CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	-
Project Title:	Conservation of bio-diversity hotspot through capacity building of forest dependent communities through organic farming in Dandeli Wildlife Sanctuary of North Kanara district, Karnataka, India
Date of Report:	31st January 2011
Report Author and Contact Information	Ganapati Bhat, At/Po: Karjagi, TQ: Siddapur, North Kanara, Karnataka, PIN: 581 340

CEPF Region: Sahyadri-Konkan Corridor
Strategic Direction: 1 .Enable action by diverse communities and partnership to ensure conservation of key biodiversity area and enhance connectivity in the corridors

Grant Amount: $ 9040

Project Dates: 01.12.2009 to 31.01.2011

Implementation Partners for this Project (please explain the level of involvement for each partner):

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

This project is implemented in agricultural farms within Dandeli Wild Life Sanctuary (WLS), a CEPF Priority Site, and adjacent area to the WLS that comes under Sahyadri-Konkan corridor of CEPF priority investment area. The map of the project area is enclosed as **Appendix I**. This project directly worked with forest dependent communities and activities are taken up to involve them in bio-diversity conservation through adopting organic and eco-friendly agriculture method. Several plant species especially natural medicinal plant species, reptiles, predator pests, birds, insects and butterflies –re-appeared in organic farms only after this project. Totally 36.68 hectares of land were converted into eco-friendly farming system and 27 farmers are completely converted to organic farming methods and conserving bio-diversity out of total coverage of 40 farmers and 59.04 hector of land. Farmers are using indigenous method of protection of crops from wild animals instead of killing the animals. Most of the farmers are adopting agro-forestry which is a more biodiversity-friendly agriculture method and this tree covers support the wildlife. Participation of the local community in bio-diversity has improved during the course of this project. The project's documentation of indigenous knowledge of the community in eco-friendly crop protection will be helpful to the government department, farmers and institutes to conserve the wildlife and the community. (The details of indigenous knowledge in enclosed in **Appendix - II**). This project studied the adverse effect of the chemical farming on farmland aquatic diversity and also found that that organic farming did not in any way pollute the water (details of assessment report enclosed in **Appendix – III**).

Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.

This project made significant changes in the mindset of the farming community. Totally 27 farmers converted to organic bio-diversity friendly farming system. The use of the chemicals in the farming has been totally reduced and contamination of chemicals and toxins in water and food has stopped. Our study showed that 40% increase in fish diversity and 56% increase in aquatic plants in organic farms and surrounding areas compared to chemical-based farms. The plants and shrubs diversity was also high in organic farms. Our study found that organic farms are more diverse (28 to 30 species) than inorganic farms (24 to 14 species). It was also found that the density of the plants species were high in organic farms. Most of the useful herbs are found in organic farms more than in inorganic farms. Exotic weeds such as *Eupatorium odoratum*, *Agerantum conyzoides*, *Lantana camara*,

Acanthospermum hispidum etc., were found more in inorganic farms, suggesting that these species are more adjustable to inorganic nutrients. Our study found that diseases observed and pest and insect attack is more in chemically treated crops than in organic crops. Predator population is not observed in chemical farms due to usage of chemicals and more predator population were observed like ants, spiders and small birds in organic farms. Presence of birds is also very high in organic farms as per our study. Organic farms are giving more protection to birds and more source of food and nesting materials. Following table shows the diversity and turnover of the birds in organic and chemical farms.

S. No.	Species of birds	In farms practicing chemical method		In farms practicing organic method	
		Initial assessment	Now in 2011	Initial assessment	2011
1	Jungle Crow	*	*	*	
2	Red vented Bulbul			*	
3	Rose ringed Parakeet	*		*	
4	Purple Sunbird			*	*
5	Grey tit			*	*
6	Cattle Egret		*	*	*
7	Spotted dove	*	*	*	
8	Redwattled Lapwing		*	*	
9	Lorikeet			*	
10	Tickell's Flowerpecker	*		*	*
11	White-breasted waterhen			*	
12	Lesser Golden-backed Woodpecker			*	
13	Red whiskered bulbul			*	*
14	Large Pied wagtail	*			
15	Purple moorhen	*			
16	Fly catcher		*		
17	Malabar Pied Hornbill				*
18	Asian koel		*		
19	Pied Bushchat				*
20	Greater Racket tailed drongo				*
21	Black naped Blue				*
22	Scaly breasted Munia				*
23	Blossom headed Parakeet				*
24	Indian Pitta				*
25	Tailor bird				*
26	Browed bulbul				*
27	Small blue kingfisher				*
28	Blue rock pigeon				*
29	Jungle Myna				*
30	Crow pheasant				*
31	Jungle babbler				*
32	Golden oriole				*
33	Crimson Throated barbet				*

In the same way organic farms are rich in shrubs as well as flowers and give more space to butterflies. Our study showed that there were 14 species of butterflies identified in farms following organic method in 2010 and 06 varieties of butterfly species observed in forms following chemical farms. In 2011, our study showed the increase in species in organic farms and only seven species of butterflies seen on farms following chemical method and there were 22 species of butterflies recorded from organic farms.

S. No.	Species of butterflies	In farm following organic method		In farm following chemical method	
		2010	2011	2010	2011
1	Dark Brand Bushbrown	*	*		*
2	Striped Tiger	*			
3	Lime Butterfly	*	*		*
4	Common Emigrant	*	*	*	*
5	Malabar Spotted Flat	*	*		
6	Pale Grass Blue	*	*	*	
7	Common Wanderer	*	*	*	
8	Blue Mormon	*	*	*	
9	Bamboo Tree brown	*	*	*	
10	Unknown	*			
11	Zebra blue	*	*		
12	Baronet	*			
13	Yamfly	*	*	*	*
14	Tawny Coster	*			
15	Blue pansy				*
16	Plum Judy				*
17	Leaf blue		*		*
18	Common jezebel		*		
19	Pioneer		*		
20	Glassy tiger		*		
21	Common mime		*		
22	Indian Red flash		*		
23	Common Redeye		*		
24	Peacock pansy		*		
25	Grass demon		*		
26	Common redeye		*		
27	Brown awl		*		
28	Common banded awl		*		

The farmers involved in this project had undergone trainings and workshops and their understanding level of the importance of the bio-diversity conservation is improved, thereby putting an end to the killing of crop-raiding wildlife and using indigenous knowledge to protect their crops from wild animals. Farmers are showing interest to develop agro-forestry which is more bio-diversity friendly agriculture method and this tree cover could supports the wildlife sanctuary within which these farms are located. Mr. Krishna Prasad and his Sahaja Samrudda Organization (CEPF Grantee) working in marketing of organic products and farmers of this project are advised to market the products to get higher price for their produces through his help.

Please provide the following information where relevant:

Hectares Protected: Nil, but 36.68 hectares of croplands have enhanced native biodiversity

Species Conserved: Nil, but organic farming and indigenous crop protection practices will help native biota within the WLS

Corridors Created: Nil

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

To prove the effect of organic farming on bio-diversity was the real challenge of the project. After several experiment and assessment this project proved the increased bio-diversity in organic farming. Motivation of the farmers was also real challenge of the project and 27 farmers converted in to organic farming after attending the capacity building training. Finding out of cost effective organic farming techniques and transfer of these knowledge to the farmers was also challenge of the project. Now farmers themselves are evolving different cost-effective methods of organic techniques. Following-long term and short-term impacts observed after implementation of the project.

- More number of farmers are interested to take-up organic and bio-diversity friendly agricultural method.
- Several environmental friendly agriculture practises and indigenous knowledge are disappeared from the community
- Organic farming usually increases species richness having an average 47% highest herbs richness than chemical farming.
- Birds, insects and plants usually showed an increased species richness in organic farming system.
- Predatory insects, spider and earthworms richness species is very high in organic farming.
- The possibility of wild fire in the Wild Life Sanctuary is decreased due to recycling of agriculture waste instead of earlier practice of burning or incinerating.
- Farmers are using more cattle dung in organic farming and they stopped the grazing of domestic animal in forest area. They are switching over to stall feeding and this could reduce the possibility of transmission of diseases among the wild animals.
- Organic farming is energy efficient
- Organic farming usually increases species richness having an average 47% higher herb richness than chemical farming

Were there any unexpected impacts (positive or negative)?

- employment creation is more in organic farming because chemical farming is capital oriented and organic farming is labor oriented
- Shortage of labor adversely effect on crop production in organic farming

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

Base line surveys of the farmers were conducted during the design of the project. The findings of this survey helped us to further implementation of the project such as understanding the need of the farmers, their expectations, designing the capacity building programmes of the community, linkage with other governmental departments and institutes and assessment of the progress of the project. Several experts from universities and forest departments (see table below) were consulted while designing the project which helped in the project execution and bio-diversity evaluation. Following experts were involved in this process.

Sl No	Name of experts	Area of assessment
1	Mr. Prabhakar Bhat Centre for Ecological Sciences, IIS Sirsi	Vegetation, shrubs, earthworms and butterflies
2	Dr. Gurudath Hegde Forestry college Sirsi	Pest and insect assessment
3	Mr. Shreekanth Gunaga Forestry college Sirsi	Herbs and aquatic diversity assessment
4	Dr. Rajkumar, KVK Sisri	Assessment of soil
5	Dr. Sunil Panwar, DCF Wild Life Division, Department of Forest Dandeli	Taken help for selection of villages
6	Mr. V. M. Halli, Taluk Watershed Officer	Provided seedlings to the farmers
7	Mr. T. G. Bhat, Director Sadana NGO Yallapur	Attended as a resource person to the training and giving help to market the produce of the farmers
8	Dr. Basavaraj, Professor Soil Science UAS Dharwad	Attended as a resource person to the training

This project involved the Forest, agriculture and Watershed Department officials during designing of the project and they extended their support while implementation of the project through involving in training programmes. Watershed and Agriculture Department officials have given a few subsidies to organic farmers for purchase of horticulture saplings and construction of liquid manure preparation units.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

This project is being implemented with the active involvement of the community in bio-diversity conservation. This project involved experts from universities, local NGOs and institutes (list as above) for capacity building of the farmers especially organic farming methods, good practices, adoption of indigenous knowledge in crop protection, marketing of organic materials, value edition and adoption of tree based agriculture. We have linked the farmers with Krishna Balaram Organic Farmers Group which is authorized by the Agriculture Department to market the produces. Sadana Centre Yallapur also opened organic materials shop where farmers can sell value added materials We also involved experts from the area of bio-diversity experts, pathologists, soil scientists and taxonomists for assessment of the project and these assessments reports revealed the benefit of the organic agriculture in bio-diversity conservation.

Other lessons learned relevant to conservation community:

- Farmers who are adjacent to the farms under project implementation are now interested to take up organic farming in turn conservation of bio-diversity, after observing the result of the project
- Organic farming is energy efficient
- The possibility of wild fire risk on Wildlife Sanctuary is decreased due to recycling of agriculture waste instead of burning.

- Farmers are using more cattle dung in organic farming and they stopped the grazing of domestic animal in forest area. They are switching over to stall feeding which could reduce the possibility of transmission of diseases among the wild animals.

ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
Give India	Water conservation and wormy compost preparation	Rs 85250	
Watershed Department	Training to the farmers and horticulture seedlings to the farmers	Rs 300000	
KRVP Bangalore	Awareness generation on bio-diversity conservation	Rs 1750	

****Additional funding should be reported using the following categories:***

A *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*

B *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*

C *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

To prove the effect of organic farming on bio-diversity was the real challenge of the project. Find out cost effective organic farming techniques and transfer these knowledge to the farmers was also challenge of the project. After several assessments on plants, herbs, shrubs, diseases, aquatic diversity, pests and soil resulted in the positive effect on bio-diversity after conversion of the organic farms. At the initial stage a few farmers were not showing interest with organic and eco friendly agriculture practices. But after involving in field demonstration and trainings, they converted to organic farming and evolved a few new cost-effective organic farming methods. A few surrounding farmers of the project area are also showing interest in eco-friendly agriculture practices due to this project.

Following success was gained in achieving planned sustainability and replicability

- Farmers shown interest and involved in the project activities
- Government department officials extended their help to the project
- Local organic farming groups came forward to market the products
- Farmers are conserving several environmental friendly agriculture practices which are disappearing from the filed.
- Average 47% species richness in herbs found in organic plats after conversion
- Predatory insects, spider and earthworms richness species is very high in organic farming

Summarize any unplanned sustainability or replicability achieved.

Community members who are pursuing organic farming have reduced the dependency on forest for collection of firewood and organic materials. Farmers have developed live fencing around the farms and developing plantations in their unutilized land and collecting firewood and organic materials in their own farms. The possibility of fire within Wild Life Sanctuary is decreased due to recycling of agricultural waste instead of burning. Local press reporters and activists are trying to declare this place as Butterfly Park after discussion on the impact of this project.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

Not Applicable

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

01.12.2009 to 31.01.2011

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.				Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?				Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	Yes	36.68	36.68	Unprotected enclaves within Dandeli Wildlife Sanctuary
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Yes	36.68 ha	36.68 ha	Unprotected enclaves within Dandeli Wildlife Sanctuary
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	Yes	4	4	

If you answered yes to question 5, please complete the following table.

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit											
									Increased Income due to:											
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance.	Other
Maratha	X		X				X		X				X						X	X	
Maratha Gowli	X						X		X				X						X	X	
Harijan	X						X		X				X						X	X	
Brahmins and Idigas	X								X				X						X	X	
Total	**4**		**1**				**3**		**4**				**4**						**4**	**4**	

If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit:

Additional Comments/Recommendations

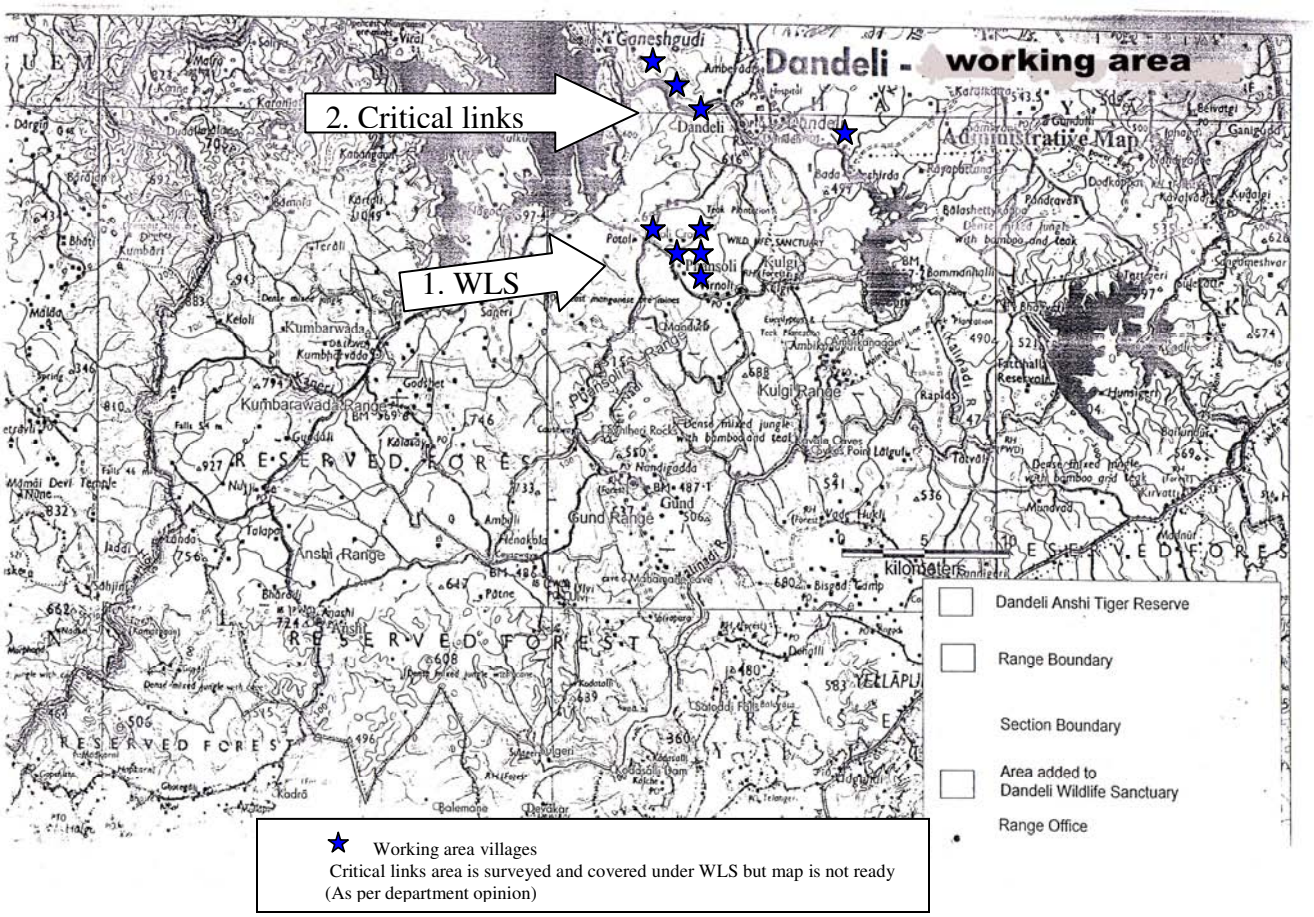
- Silviculture is scope for long term viability of birds, trees, epiphytes and invertebrates.
- The same type of intervention is required in eastern and southern parts of the Dandeli WLS.
- More trainings and exposure required to grantees to strengthen the project activities.
- The review meeting conducted by ATREE-CEPF representatives is helpful for the project to assess the impact of organic farming on bio-diversity conservation especially in Wildlife Sanctuary.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

Name: Ganapati Bhat
Organization name:
Mailing address: At: Karjagi, Po: Balur, Tq: Siddapur, North Kanara District, Karnataka, India
Tel: 91-8389-249729
Fax:
E-mail: manuvikasa@gmail.com

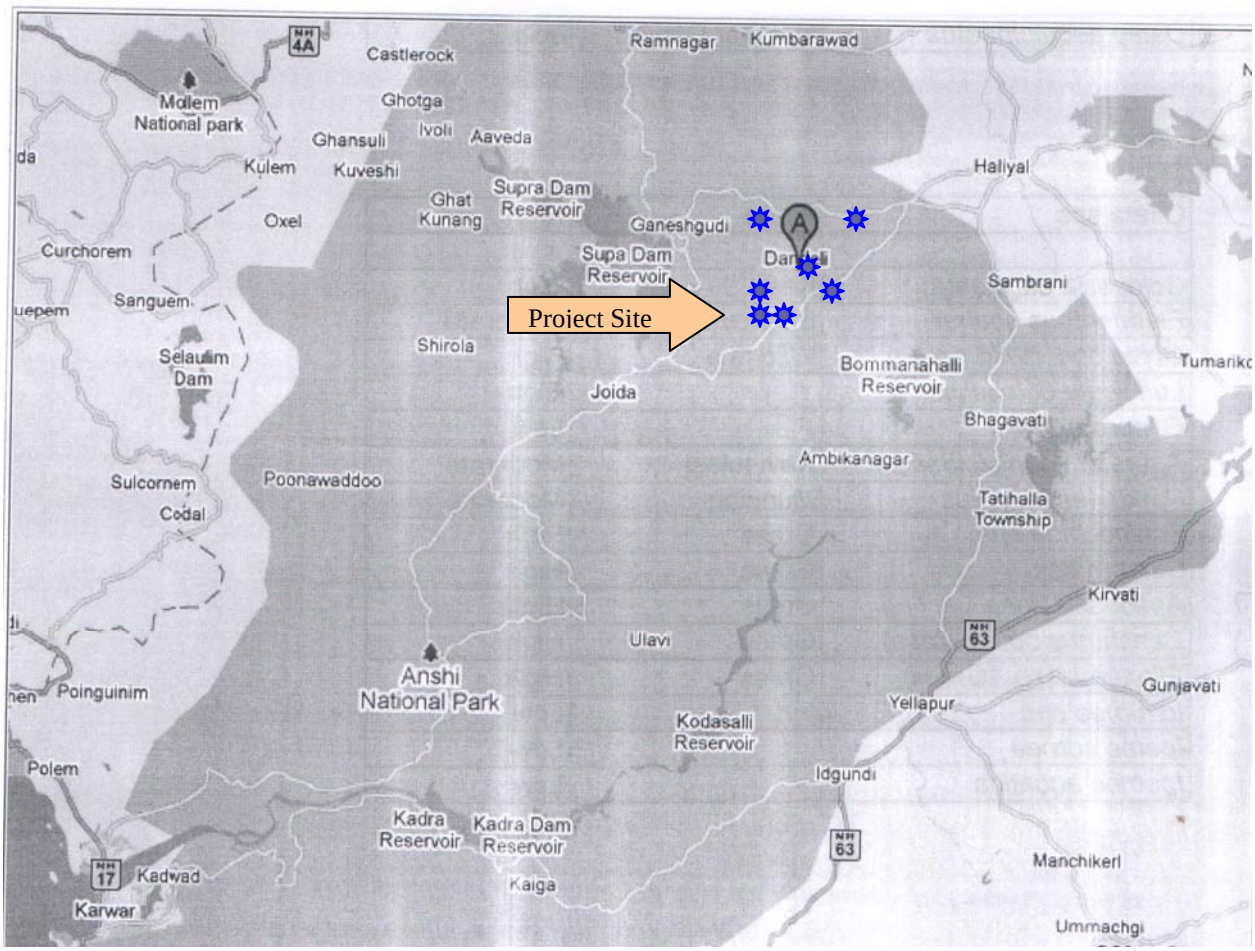


Source: DFO office WLS Dandeli

Map of the Project Site

Grantee Name: Ganapati Bhat

Project Title: Conservation of bio-diversity hotspot through capacity building of forest dependent communities through promotion of organic farming in Dandeli Wild Life Sanctuary of North Kanara district, Karnataka,



Comparitive Study of Organic and Chemical Farming

Assessment of Herbs

Size: 2 m x 2 m

Date: 19/05/2010

Location: Molangi (Dandeli)

Name of the farmer: Vilas Kamble

Type of Farm: Organic

Assessed by: Shrikant Gunaga, Texonomist, College of Forestry Sirsi

Sl.No.	Scientific Name	Local name if any	Density	Use if any
1	*Cassia tora*	Tagate	High	As a vegetable & medicinal
2	*Leucas aspera*	Tumbe	High	Medicinal
3	*Heliotropium indicum*	Bhurundi (Marati)	Moderate	Medicinal
4	*Phyllanthus amarus*	Nelanelli	High	Medicinal
5	*Sida acuta*	Kadu kadle	High	Weed
6	*Sida rhombifolia*	Kadu kadle	High	Weed
7	*Physalis minima*	Potle hannu	Moderate	Fruits edible & medicinal
8	*Cynodon dactylon*	Garike hullu	High	Medicinal
9	*Ischaemum sps (Grass)*	Hullu	High	Fodder
10	*Acrachne sps. (Grass)*	Hullu	Moderate	Fodder
11	*Alternanthera philoxeroides*	Gol Kusal (Marati)	High	Medicinal
12	*Mimosa pudica*	Nachike mullu	High	Medicinal
13	*Dactyloctenium sps.*	Hullu	Low	Fodder
14	*Euphorbia hirta*		High	Weed
15	*Cythocline lutea*		Low	Weed
16	*Vernonia cineraria*		Low	Weed
17	*Spilanthes calva*		Moderate	Weed
18	*Sclerocarpus africanus*		Moderate	Weed
19	*Amaranthes spinosus*	Mullu harive	Low	Weed
20	*Blainvillea acmella*		Low	Weed
21	*Waltheria indica*		Moderate	Weed
22	*Solanum nigrum*	Kaki hannu	Low	Fruits edible & medicinal
23	*Portulacca oleracea*	Goni soppu	High	As a vegetable & medicinal
24	*Mecardonia precombens*	Makardana (Marati)	Low	Weed
25	*Scoparia dilcis*		High	Weed
26	*Sesbania bispinosa*		Low	Weed
27	*Spermacoce hispida*		Moderate	Weed
28	*Emilia sonchifolia*	Eli kivi soppu	Low	As a vegetable

Comparitive Study of Organic and Chemical Farming

Assessment of Herbs

Size: 2 m x 2 m

Date: 19/05/2010

Location: Molangi (Dandeli)

Name of the farmer: Bapu

Type of Farm: inorganic

Crop: Bhendi (Bende Kai)

Assessed by: Shrikant Gunaga, Texonomist, College of Forestry Sirsi

Sl.No.	Scientific Name	Local name if any	Density	Use if any
1	*Cassia tora*	Tagate	High	As a vegetable & medicinal
2	*Leucas aspera*	Tumbe	Moderate	Medicinal
3	*Heliotropium indicum*	Bhurundi (Marati)	Low	Medicinal
4	*Phyllanthus amarus*	Nelanelli	Moderate	Medicinal
5	*Sida acuta*	Kadu kadle	High	No use
6	*Sida rhombifolia*	Kadu kadle	Moderate	No use
7	*Physalis minima*	Potle hannu	Low	Fruits edible & medicinal
8	*Cynodon dactylon*	Garike hullu	High	Medicinal
9	*Ischaemum sps (Grass)*		High	Fodder
10	*Alternanthera philoxeroides*	Gol Kusal (Marati)	High	Medicinal
11	*Mimosa pudica*	Nachike mullu	High	Medicinal
12	*Euphorbia hirta*		High	Weed
13	*Cythocline lutea*		Low	Weed
14	*Acanthospermum hispidum*		Low	Weed
15	*Vernonia cineraria*		Low	Weed
16	*Spilanthes calva*		Moderate	Weed
17	*Amaranthes spinosus*	Mullu harive	Low	Weed
18	*Blainvillea acmella*		Low	Weed
19	*Portulacca oleracea*	Goni soppu	Low	As a vegetable & medicinal
20	*Mecardonia precombens*	Makardana (Marati)	Low	Weed
21	*Scoparia dilcis*		High	Weed
22	*Sesbania bispinosa*		Moderate	Weed
23	*Ageratum conyzoides*	Nayi tulasi	High	Weed
24	*Desmodium triquetrum*		Low	Weed

Comparitive Study of Organic and Chemical Farming

Assessment of Herbs

Size: 2 m x 2 m

Date: 19/05/2010

Location: Molangi (Dandeli)

Name of the farmer: Ganapathi J. Gaonkar

Type of Farm:Organic

Crop: No crop

Assessed by: Shrikant Gunaga, Texonomist, College of Forestry Sirsi

Sl.No.	Scientific Name	Local name if any	Density	Use if any
1	*Cassia tora*	Tagate	High	As a vegetable & medicinal
2	*Leucas aspera*	Tumbe	Moderate	Medicinal
3	*Heliotropium indicum*	Bhurundi (Marati)	Low	Medicinal
4	*Phyllanthus amarus*	Nelanelli	Moderate	Medicinal
5	*Sida acuta*	Kadu kadle	High	Weed
6	*Sida rhombifolia*	Kadu kadle	Moderate	Weed
7	*Physalis minima*	Potle hannu	Low	Fruits edible & medicinal
8	*Cynodon dactylon*	Garike hullu	High	Medicinal
9	*Ischaemum sps (Grass)*		High	Fodder
10	*Alternanthera philoxeroides*	Gol Kusal (Marati)	High	Medicinal
11	*Mimosa pudica*	Nachike mullu	High	Medicinal
12	*Euphorbia hirta*		High	Weed
13	*Cythocline lutea*		Low	Weed
14	*Acanthospermum hispidum*		Low	Weed
15	*Vernonia cineraria*		Low	Weed
16	*Spilanthes calva*		Moderate	Weed
17	*Amaranthes spinosus*	Mullu harive	Low	Weed
18	*Blainvillea acmella*		Low	Weed
19	*Portulacca oleracea*	Goni soppu	Low	As a vegetable & medicinal
20	*Mecardonia precombens*	Makardana (Marati)	Low	Weed
21	*Scoparia dilcis*		High	Weed
22	*Sesbania bispinosa*		Moderate	Weed
23	*Ageratum conyzoides*	Nayi tulasi	High	Weed
24	*Waltheria indica*		Moderate	Weed
25	*Xanthium stromarium*		Low	Weed

26	*Galingsoga parviflora*		Low	Weed
27	*Eupatorium odoratum*	Congress	Low	Manure
28	*Hyptis suvavulense*	Nayi tulasi	Low	Medicinal
29	*Cleome simplicifolia*		Low	Weed
30	*Urena lobata*	Kan bhende	Moderate	Weed

Comparitive Study of Organic and Chemical Farming

Assessment of Herbs

Size: 2 m x 2 m

Date: 19/05/2010

Location: Molangi (Dandeli)

Name of the farmer: Shankar Karadi

Type of Farm:Inorganic

Crop: No crop

Assessed by: Shrikant Gunaga, Texonomist, College of Forestry Sirsi

Sl.No.	Scientific Name	Local name if any	Density	Use if any
1	*Cassia tora*	Tagate	High	As a vegetable & medicinal
2	*Spilanthes calva*	Tumbe	High	Medicinal
3	*Heliotropium indicum*	Bhurundi (Marati)	Moderate	Medicinal
4	*Scoparia dilcis*		High	Weed
5	*Sida acuta*	Kadu kadle	High	Weed
6	*Sida rhombifolia*	Kadu kadle	Moderate	Weed
7	*Physalis minima*	Potle hannu	Moderate	Fruits edible & medicinal
8	*Cynodon dactylon*	Garike hullu	High	Medicinal
9	*Esclipta alba*	Bhringaraja	Low	Medicinal
10	*Alternanthera philoxeroides*	Gol Kusal (Marati)	High	Medicinal
11	*Mimosa pudica*	Nachike mullu	High	Medicinal
12	*Eupatorium odoratum*	Congress	Moderate	Manure
13	*Mecardonia precombens*	Makardana (Marati)	Low	Weed
14	*Sesbania bispinosa*		High	Manure
15	*Lantana camara*	Chaduranga	Low	Weed

Biodiversity of Chavarli Tank

Fish Diversity

Sl.No.	Scientific Name	Common Name	Density
1	*Puntius fasciatus*	Melon Barb	Moderate
2	*Rasbora daniconius*	Blackline Rasbora	High
3	*Garra gotyla*	Nilgiris Garra	Moderate
4	*Nemochilus sps.*	White spot fish	Moderate
5	*Danio aequipinnatus*	Malabar Danio	Low

Aquatic Flora

Chara sps	Algae	High
Colocasia esculenta	Kesu	High
Elephantpus scaber	Elephant grass	Moderate
Oryza sps. (Wild rice)	Wild rice	High
Ludwegia octasulvis		High
Gynura nitida		Low
Ageratum conyzoides	Nayi tulasi	Moderate
Pandanus tectorius	Mundige	Moderate
Echinochloa sps.	Grass	High
Dinebra sps.	Grass	High
Apocopsis sps.	Grass	High
Cenchurus sps. (Grass)	Grass	High
Elionurus sps. (Grass)	Grass	High
Ichornea sps.		Low
Ipome cornea		Low
Ipomea aquatica		Low

Biodiversity of Gavegali outflow Tank

Fish Diversity

Sl.No.	Scientific Name	Common Name	Density
1	*Rasbora daniconius*	Blackline Rasbora	Low
2	*Garra gotyla*	Nilgiris Garra	Low
3	*Nemochilus sps.*	White spot fish	Low

Aquatic Flora

Chara sps	Algae	Modarate
Colocasia esculenta	Kesu	High
Echinochloa sps.	Grass	High
Dinebra sps.	Grass	Low
Elionurus sps. (Grass)	Grass	High