CEPF Final Completion and Impact Report

Organization's Legal Name:	Ashoka Trust for Research in Ecology and the Environment
Project Title:	Saving the fish from Mekong to Meghalaya
Grant Number:	CEPF-109929
Hotspot:	Multiple
Strategic Direction:	1 Multiple
Grant Amount:	$67,306.97
Project Dates:	November 01, 2019 - February 28, 2022
Date of Report:	February 02, 2022

IMPLEMENTATION PARTNERS

1. FERAL - The team led by Srinivas Vaidyanathan were a part of all the project activities planning. They were involved in the reporting and have supported the ATREE team with their expertise. They also handled the 'social media' part of the project.
2. Bashida Massar - Resident of the village (project site) and our project partner from Meghalaya. She was very instrumental in mobilizing the community for establishing the FCZ. She was leading our efforts in Lapalang as well as the surrounding villages to meet the village council members and propose the idea of establishing conservation zone.
She also trained the team in fish sampling methods and in conducting community perception studies.
3. Village council of Lapalang - The headman and the 11 council members of Lapalang village were involved in organizing community meetings. They have also taken responsibility for the monitoring and patrolling of the FCZ, even during the night. Their support was very crucial specially during the COVID lockdown time.
4. Community members of Lapalang- Many of the community members have supported the project team during the installation and even for monitoring of the FCZ.

CONSERVATION IMPACTS

Planned Long-Term Impacts: 3+ years (as stated in the approved proposal)

Impact Description	Impact Summary
Fish Conservation Zones established in other rivers in Meghalaya and Manipur	During the course of time, it was brought to our notice that there already were Fish Conservation Zones established in different districts of Meghalaya.
Fish Conservation Zones become one of the pillars of river conservation strategies of state governments in NorthEast India	In the past Fish Conservation Zones have been established in Meghalaya by the Fishery department. However, very little is known on the objectives,

Impact Description	Impact Summary
	functioning and local community involvement in the management of these FCZs. From our field visits to other FCZ's and interactions with officials, the FCZ's that have been formed by the Fishery departments are more like fish stocking ponds or pools, and they have not been established in free-flowing rivers. These efforts can be strengthened by sharing experience from this project with the concerned officials.

Planned Short-Term Impacts: 1 to 3 years (as stated in the approved proposal)

Impact Description	Impact Summary
Baseline data on aquatic biodiversity of 2 rivers covering ~35 km will be generated	Baseline data on aquatic biodiversity has been generated for Rymben river. It was generated using a combination of techniques. We sampled for fish along a 300m stretch, photographed fish that was caught by fishermen and recorded its weight and length. So far, we have recorded 10 species of fish of which 3 are near threatened. Details are available in Aquatic Biodiversity report.
Fish conservation zones demarcated in two rivers (4 sites, each approximately 500m long and 50 m wide ~2.5 ha) and managed by local communities, to the best of our knowledge these will be the first-ever in the Indian biodiversity hotspots	One FCZ in the Rymben river covering 300 meters and another of 2.2km in the Tuivang river was established through a series of consultative meetings and they are currently managed by local communities. Details are available in the respective FCZ reports
District level government officials introduced to the potential of FCZs in fish conservation, local livelihoods and diversification of protein security	The district level Fishery department officials were invited for an online webinar introducing the concepts of FCZs. The webinar was organised by ATREE, FERAL and FISHBIO. The government officials were also invited to attend the community meeting and inauguration of the FCZ. During these events, there were discussions on potential of FCZs in fish conservation, and how it can influence local livelihoods and protein security. Details are available in the webinar report.
Capacities of civil society organisations in establishing community-based fish conservation zones built	Formal capacity building workshops were not possible due to the pandemic restrictions. However, the village council and their community members were involved in all stages of establishing community-based fish conservation zones. Online workshops on the basic concepts of FCZ and field methods in Hydrology was conducted to transfer learning to interested individuals, civil societies and government officials. Details of the online workshops and webinars are attached.
Capacities of about 20 local community members and local researchers built in the basics of fish taxonomy, biology and hydrology	Local community members were trained in basic fish taxonomy and hydrology during our visit to the field site in Jan 2021 and November 2021.

Impact Description	Impact Summary
	Local community member and local researchers were also trained during the online Hydrology workshop. The details are attached in the Hydrology Workshop report
The ecological flow regimes for two rivers understood, and district-level officials, civil societies and local communities provided with first-hand estimates of their ecological flow regimes	Planning for the month of February 2022

Unexpected impacts (positive or negative)?
Nil

PROJECT RESULTS/DELIVERABLES

Overall results of the project:
1. Lapalang Fish Conservation zone was established in January 2021. The length of the FCZ was 300m.
2. We set up monitoring equipment - a tipping bucket rain gauge for measuring rainfall and a acoustic water level recorder in the stream
3. The community perception survey was conducted both before and after establishing the FCZ. The survey analysis indicates that the community perceives an improvement in terms of cleanliness and less pollution of the river. A majority of them reported an increase in the number of fishes which matches with our fish sampling data as well. This is an encouraging outcome.
4. Most of the community feel the importance of having such a conservation measure in place and the village council have decided to continue with the FCZ even after the project ends.

Results for each deliverable:

Component		Deliverable		
#	**Description**	**#**	**Description**	**Results for Deliverable**
1.0	Transfer and sharing of knowledge across hotspots	1.1	Report on training workshop in fish sampling techniques and stream hydrology in Western Ghats river basins for researchers from Eastern Himalayas	Report attached - D1.1_Report_Sirsi_workshop_March
1.0	Transfer and sharing of knowledge across hotspots	1.2	Report on learning from interactions with communities in Laos who have successfully implemented FCZs	Interactions with communities in Laos was restricted to project implementation team of FISHBIO. International travel and interactions with local communities was not possible due to the pandemic. However, regular interactions with FISHBIO helped our project team to revise and adapt strategies to establish Fish Conservation Zones. FISHBIO also provided valueable feed back and suggestions to address concerns and constraints faced during the establishment and management of the FCZ. D1.2FISHBIO Document and D1.2_Report_FCZ_Webinar document attached.
2.0	Build capacities of local community members and researchers in basics of fish taxonomy, biology and hydrology	2.1	Report on hydrology workshop conducted in Eastern Himalayas	The workshop was conducted online. Report attached - D2.1_Report_Hydrology_workshop_Online

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
3.0	Identification of river stretches with high conservation value in consultation with local communities	3.1	Report and maps on on aquatic biodiversity of "Tuivang" and "Rymben-Borhir" river systems	We undertook opportunistic sampling because of the pandemic. The results of the fish sampling is presented in the attached report D3.1_Aquatic_Biodiversity_Report_Meghalaya
3.0	Identification of river stretches with high conservation value in consultation with local communities	3.2	Report and maps on hydrologic health of the "Tuivang" and "Rymben-Borhir" river systems	Water level and rainfall monitoring instruments were installed in January 2021. In Meghalaya, we were not able to get a continuous set of data because the instrument set up was damaged during the high flows. We also conducted River health monitoring surveys all along the FCZ till 5km upstream. The results are attached as a report. D3.2_Hydrologic_Health_Report_Meghalaya
4.0	Establish Fish Conservation Zones in two rivers which will be managed by local communities	4.1	Compliance report to CEPF on social safeguard policies including free, prior and informed consent with Scheduled Tribe (ST) people	The consent letters were already submitted to CEPF
4.0	Establish Fish Conservation Zones in two rivers which will be managed by local communities	4.2	Report and map of Fish Conservation Zones in Eastern Himalayas	A detailed report on FCZ and map are attached. D4.2_FCZ_Report_Meghalaya
5.0	Build capacities of local communities to aid conservation efforts	5.1	Report on participatory workshops with local communities on protocols for monitoring FCZs	Phase 2 and 3 of the FCZ report talks about the workshops and protocols for monitoring. D4.2_FCZ_Report_Meghalaya
5.0	Build capacities of local communities to aid conservation efforts	5.2	Report and maps on ecological flow regimes for	Planned for February 2022

Component		Deliverable		
#	Description	#	Description	Results for Deliverable
			"Tuivang" and "Rymben-Borhir" river systems	
6.0	Build awareness of policy and decision makers on Fish Conservation Zones	6.1	Feed back from workshop participants	Planned for February 2022 after the E-flow and FCZ workshops
6.0	Build awareness of policy and decision makers on Fish Conservation Zones	6.2	Popular article on ecological flows for "Tuivang" and "Rymben-Borhir" river systems	Planned for February 2022
7.0	Build appreciation for fish conservation zones and ecological flows in civil society	7.1	Social media campaign	Social media campaign information available in the report D7.1_Report_Social_Media_Campaign
6.0	Build awareness of policy and decision makers on Fish Conservation Zones	6.3	Popular article on FCZs in Eastern Himalayas	A list of articles and media reports and videos are attached. D6.3_Popular_article_mediaReports_on FCZ_EasternHimalayas
8.0	Establish a mechanism to manage sub-grants and reporting	8.1	Signed sub-grant agreement	Completed
9.0	Monitor changes in organisational capacity and gender main streaming	9.1	Baseline and final civil society and gender tracking tools	Baseline GTT was submitted in the beginning of the project. The final GTT is being submitted with this report. D9.1_Final_Gender-tracking-tool-revised-english
10.0	Monitoring FCZs	10.1	Report on the initiation success of FCZs	The initial success of the FCZ is mentioned in the Phase 4 of the FCZ report. D4.2_FCZ_Report_Meghalaya

Tools, products or methodologies that resulted from the project or contributed to the results:

We developed an Open Data Kit to record details of fish species found during sampling and also to record catch from fishermen and markets.
We constructed a portable aquarium, "photarium" , to photograph fish for identification. This eliminates the need to handle fish to measure and photograph.
We have telemetered our Water Level Recorders and Rain Gauges, this allows transmission of data on a daily basis when mobile networks are available, reducing the dependence on computer literate field staff. However this didnt work properly in Meghalaya due to connectivity issues.

PORTFOLIO INDICATORS

Portfolio Indicator Number	Portfolio Indicator Description	Expected Numerical Contribution	Expected Contribution Description	Actual Numerical Contribution	Actual Contribution Description

GLOBAL INDICATORS

Protected Areas

Protected areas that have been created and/or expanded as a result of the project. Protected areas may include private or community reserves, municipal or provincial parks, or other designations where biodiversity conservation is an official management goal.

Name of Protected Area	WDPA ID*	Latitude	Longitude	Country	Original Total Size (Hectares) **	New Protected Hectares ***	Year of Legal Declaration or Expansion

*World Database of Protected Areas

**If this is a new protected area, 0 should appear in this column

*** This column excludes the original total size of the protected area.

Key Biodiversity Area Management

Key Biodiversity Areas (KBAs) under improved management—where tangible results have been achieved to support conservation—as a result of the project.

KBA Name	KBA Code	Size of KBA	Number of Hectares with Improved Management

Production Landscapes

Production landscapes with strengthened management of biodiversity as a result of the project.

A production landscape is defined as a site outside a protected area where commercial agriculture, forestry or natural product exploitation occurs.

Name of Production Landscape	Latitude	Longitude	Hectares Strengthened	Intervention

Benefits to Individuals

- **Structured Training:**

Number of Men Trained	Number of Women Trained	Topics of Training
4	3	Hydrological Monitoring Fish sampling River Health Assessment Basic GIS mapping Data management

- **Cash Benefits:**

Number of Men – Cash Benefits	Number of Women – Cash Benefits	Description of Benefits
0	0	

Benefits to Communities

View the **characteristics** column below with the following corresponding codes:	View the **benefits** column below with the following corresponding codes:
1- Small Landowners	a. Increased Access to Clean Water
2- Subsistence Economy	b. Increased Food Security
3- Indigenous/ Ethnic Peoples	c. Increased Access to Energy
4- Pastoralists / Nomadic Peoples	d. Increased Access to Public Services
5- Recent Migrants	e. Increased Resilience to Climate Change
6- Urban Communities	f. Improved Land Tenure
7- Other	g. Improved Use of Traditional Knowledge
	h. Improved Decision-Making
	i. Improved Access to Ecosystem Services

Community Name	**Community Characteristics**							**Type of Benefit**								**Country**	**Number of Males Benefitting**	**Number of Females Benefitting**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**	**i**			

Characteristics of "Other" Communities:

Policies, Laws and Regulations

View the **topics** column below with the following corresponding codes:			
A- Agriculture	E- Energy	I- Planning/Zoning	M- Tourism
B- Climate	F- Fisheries	J- Pollution	N- Transportation
C- Ecosystem Management	G- Forestry	K- Protected Areas	O- Wildlife Trade
D- Education	H- Mining and Quarrying	L- Species Protection	P- Other

No.	**Name of Law**	**Scope**	**Topics**														
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**

"Other" Topics Addressed by the Policy, Law or Regulation:

No.	Country/ Countries	Date Enacted/ Amended	Expected impact	Action Performed to Achieve the Enactment/ Amendment

Companies Adopting Biodiversity-friendly Practices

A company is defined as a for-profit business entity. A biodiversity-friendly practice is one that conserves or uses natural resources in a sustainable manner.

Name of Company	Description of Biodiversity-Friendly Practice	Country/Countries where Practice was Adopted

Networks and Partnerships

Networks/partnerships should have some lasting benefit beyond immediate project implementation. Informal networks/partnerships are acceptable.

Name of Network/Partnership	Year Established	Country/ Countries	Established by Project?	Purpose

Sustainable Financing

Sustainable financing mechanisms generate funding for the long-term (generally five or more years). These include, but are not limited to, conservation trust funds, debt-for-nature swaps, payment for ecosystem services (PES) schemes, and other revenue, fee or tax schemes that generate long-term funding for conservation.

Name of Mechanism	Purpose	Date Established	Description	Country/ Countries	Project Intervention	Delivery of Funds?

Globally Threatened Species

Globally threatened species (CR, EN, VU) on the IUCN Red List of Threatened Species, benefitting from the project.

Genus	Species	Common Name (English)	Status	Intervention	Population Trend at Site

LESSONS LEARNED

1. Establishing community managed fish conservation zones is possible when local communities have a larger role in managing their land and water resources. Our project partners were from the local community, and they were able to secure the required commitments from the village councils to establish and manage the FCZ.

2. Support from Government agencies (Fisheries department) to conserve fish might take longer due to different objectives. Often government programmes promote captive fisheries of few select species, sometimes exotics, which might be divergent from the objectives of a FCZ in natural free flowing rivers.

3. Designing FCZs when it is not mandated by the government needs to be flexible to incorporate the feedback from community members and from scientific monitoring of fish stocks. An adaptive framework which allows for sustainable harvest of fish based on data will be more acceptable to communities dependent on fish from their rivers.

4. A regular monitoring / patrolling team which is paid by the village council might be required to prevent outsiders from fishing within the FCZ.

5. Active role of village leaders and council members in timely resolution of disputes and violations of FCZ rules is critical to ensure public support for fish conservation efforts.

SUSTAINABILITY/REPLICATION

• The biggest challenge that we face is to ensure that the local communities sustain their efforts beyond the project period especially when community managed fish conservation zones are not formally recognized by the government.
• Sustainability and replicability will need external funds to support the monitoring and patrolling team. Funding from Government and Non-Government sources are required until fish stocks are restored. During the project period an innovative approach to reward volunteers of the monitoring team was adopted in Meghalaya wherein fines collected from people violating the FCZ rules were distributed to among the member of the volunteering team. While this ensured that their morale remained high, sustaining this approach when violations decrease due to better enforcement will be a challenge and will require alternate funding mechanism.
• In the Indian context, a few states have begun to recognize fish conservation zones (Ex. Karnataka, Meghalaya any other states), a longer engagement with local communities will be required to document and raise awareness among policy makers to shift attention towards community managed fish conservation zones which aim to conserve natural fish populations.

ENVIRONMENTAL AND SOCIAL SAFEGUARDS/STANDARDS

NA

ADDITIONAL COMMENTS/RECOMMENDATIONS

This project was not able to achieve all the objectives as per the original plan because of the pandemic. We are grateful to CEPF for extending the project period as well as supporting us in terms of logistical and budgetary modifications.
We wish that this project will get a phase 2 part where we can build upon the foundation, we have made in the two sites and extend it to other sections of the same river as well as include other rivers as per the original plan.

ADDITIONAL FUNDING

Total Amount of Additional Funding Actually Secured (USD)	
Breakdown of Additional Funding	

INFORMATION SHARING AND CEPF POLICY

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned and results. For more information about this project, you may contact the organization and/or individual listed below.

Ashoka Trust for Research in Ecology and the Environment (ATREE), info@atree.org