a factory, biological, e.g. particular species or species groups such as fuelwood; pin code of the origination of the additions,

13\*\*\*\*\* - Significant Modifications - eg. Leveling by bulldozer, construction of a check dam etc

Topography

1. Plain
2. Undulating
3. Hilly
4. Moderate slope
5. Steep slope

**1.24 Form 10.2 for Mala: Focal landscape elements vegetation cover: (Field observations)**

Sr. No.	Name of LSE type:	LSE sub-type :	Local name of LSE (if any)	LSE code-unique serial number in the study area	Sampling point number	Vegetation cover
1	2	3	4	5	6	7*
1	Forest	Evergreen Forest	Kuduremukha Rastriya Udhyanavana	5.1.1	1	With Herbaceous vegetation
					2	Under a tree canopy
					3	Under a tree canopy
					4	Under a tree canopy, With Herbaceous vegetation
					5	Under a tree canopy, With Herbaceous vegetation
					6	Under a tree canopy, With Herbaceous vegetation
					7	Under a tree canopy, With Herbaceous vegetation

					8	Under a tree canopy, Covered by a shrub
					9	Under a tree canopy, Covered by a shrub
					10	Under a tree canopy, Covered by a shrub
					11	Under a tree canopy, Covered by a shrub
					12	Covered by a shrub
					13	Covered by a shrub
					14	Under a tree canopy, Covered by a shrub
					15	Under a tree canopy, Covered by a shrub
					16	Under a tree canopy, Covered by a shrub
					17	Under a tree canopy, With Herbaceous vegetation
					18	Under a tree canopy, With Herbaceous vegetation
					19	Under a tree canopy
					20	Under a tree canopy

Options: 1. Under a tree canopy, 2. Covered by a shrub, 3. With Herbaceous vegetation, 4. On Barren land, 5. Paved land, 6. Inside a building

**1.25 Form 10.3 for Mala: Focal waterscape elements field survey(Field observations)**

1	WSE type :	Stream/River
2	WSE sub-type :	River
3	WSE code- unique serial number in the study area	11.1
4	Local name of WSE (if any)	Machitte hole
5	Area (Ha)	
6	Maximum depth of water within the study area during last one year (m)	5 mtr
7	Estimated Length [for streams/ rivers] within study area (m)	5000
8	Average Breadth [for streams/ rivers] within study area (m)	20
9	Water spread area [ for tanks and lakes (Ha)]	
10	Duration (hours or days units should be mentioned) of inundation due to flood water during last one year	5
11	No. of days / months (specify unit) water present	250 days

12	Surrounding LSE/WSE types :	Arecanut plantation, Paddy field, Scrub land
13	Distance from Habitation (Km)	0
14	Distance from motorable Road (Km)	0
15	Current management	Minor Irrigation department
16	Activities:	Lifting of water for agriculture and horticulture, Sand mining, Fishing
17	Significant harvests/ removals: 1	Sand, Fish, Water
18	Significant additions: 2	Drainage of fertilizer mix water from agriculture & Horticulture fields
19	Significant modifications: 3	Check dams
20	Goods & services:	Sand , Water, Fish
21	Bads & disservices:	Floods & depletion of fish productions & decreasing availability of water
	Management	
	1 Private	
	2 Revenue	

**1.26 Form 10.4 for Mala: Focal waterscape elements sampling studies (Field observations)**

Sr. No.	Name of WSE type:	WSE sub-type:	Local name (if any)	WSE code-unique serial number in the study area	Local name (if any)	Sampling point number	Observation about WSE*			
							Nature of sampling site (water body) under survey	Maximum depth of water at the time of sampling (in meters)	Minimum depth of water at the time of sampling (in meters)	Bottom substrate
	1	2	3	4	5	7	8	9	10	11
1	Stream/River	River	Hole	11.1	Devargundi	1	Pool	5	20	Sand, Mud
2	Stream/River	River	Hole	11.1	Kadari	2	Run	1	20	Cobble
3	Stream/River	River	Hole	11.1	Manjilthar	3	Riffle	0.5	20	Boulders

**1.27 Form 11.1a for Mala: Focal landscape elements history (Group discussions)**

1	Sr. No.		1
2	Name of LSE type:		Forest (5)
3	LSE sub-type :		Evergreen forest (5.1)
4	LSE code		5.1.1
5	Local Name of the focal LSE		Kuduremukh Rastriya Udhyavanava
6	Trend in area over the past ten years and reasons	Trend in change in area	Substantial decrease
		Immediate reason & motivation	Forest fire- Elimination of Eupatorium weed
		Long term reason & motivation	Encroachment and overuse of resources- Demand for arecanut, Rubber
7	Trend in change in vegetation strata over the past ten years and reasons:	Big trees	Substantial decrease
		Shrubs	Substantial decrease
		Ground cover	Moderate increase
		Immediate reason & motivation	Forest fire- Elimination of Eupatorium weed
		Long term reason & motivation	Encroachment and overuse of resources
8	User groups (local & external) gaining most from goods and services:	Local groups	NTFP collectors, Herbal healers
		External groups	NTFP traders, Herbal healers
9	Change in goods & services and reasons.	Changes	Canes are vanishing, NTFPs reducing
		Immediate reason & motivation	Unsustainable use of resources- Competition
		Long term reason & motivation	Harmful collection of resources- Given tender for Canes cutting
10	Change in Bads & Disservices and reasons	Changes	Menace of wild bores, Gaurs, Peacock are increasing recently Elephants too.
		Immediate reason & motivation	Cultivation near to forest land by encroachment
		Long term reason & motivation	Shrinking of forest cover (Habitat)

Trend

- 1) Substantial increase
- 2) Moderate increase.
- 3) Little \ No change
- 4) Moderate decrease
- 5) Substantially decrease

**1.28 Form 11.1b for Mala: Focal landscape elements management**

1	Sr.No.			
2	Name of LSE type:		Forest (5)	
3	LSE sub-type :		Evergreen forest (5.1)	
4	LSE code		5.1.1	
5	Local Name of the focal LSE		Kuduremukha Rastriya Udhyavanava	
6	Existing managing authority system and gainer / loser	Existing managing authority	Forest department	
		Existing management system	National Park	
		Gainer Local user group :	Nobody	
		Gainer External user group:	Department	
		Loser Local user group :	NTFP & Med. Plants collectors, Agriculturists, Horticulturists	
		Loser External user group:	Nobody	
7	Other management patterns prevalent in recent past and gainer loser	Other management patterns	Reserve forest	
		Gainer Local user group :	NTFP & Med. Plants collectors, Agriculturists, Horticulturists	
		Gainer External user group:	NTFP Trders, Med. Plants collectors	
		Loser Local user group :	Nobody	
		Loser External user group:	Department	
8	<b>User group code</b>	<b>Desired changes/ desired future</b>	<b>Desired management system</b>	<b>Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha</b>

1	NTFP collectors	Must protect	* Forest fire must regulate. * Harmful method of NTFP collection must be regulate	* NTFP collectors must give permission to collect NTFPs only those use sustainable method of harvesting. * Only villagers will get the tender for NTFP collection. * Those residing near forest will give more response to look after that area of the forest.
2	Folk medicinal practitioners	Must protect	* Removing whole plant must be regulate. * Punish or fine or not give permission to collect medicinal plants to those using harmful methods	* Not giving permission those using harmful method of collection of med. Plants. * Only villagers will allow to collect med. Plants.

**1.29 Form 11.2a for Mala: Focal waterscape elements history (group discussions)**

1	Sr. No.		
2	WSE type		Streams/river
3	WSE sub-type		River
4	WSE code		11.1.1
5	Local Name of the focal WSE		Machitte holeya devara gundi
6	Trend in area over the past ten years and reasons	Trend in change in area	No
		Immediate reason & motivation	No
		Long term reason & motivation	River originates in the village itself
7m	Trend in change availability of water over past ten years and reasons:	Trend	Substantially decreasing
		Immediate reason & motivation	Increase in usage of water for agriculture & horticulture
		Long term reason & motivation	Decrease in rainfall & catchment area



8	User groups ( local & external) gaining most from goods and services	Gainer UG Local	Nobody
		Gainer UG External	Sand miners
9m	Change in goods & services and reasons.	Changes	Water drying in the early summer & fishes are depleting drastically
		Immediate reason & motivation	Increase in usage of pesticides & chemical fertilizers in agriculture & horticulture & also use of dynamites in fishing
		Long term reason & motivation	Over harvest, siltation & fall in the flow of water
10m	Change in Bads & Disservices and reasons	Changes	Floods increasing
		Immediate reason & motivation	Increase in agricultural & horticultural activity
		Long term reason & motivation	Due to loss of forest cover flood is increasing

Trend

- 1) Substantial increase
- 2) Moderate increase.
- 3) Little \ No change
- 4) Moderate decrease
- 5) Substantially decrease

### ***1.30 Form 11.2b for Mala: Focal waterscape elements management (Group discussions)***

1	Sr.No.			
2	Name of WSE type:			Streams/River
3	WSE sub-type:			River
4	WSE code			11.1.1
5	Local Name of the focal WSE			Machitte holeya devara gundi
6	Existing managing authority system and gainer loser	Existing managing authority		Minor irrigation department
		Existing management system		No
		Gainer user group Local:		Agriculturists, Horticulturists, Sand miners
		Gainer user group External:		Fishermen, Sand miners
		Loser user group Local:		Nobody
		Loser user group External:		Nobody
7	Other management patterns prevalent in recent past and	Other management patterns		No
		Gainer user group Local:		Nobody

	gainer loser	Gainer user group External:		Nobody
		Loser user group Local:		Nobody
		Loser user group External:		Nobody
<b>8m</b>	<b>User group Name</b>	<b>Desired changes/ desired future</b>	<b>Desired management system</b>	<b>Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha</b>
1	Agricultural labourers	Fishes must protect	Fishing by using dynamite & fish poison must be banned	* Those using dynamite or poison for fishing must be punished. * Vanishing fishes must grow in sacred ponds
2	Horticulturists	River must save	Catchment are must protect	* Plant cover in catchment area must increase. * Rain harvesting pits must be made in catchment area.

### ***1.31 Form 12.1 for Mala: Focal taxa abundance field survey***

1	Name of LSE type:	Forest (5)
2	LSE sub-type :	Evergreen forest (5.1)
3	LSE/WSE code*-	5.1.1
4	Local Name of the Focal LSE / WSE	Kuduremukh Rastriya Udhyavanava
5	Local name of the focal species/variety/species group/ functional species group	Level of abundance
	Nayitulasi	Moderately common
	Dhooma	Rare
	Kamyunist	Abundant
	Kalinga	Rare
	Pili	Rare

Column 8 - Level of abundance

1 - Absent

2 - Rare

3 - Moderately common

4 - Abundant

**1.32 Form 12.1 for Bada-Yermal: Focal taxa abundance field survey**

1	Name of LSE type:	Open Sea (17)
2	LSE sub-type :	Open sea
3	LSE/WSE code*-	17
4	Local Name of the Focal LSE / WSE	Arabbi samudra
5	LSE/WSE type	
<b>6</b>	<b>Local name of the focal species/variety/species group/ functional species group</b>	<b>Level of abundance</b>
1	Sorake	Rare
2	Tidambu	Rare
3	Kevsa	Rare
4	Karve	Rare
5	Bangude	Moderately common
6	Anjal	Moderately common

Column 8 - Level of abundance

1 - Absent

2 - Rare

3 - Moderately common

4 - Abundant

**1.33 Form 13.2 for Mala: Domesticated biodiversity**

Sr. No.	Local name of variety	Local name of other similar varieties	Time taken to reach maturity	Type of soil/cultivation/ animal husbandry practice most suitable for the variety	Size at maturity - specific measure and unit	Susceptibility to: Pests, D-diseases, Low M-moisture, WL-Water logging	Yield - annual: Product, Measure, Unit	Values assigned by local community members	Part used	Uses, including symptoms treated in case of medicinal uses	Change in uses over the last ten years	Significance in harvests; nature of material harvested	Pin code of the destination of the harvests
1	Gandhasale	Jeersale	150 days	Sandy soil	5 ft	D-Low M-Low WL-Moderate	20 mura/a	Great	Paddy	Good for Pulav	Substantial decreasing	Cutting	Local

2	Dudri	Anna purna	100 days	Sandy soil	4 ft	D-Low M- Low WL- Low	10 muras/ acre	Great	Paddy	Good for Boiled rice	Substan- tial decreas- ing	Cutti- ng	Loca- l
3	Atikarya	Not Known	120 days	Sandy soil	7 ft	D- Moder- ate M- Moder- ate WL- Moder- ate	20 mura/a c	Great	Paddy	Boiled rice & Medicina- l property	Substan- tial decreas- ing	Cutti- ng	Loca- l

**1.34 Form 13.1 for Bada-Yermal: Focal taxa status & trends in abundance  
(Group discussions)**

Sr. No.	Local name of focal species/ species group/ variety/ functional species group	LSE/WSE types favored by the species / species group/ functional species group	Current level of abundance	Trend and reasons behind trend		
				Trend in abundance in last 10 years	Immediate Reason	Long term reason
1	Isaraberu	Evergreen forest & Semievergreen	Moderately common	Substantially decreasing	Loss of habitat	Encroachment for habitations
2	Sarolu	Evergreen forest, Semievergreen & Scrub	Moderately common	Substantially decreasing	Loss of habitat	Encroachment for habitations
3	Ontepuli	Habitations, Semievergreen forest	Moderately common	Moderate decreasing	Loss of habitat	Encroachment for habitations
4	Shatavari	Evergreen forest	Moderately common	Substantially decreasing	Loss of habitat	Encroachment for habitations
5	Tale	Semievergreen forest & Paddy field	Moderately common	Moderate decreasing	Loss of habitat	Encroachment for habitations
6	Bangude	Sea	Moderately common	Substantially decreasing	Overharvest	Fishing during breeding season
7	Anjal	Sea	Moderately common	Substantially decreasing	Overharvest	Fishing during breeding season
8	Balyar	Sea	Moderately	Substantially	Overharvest	Fishing during

			common	decreasing		breeding season
Current level of abundance	Trend					
1 - Absent	1) Substantial increase					
2 - Rare	2) Moderate increase.					
3 - Moderately common	3) Little \ No change					
4 - Abundant	4) Moderate decrease					
	5) Substantially decrease					

**1.35 Form 13.4a for Mala: Focal taxa status & trends in management  
(Group discussions)**

1	Local name of species/ species group / functional species group / variety	Kaadu Handi			
2m	Changes in goods and services and reasons	Change in goods & services	No		
		Immediate Reason			
		Long term reason			
3m	Existing managing authority, system and gainer - loser	Existing managing authority	Forest department		
		Existing management system	wildlife act		
		Gainer user group Local:	Nobody		
		Gainer user group External:	Department		
		Loser user group Local:	Agriculturists & Horticulturists		
		Loser user group External:	Hunters		
4m	Managing authority, system and gainer - loser in recent past	Other management patterns prevalent in recent past	No		
		Gainer user group Local:	Hunters, Agriculturists		
		Gainer user group External:	Nobody		
		Loser user group Local:	Nobody		
		Loser user group External:	Department		

Trend

- 1) Substantial increase
- 2) Moderate increase.
- 3) Little \ No change
- 4) Moderate decrease
- 5) Substantially decrease

**1.36 Form 13.4b for Mala: Focal taxa management user group perspectives  
(Group discussions)**

Local name of focal species/ species group / functional species group / variety (management)	Kaadu Handi (Wild boar)
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Sr. No.	User group code	Desired changes/ desired future	Desired management system from the perspectives of different user groups	Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha
1	Horticulturists	It must be regulated	* Forest department must take some control measure to restrict their population. * Give permission for hunting wild bores * Farmers must compensate who lost the crop due to wild lives.	* Cultivation must not be done near forest. * Ibex electric line must put. * Animal attracting crops should not grow
2	Forest department	Wild lives must protect	* Forest must save. * cultivation should not be done near forest. * Saving wild food plants in their habitats. * Villagers must co-operate in managing forest fires.	* Giving cooperation in managing forest fire. * Contour bunds must be laid around habitations, orchards as well as fields.

**1.37 Form 13.3 for Mala: Focal taxa status & trends in value/ uses (Group discussions)**

Sr. No.	Local name of species/ species group/ functional species group	Values assigned by local community members	Part used	Uses, including symptoms treated in case of medicinal uses	Change in uses over the last ten years	Significant harvests; nature of material harvested	pin code of the destination of the harvests
1	2	3*	4	5	6**	7	8
1	Halasu	Great	Fruits, Timber	Condiments, Pappads, For Mamlam	No	Fruits	574 104
2	Kamyunist	Great Nuisance	Leaves & stem	Medicine for cuts, as a green manure	Medicinal & Green manure	Whole plants	Local

Option 3\* Value attributed

- 1 - of great value
- 2 - of some value
- 3 - Of no significance
- 4 - Some what nuisance
- 5 - A great nuisance

Option 6\*\* Changes in uses

- 1) Substantial increase
- 2) Moderate increase.
- 3) Little \ No change
- 4) Moderate decrease
- 5) Substantially decrease

**1.38 Form 14.1 for Mala: Folk knowledge of population ecology, life history and behavior (group discussions)**

1	Local name of the focal species/ species group / functional species group (knowledge)	Kaad handi (wild pig)	
2	Abiotic conditions favouring the focal species/ species group	Warm weather	
3	Type of ecosystems favouring the focal species/ species group	Forest adjoining crop fields	
4	Food organisms of the focal species/ species group	Wild tubers, groundnut, sugarcane	
5	Foraging and feeding behavior	By digging in the ground with their tusks	
6	Competitors of the focal species/ species group	Deer	
7	Competitive behavior		
8	Predators on the focal species/ species group	Panther, tiger	
9	Predator avoidance behaviour	Hide in thorny thickets	
10	Parasites/ diseases of the focal species/ species group		
11	Parasite avoidance behaviour		
12	Organisms favouring focal species/ species group, e.g. pollinators, seed dispersers	Species like lantana forming thick shrubby growth offering shelter	
13	Life history stages	Young and adults	
14	Parental care	Mothers suckle and guard young	
15	Breeding behaviour		
16	Social habits	Females and young form groups of upto 30 individuals	
17	Territorial behaviour		
18	Communication behaviour, displays, calls, scent markings	Many calls	
19	Seasonal changes in the abundance of members of the focal species/ species group		
20	Consequences of ecological processes*		
21	Human influences on focal species/ species group	Behaviour of the focal species/ species group in response to humans	May attack humans
		By direct harvests	People traditionally hunted wild pig for food and to protect crops, but, this is now illegal

		By enhancing/ depleting numbers of other species favouring/ disfavouring the focal species/ species group	Fire and overgrazing favours growth of species like Lantana and Eupatorium that shelter wild pigs
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Ecological processes may includes fire, grazing, chemical pollution for the focal species/ species group

### **1.39 Form - 15.1 for Mendha-Lekha: Management plan components**

<b>S r. N o .</b>	<b>Issues</b>	<b>Interest ed User groups</b>	<b>Associat ed LSEs/ WSEs</b>	<b>Associate d varieties/ species/ species groups</b>	<b>Suggested components for a management plan that can be implemented under present circumstances as a consensus of the gram sabha</b>
1	Crop damage by wild pigs	Farmers	Forest, crop fields	Wild pig, paddy	Apply for permission to Forest Department to kill wild pigs that have invaded crop fields Ask Dhanora Junior College to undertake an independent study of wild pig damage to support claims for compensation from Forest Department Lobby with Forest Department for prompt settlement of compensation claims