CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Legal Initiative for Forest & Environment
Project Title:	An ecological assessment on freshwater fish and amphibian communities in a landscape mosaic of the Western Ghats, Karnataka.
Date of Report:	25-11-2014
Report Author and Contact Information	Ms. Suman Jumani

CEPF Region: Western Ghats (Mysore-Nilgiri Corridor)

CEPF Strategic Direction: 2.1 Monitor and assess the conservation status of globally threatened species with an emphasis on lesser-known organisms such as reptiles and fish.

Grant Amount: $ 19,000.

Project Dates: 1st July 2013 to 30th November 2014

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

ATREE – Provided us logistical support by allowing us to access and use the environmental laboratory and the library. We benefited greatly by interacting with scientific experts in various fields from ATREE such as:

- Dr. Jagdish Krishnaswamy (inputs on measuring hydrological variables)
- Dr. Aravind Madhyastha (inputs on vegetation sampling procedures)
- Dr. Siddhartha Krishnan (inputs on designing our social interview survey form)
- Mr. Vidyadhar Atkore (helped with fish species identification and field methods)
- Mr. Zuhail (helped with the making and procuring of chemical reagents)
- Mr. Nachiket Kelkar (helped with analytical procedures)

Nature Conservation Foundation – Mr. Sanjay Gubbi helped us procure our permit letters and also provided us with support whenever possible (such as sharing topography sheets, information on village demography details etc.).

Conservation Impacts

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

IP 2.1 Monitor and assess the conservation status of globally threatened species with an emphasis on lesser-known organisms such as reptiles and fish

Our project focused on studying lesser known fresh-water faunal communities, with a focus on fish assemblages. In order to determine how physical barriers affect freshwater fish communities and identify indicator species that are sensitive to such barriers, we studied fish assemblages along the entire length of Yettinahole, Kemphole, Hongadahalla, Kumaradhara, Addhole, Girihole, Nayakanhole, Kadumanehole and Maranahallihole rivers.

Analysis of this data with respect to various hydrological and landscape variables will shed light on how mini hydel dams are affecting freshwater fish assemblages. We will further try to determine what functional traits are most sensitive to the construction of physical barriers (For example, migratory fish species or algalivores may be most sensitive to the construction of multiple physical barriers across rivers).

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

Identification of core study area – An RTI was filed to get the positions for all commissioned MHPs in Karnataka. Based on this data, the Yettinahole river basin, which forms the upper reaches of the Netravathi drainage system, was chosen to be our study site. Other reasons to select this river were that there is a dearth of studies on the freshwater fish assemblages that occur here and the diversion of this river is being considered for a drinking water project.
Ground truthing and mapping of study area – Suitable test and control sites were identified after extensive mapping and field surveys. The study site falls within the Shiradi Ghats ($12^0$46.156', $75^0$40.561'). Yettinahole will act as the test site, while Girihole and Addahole will act as the control sites. The entire river basin with the cluster of small hydropower projects has been mapped.
Literature review and collection of secondary data – We have collected secondary data on the fish species found in the Netravathi river basin. Along with this, we have carried out extensive literature reviews on methods of freshwater fish and amphibian sampling, basic hydrology data collection, vegetation sampling and best practices for social sciences. Standardisation of field procedures – Freshwater fish and hydrology data collection was standardised over a period of two weeks. Data collected during this period will not be used for actual data analysis.
Interacting with local fishermen – Fishing practices of different communities across the study area was observed, and some local practices were integrated with our field study methodology. These include the use of two passive traps – the 'kooli balle' and the 'tatte' method.
Identifying motivated individuals to work with this project – This project has given a platform for motivated individuals to learn more about ecology, field research and conservation. We formalised partnerships with two such individuals, and provided volunteering opportunities to many.
Completion of field data collection – We sampled 85.5 km of river (82% coverage) and collected data on fish assemblages and hydrological and landscape variables in order to determine the impact of mini hydel dams on riverine ecosystems. We further mapped all dam-related linear intrusions (such as access roads, penstock pipes and transmission lines) in the landscape and measured the spread of invasive weeds from the same. We also interviewed 100 individuals from surrounding villages and panchayat offices in order to determine the social impacts of mini hydel dams.
Outreach activities – Various river related issues such as unsustainable fishing practices, impacts of barriers across rivers and impacts of river diversion were discussed with local school children as well as members of local communities and panchayat members in the form of posters, visual presentations and discussions
Publication of popular articles – We published an article on chemical poisoning of rivers in Conservation India (http://www.conservationindia.org/gallery/chemical-poisoning-of-freshwater-fish-in-western-ghats). We also got two articles printed in leading newspapers regarding the same issue – one in an English newspaper (http://www.deccanherald.com/content/396305/water-

039poisoned039-bigger-fish-catch.html) and one in a Kannada newspaper (http://janamitra.epapertoday.com/?yr=2014&mth=3&d=28&pg=2).
Drawing attention to unsustainable fishing practices – We drew attention to the adverse effects of using chemical poisons for fishing by reporting instances of the same to officers of the Forest Department. This was coupled with awareness drives in the form of posters, discussions, presentations and popular articles published in local news dailies.
Creating a short film on the impacts of mini hydel dams – We have collaborated with Mr. Kalyan Verma and Mr. Prasenjeet Yadav to create a short film about the ecological and social impacts of a cluster of mini hydel dams situated in biodiversity rich areas. The raw footage has been collected and the processing of the film is underway.

Please provide the following information where relevant:

Hectares Protected: ***NIL***

Species Conserved: Our activities have led to curbing the unsustainable fishing practice of chemical poisoning to some extent. This, in turn, has better enabled the conservation of a number of fish species.

Corridors Created: ***NIL***

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

Success –

- We established a strong communication network between local journalists and a few motivated individuals in the landscape. This enabled local individuals working with us to report acts of timber poaching in the press.
- Through our social interviews, we were able to understand the perceptions of the local communities towards various water issues. This will help us suggest valid recommendations to the panchayat leaders and forest officials.
- We were able to successfully sample approximately 82% of the river stretch within our study site within 5 months. This data will enable us to understand the impacts of multiple barriers on fish communities and on water quality.
- We were able to raise awareness about the dangers of using chemical poisons for fishing amongst members of the local community.

Challenges –

- Due to delays in obtaining forest department permits, we were unable to sample during the winter season. Hence, our fish and hydrological field work extended from January, 2014 to May, 2014.
- Further, our permits did not allow us to sample within the forests after 6pm. Hence, we were unable to study amphibian assemblages.
- Due to extremely hostile field conditions, we were able to do only a preliminary study of invasive weeds from dam-related linear intrusions.

Were there any unexpected impacts (positive or negative)?

During the course of our field work, we found that a number of local individuals use chemical pesticides and poisons to catch fish from rivers. We learned that this transition from traditional fishing practices was relatively new (only about 20 years old) and mostly employed by the younger members of the community.

In order to try and curb this practice, we employed a multi-pronged approach. We started by informing the forest officials of such instances, and followed it up by publishing popular articles in English and Kannada highlighting the dangers of chemical poisoning. We also got posters made that depicted the adverse impacts of this practice on human and ecosystem health that were put up in all panchayat offices and places of public gatherings. This message was also imparted to numerous school children through presentations and pamphlets.

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)

Regular interactions and discussions with various experts in the fields of hydrology, ichthyology, landscape ecology, social sciences and environmental sciences helped us greatly in designing our project effectively.

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

A detailed field reconnaissance made project implementation easier as we could plan better. Having a few local contacts ensured quicker logistical arrangements (such as getting adequate field accommodation, vehicles and field assistants).

Other lessons learned relevant to conservation community:

Obtaining the relevant permits to conduct research within forest areas is always a challenge, especially when studying non-charismatic fauna such as fish or amphibians. We had to make multiple trips to various officials in different cities over a period of almost six months to finally get our permits and begin field work. Due to the unanticipated delay in receiving permits, we lost out on our winter sampling season.

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
Murugappa Group	A	$400	Provided us with a field station within their estate for 6 months

***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.

Standard field sampling protocols were employed which can be replicated with ease.
Our findings and detailed suggestions will then be shared with all stakeholders including the Ministry of Environment and Forests (MOEF) and to the National Board for Wildlife (NBWL). In order to make our study more widely available, we will also publish our findings in an international peer-reviewed open-access journal.

Summarize any unplanned sustainability or replicability achieved.

We are in the process of analyzing our data, and once the results are obtained, we will explore the possibility of studying this issue further.

Safeguard Policy Assessment

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

Environmental Assessment (OP 4.01)

The sub- project thought to have potential negative impacts were fish sampling procedures. However, we employed only scoop nets, cast nets and traditional passive traps to capture and release fish. These are some of the least invasive techniques to sample fish communities.

Accidental injury and mortality was constituted less than 2% of our entire catch.

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

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 1st July 2013 to 30th November 2014 (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.	No			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?	No			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	3930		Kagneri RF, Kabbinale RF, Kanchankumari RF and Kemphole RF, Bisale RF
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Yes	1880		Kagneri RF, Kabbinale RF, Kanchankumari RF and Kemphole RF, Bisale RF
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	No			

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
Total																						

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

Additional Comments/Recommendations

No additional comments

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.

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List of appendices:

1) Detailed Technical Report