

**Process Framework for Involuntary Restrictions and Social Assessment**

**25 July 2019**

**CEPF Grant 109839**

**FISHBIO**

***Building Freshwater Bridges: Connecting Fish Conservation Zones and Ecotourism in Lao  
PDR and Costa Rica***

**Lao PDR and Costa Rica**

## **Grant Summary**

1. **Grantee organization:** FISHBIO
2. **Grant title:** Building Freshwater Bridges: Connecting Fish Conservation Zones and Ecotourism in LAO PDR and Costa Rica
3. **Grant number:** 109839
4. **Grant amount** (US dollars): \$100,000
5. **Proposed dates of grant:** Oct 2019–Oct 2021
6. **Countries or territories where project will be undertaken:** Lao PDR, Costa Rica
7. **Date of preparation of this document:** 25 July 2019

### **1. Project Background:**

Freshwater ecosystems are hotspots of biodiversity, yet these critical habitats are often overlooked or undervalued in conservation efforts, despite facing serious threats from habitat loss and fragmentation, overfishing, and habitat degradation. This omission is prevalent throughout freshwater habitats of the tropics, from developing countries such as the Lao People’s Democratic Republic (Lao PDR), to more developed countries such as Costa Rica. Despite the limited resources available for conservation in Lao PDR, the country has been able to make great strides in engaging local people in freshwater fisheries management through the implementation of protected areas known as Fish Conservation Zones (FCZs). FCZs have become a popular conservation tool in Southeast Asia because, when successful, they can address the dual goals of conserving aquatic species and enhancing food security for local people by supporting the sustainability of fish populations. A co-management framework, in which responsibility for managing FCZs is shared between communities and local government authorities, also empowers communities to play an active role in managing their freshwater resources, which can help discourage unsustainable fishing methods, such as electrofishing, poisoning and explosives. Based on the experiences and lessons learned through the establishment and management of FCZs in Lao PDR, we believe a valuable two-way exchange can take place between Lao PDR in the IndoBurma Hotspot and Costa Rica in the Southern Mesoamerica Hotspot to advance freshwater conservation through a cross-fertilization of ideas.

While Costa Rica is considered a global leader in conservation and sustainable tourism, it is critically lacking in freshwater protection and sustainable use practices, as well as models for local communities to engage in the management of freshwater areas. This provides an opportunity to bring freshwater conservation to the forefront of discussion in Costa Rica, while exploring the potential for community engagement in the process by drawing on examples from Lao PDR. While Lao PDR has a strong track record for establishing freshwater protected areas, one of the greatest

challenges facing FCZs is how to sustain conservation efforts once initial donor funding ends. Ecotourism is often touted as a means of integrating community livelihoods with conservation goals, and for providing alternative livelihood opportunities to offset impacts that may be incurred by protected area restrictions. Civil society in Lao PDR could greatly benefit from learning about the sustainable tourism models that Costa Rica has implemented, and use this to develop or strengthen ecotourism opportunities at suitable FCZs in Lao PDR to enhance their sustainability. Although Costa Rica's best practices in responsible aquatic tourism come from its marine protected areas (MPAs), a recent publication by FISHBIO (Loury et al. 2017) highlights that both freshwater and marine protected areas have similarities in their human dimension, and there can be a great benefit in sharing lessons between marine and freshwater realms, even within Costa Rica.

Although Costa Rica is a leading country in environmental matters, the concept of an exclusive "freshwater protected area" is non-existent. A handful of rivers are protected within already assigned terrestrial protected areas (for example the Humedal Nacional Térraba-Sierpe, the Refugio de Vida Silvestre Caño Negro, and the Parque Nacional Tortuguero), but in practice, conservation protections only focus on the terrestrial portion. As an example, the management plan of the Humedal Nacional Térraba Sierpe lacks rules for managing artisanal and guided sport fisheries, but ideas from such guidelines could come from local communities and be supported by fish research and monitoring efforts. When it comes to conserving fish species, effort has been almost entirely limited to conserving marine fishes, such as through the establishment of MPAs. Costa Rica is home to some 250 species of freshwater fishes, including endemic species that are concentrated in the southern Pacific region, yet there is no focussed effort to protect or manage these fish species. Furthermore, a number of fish species of commercial, subsistence, and recreational importance rely on connectivity between freshwater and marine habitats, as they depend on both environments to complete their life cycles (e.g. snooks [Centropomidae], snappers [Lutjanidae] and tarpon [Megalopidae]). Juveniles of these species, in particular, often rely on suitable freshwater or brackish environments for early growth and development, only migrating to marine habitats upon reaching certain sizes/ages. It is therefore of great concern that fish die-offs occur in Costa Rican rivers every year as a result of unregulated agro-chemical use. Trash and chemical contamination in rivers are important threats and well-acknowledged issues, and the potential for dam construction, while currently not imminent in the Térraba Basin, is a latent concern that could reappear at any time. More visibility and effort are needed to understand, value, and protect the freshwater ecosystems and biodiversity of Costa Rica.

Although recent efforts have been directed towards protective regulations that are more inclusive of freshwater resources and resource users, historically, local and indigenous communities have been left out of the conversation regarding natural resources management and conservation efforts in Costa Rica. Historical indigenous community uses of rivers need visibility, and traditional ecological knowledge is buried. This project would provide an opportunity to identify and connect with communities, researchers, and NGOs in the Térraba and Osa Peninsula river basins, and

beyond, who would benefit from or could be empowered by freshwater conservation, with an ultimate goal of creating a civil society network. This network linked by the natural connections of freshwater basins could raise the visibility of communities and organizations, amplify their voice, and give them a platform to advocate for themselves in the face of environmental threats. Visiting experts in freshwater fisheries co-management and community engagement from Lao PDR would provide an opportunity to begin discussions with civil society and government organizations in Costa Rica to introduce new concepts and help envision and develop a process and legal framework for Costa Rica to designate areas for freshwater management and conservation with community participation.

This effort is particularly timely for Costa Rica, given recent events in which the lives of indigenous community leaders have been threatened around the issue of land use, which underscores the need to increase their influence. Involving indigenous communities such as those located in the Terraba, Curré and Boruca territories in discussions of conservation and management can be a tool to help bring international visibility to these communities and empower them. This project can help build a bridge between regulators, conservation entities, and local people to re-emphasize traditional ecological knowledge, and actively engage communities in the process of freshwater conservation and management. Similarly, this project offers an ideal learning opportunity for communities and civil society in Lao PDR to think toward the future of conservation sustainability. Now that FCZs have become widespread in Lao PDR, the timing is right for conservation practitioners to investigate models such as ecotourism to make conservation efforts like FCZs more sustainable while realizing their full potential to benefit both local people and the environment.

This project will draw from and build on previous CEPF-funded efforts in Lao PDR to develop and strengthen a network of FCZs along the Mekong River (Grant 103512), as well as develop a guidebook for assessing the effectiveness of FCZs (Grant 65817). The project will involve the community of Ban Sakai in Vientiane Province, where an FCZ has been established on the Mekong River as part of Grant 103512, as well as the neighboring community of Ang Nhay, where tourism has recently been encouraged at an FCZ through the construction of large Mekong giant catfish statues and a fish-feeding platform. The project will also include the community of Ban Konglor in Khammouane Province, whose FCZ served as a pilot-testing location for the FCZ guidebook under Grant 65817. Ecotourism is already an important livelihood activity for the community due to the attraction of Konglor Cave, which is connected to the FCZ. At the end of the project, the community requested FISHBIO's future assistance in helping to integrate the FCZ with tourism activities, such as through the construction of interpretive signs to teach visitors about local fish and encourage the purchase of fish feed. Finally, the proposed project will work with the village of Nam Et in Houaphanh Province, where FISHBIO has previously worked on a project funded by The Agro Biodiversity Initiative (TABI) to assess the community's FCZ, and noted the potential to build on the community's existing ecotourism activities related to their FCZ.

We believe that the two-way exchanges proposed by this project will help lay a strong foundation for the potential to replicate FCZs in Costa Rica from the ground up, while strengthening and sustaining existing FCZs in Lao PDR. Our vision is to introduce this new concept in Costa Rica by necessarily beginning at the beginning: identifying communities that would benefit from this model, and building the needed connections with civil society and government to integrate freshwater fish into the country’s conservation agenda with participation from local people. The exchange of knowledge and experience about how this model has been carried out in Lao PDR will be instrumental to such an effort, and in return, conservation practitioners in Lao PDR will receive new ideas about integrating ecotourism and FCZs to engage and support local communities. Ultimately, we believe that communities and Civil Society Organizations (CSOs) in both countries could greatly benefit from this fruitful exchange to advance community participation in the conservation of freshwater species found in biodiversity hotspots across the globe.

**2. Social and Threat Analysis:**

**Lao PDR**

In Lao PDR, we propose to work with four communities, two of which have been part of previous CEPF-funded projects (Ban Sakai and Ban Konglor), and two of which we have been in recent contact with (Ban Nam Et and Ban Ang Ngai). Demographics for each community are summarized below:

Table 1. Community demographic information in Lao PDR

No.	Village Name	District	Province	Total Population	#Female	Households
1	<b>Nam Et</b>	Mueng Et	Houaphan	1,056	895	380
2	<b>Sakai</b>	Sangthong	Vientiane Capital	972	530	203
3	<b>Ang Ngai</b>	Sikottabong	Vientiane Capital	810	401	166
4	<b>Konglor</b>	Khounkham	Khammouane	1,337	unknown	228

Table 2. Fishing and Fish Conservation Zone information in Lao PDR communities

No.	Village Name	Year FCZ Established	Full-time fishers (male + female)		Part-time fisher (male + female)		Dominant Ethnic group
			M	F	M	F	
1	Nam Et	2008	25	0	0	0	Lao Loum
2	Sakai	2019	0	0	17	0	Lao Loum
3	Ang Ngai	2017	0	0	27	3	Lao Loum
4	Konglor	2012	0	0	10	0	Lao Loum

The communities of Sakai and Ang Ngai are located just a few hours from Vientiane Capital and are close to the main road. Their FCZs are located on the Mekong River mainstem. The communities of Nam Et and Konglor are more remote, and their FCZs are located in smaller rivers. Subsistence agriculture is the predominant livelihood in these communities, primarily rice cultivation, although people may also raise livestock and other crops. Fishing is usually a part-time, secondary occupation, with the majority of fish being caught for household consumption, although fish may also be sold within the village or to a fish trader.

Fish Conservation Zones have been established in all communities, with the oldest being more than ten years old, and the newest being established within the last year. These FCZs have been established out of concerns related to overfishing, including fishing with illegal practices such as electricity and dynamite, which present a serious threat to fish populations in Laos. Three of the villages already have some ecotourism activities associated with their FCZs, which include fish-feeding platforms in Nam Et and Ang Ngai, and cave boat tours in Konglor. The village of Sakai is interested in exploring the potential ecotourism, given the easy access to their village and FCZ from a main road. Through the course of the project, we will consult with these communities and provide recommendations from Costa Rican project partners about ways to enhance or further integrate ecotourism with FCZ management in these communities. The hope is to help provide a source of income to support FCZ management (including the cost of boat fuel for patrolling FCZs) to improve their sustainability to continue supporting fish conservation.

## Costa Rica

In Costa Rica, consent still needs to be obtained from identified local communities to confirm their participation in this project. Our plan is to approach indigenous communities of the Curré, Térraba and Boruca territories located in Puntarenas Province, in the southern region of Costa Rica's Pacific slope. We are choosing to work with indigenous groups first, because these are some of the populations least heard in the country, and because we know anecdotally that many of these communities used the rivers traditionally for fishing or navigation, so FCZs could be a tool that they could greatly benefit from.

Within the three indigenous territories mentioned above, we have identified at least six indigenous communities. All of these live in the upper Térraba basin, near Buenos Aires canton. If these communities are not interested in FCZs specifically, we will discuss other forms of community-based freshwater fisheries management. If there is no interest in managing fish, we will approach other communities in the Térraba or the Sierpe river basins, or on the Osa Peninsula, all located in the Puntarenas Province. However, we do know from some members of these communities, that they are interested to hear about this project idea. Lastly, if necessary, we will expand to identify communities in the southern Caribbean slope or the north of the country, near Caño Negro.

In Costa Rica, all indigenous groups live a situation of disadvantage due to historic and structural social exclusion. The groups we will approach belong to the Boruca, Térraba and Curré indigenous territories (see Figure 1 for map), all located in Puntarenas Province. The general population size of these groups is anywhere between 1,000 to 3,000 people, but this number includes indigenous people that may live outside of the territory. Most of the population is young and growing, with roughly equal numbers of men and women. The average literacy rate is approximately 95% in all these territories, and on average the level of formal education is about 6th grade. The main language spoken is Spanish, as in many territories the original languages have been lost. Farming activities are one of the most prevalent livelihoods. In Costa Rica, social conditions can be evaluated based on access to four basic needs: 1) access to quality housing (a roof, electricity, lack of crowding); 2) access to a healthy life (sanitation infrastructure), 3) access to knowledge (high school or higher education), and 4) access to goods and services. Approximately 70% of the Borucas and Currés do not have all of these basic needs covered, and in the Térraba nearly 90% of the population are lacking in at least one of these basic needs.

Table 3. Characteristics of the indigenous territories that will be first approached by this project.

<b>Territory</b>	<b>Population size</b>	<b>No. Households</b>	<b>% of households that do at least one farming activity<sup>1</sup></b>	<b>Population employed in agriculture<sup>2</sup></b>	<b>% of men in agriculture</b>	<b>% of women in agriculture</b>
------------------	------------------------	-----------------------	--	---	--------------------------------	----------------------------------

Térraba	2,084	568	63.7	392	96.4	3.6
Boruca	3,228	888	60.6	527	95.6	4.4
Curré	1,089	311	57.9	227	92.3	7.7

1: Either they have land where they farm, have grown crops at some point, have livestock (cow, chicken, pig), or other.

2: May include farming, hunting, fishing, aquaculture, wood extraction. About 70% of people employed in agriculture are self-employed (no boss or being hired by a private company).

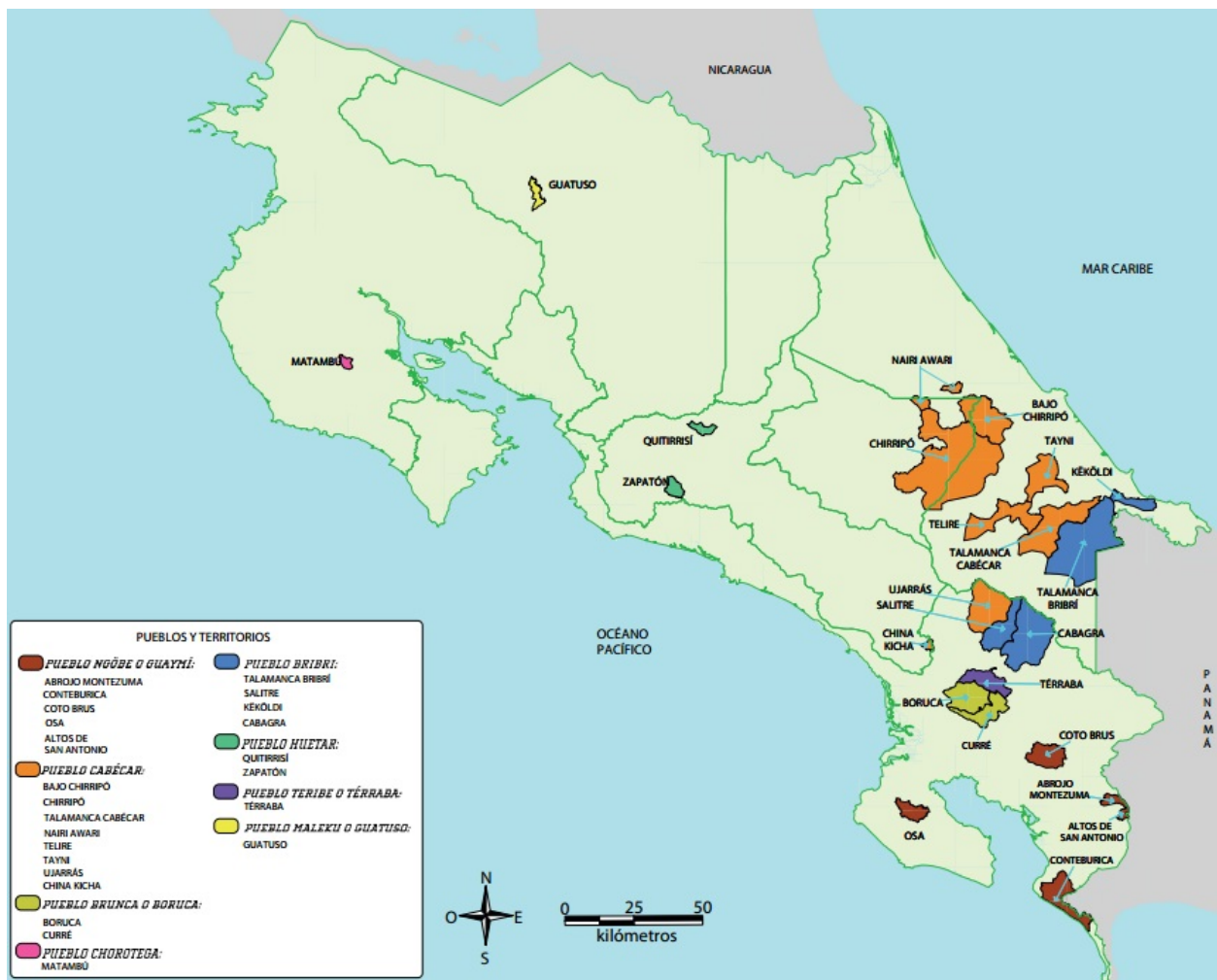


Figure 1. Map of the indigenous territory coverage in Costa Rica. We will start by approaching six villages located within the Térraba (purple), Boruca and Curré territories (light green).

Generally recognized threats in these territories include conflicts associated with land ownership, environmental degradation within the territories, poverty, deficient health coverage, lack of food security, limited access to commerce markets, and lack of land use planning. In Térraba there have



been problems with the governance system, but these problems are resolving. People have little or no access to credit or financial resources to make entrepreneurial businesses. The local history is filled with violations of indigenous rights, and a lot of local languages and traditions have been lost.

### **3. Participatory Preparation and Implementation:**

Prior to proposing any FCZ in Costa Rica, several communities will be contacted to identify as potential partners to participate. We will generate a social map of key actors interested in FCZ establishment that outlines the relationships and social networks of actors. Once this information is collected, we will select communities that express an interest in participating in the sustainable use of aquatic resources, and that also have key freshwater fisheries resources that require management. This will ensure that only communities with an expressed desire for outside support will be included. We will promote the creation of a network of interested communities and other key actors (NGOs, government agencies) in the river basin.

Following community selection, FISHBIO staff and Costa Rican partners (SINAC or INCOPECA, Keto, Neotropica, and others) will develop a series of participatory workshops to establish the fisheries management needs and goals in each interested community, to ensure that these ideas come from the communities themselves. Costa Rican partners will ensure that workshops include members from all segments of the community, including local leaders, women's groups, youth groups, local law enforcement and resource users.

During the workshops, the participants will be divided into smaller groups to identify problems and potential solutions related to fish or other aquatic life. In this way, we can capture a variety of opinions, and not just a single voice. Later, we will make available spaces and different communication channels to ensure that community members are free to express their opinions at any time and do it often. We will review the answers from these discussions, to see if there is common consensus among community members and a clear understanding about threats and solutions to conserving their aquatic resources.

If the majority of community members express a motivation and a clear desire for action, if local leaders agree that their community should participate in the project, and if the management objectives of the community can be resolved establishing an FCZ, then, we will explain the concept of FCZs to the communities, and how it has been a useful tool in other countries. We will also be clear that we are trying to find out if there is interest to help start a process where the government can also play a supporting role, and that this process may take a long time, but the first steps are to find out if communities were interested and whether this was an appropriate management tool. If so, we will help establish a network of interested communities and organizations that can support the initiative, and that we will engage in starting a discussion with government officials.

A process to support communities towards managing their resources will be started only if community leaders determine that the extent of community consent is sufficient to move forward. In Costa Rica, such a process would require an official consultation following local laws that have been established to protect indigenous communities. These will be the follow up steps after finishing this project.

#### **4. Criteria for Eligibility of Affected Persons:**

The restrictions of any new FCZs established in Costa Rica or existing FCZs in Laos will have the biggest impact on community members engaging in fishing. FCZs typically prohibit fishing with traditional gear (such lines, nets, and traps) within their boundaries to protect fish populations, which could impact groups or individuals who historically used these methods at the FCZ site. During meetings with each of the communities, FISHBIO staff will assess which groups or individuals are primary aquatic resources users (fishers). Interviews will help identify what proportion of the community engages in fishing as a primary livelihood, compared to those who fish opportunistically, and whether community members identify negative personal impacts resulting from management restrictions like the ones of the FCZs. Primary resources users will be invited to participate in project discussions and activities. Groups engaging in illegal, destructive fishing practices, such as fishing with dynamite, electric gear, or poison will be considered ineligible for assistance.

#### **5. Mitigation Measures/Measures to Assist Affected Persons:**

For the FCZs in Lao PDR, one of the goals for consulting with Costa Rican partners is to determine how ecotourism can be used to offset impacts of FCZs to affected persons, and ensure that benefits from FCZs can be distributed equitably in the community. Affected persons such as fishers (which may include indigenous people) will be given priority for inclusion in discussions related to ecotourism livelihood options that might be identified in the course of the project. If affected persons are unwilling or unable to participate in ecotourism activities, we will discuss with the community to identify other ways to improve access to food or income for affected persons if they are impacted by the FCZs.

In Costa Rica, the goal is to identify communities that would benefit from FCZs, map actors, create a network of interested communities and groups that can support them, start discussion with the government, and identify the next steps to follow in Costa Rica to be able to establish FCZs. Potentially affected persons are fishermen from the communities or from outside that utilize the space to be protected, and tourists that visit that spot in the river and want to be able to use it freely. We will consult with users and explain the benefits of closing a small area to obtain more fish, and

how tourists could still use the spot as long as they respect the fishing regulations, and alternative spots to fish if they wish to do so.

## **6. Indigenous People Affected:**

### Lao PDR

Much of the lower elevation and river valley areas in Lao PDR are inhabited by the Lao Loum (lowland Lao), who are the nation's most populous group. While the Lao Government only officially recognizes one "Lao" nationality, they have also declared 49 officially recognized ethnic groups. In one of the Lao project villages (Nam Et), 6 out of 380 households are identified as belonging to the Moungh ethnic group, while 2 have been identified as belonging to the Kimmou ethnic group (the rest belong to the Lao Loum majority group). During the project activities in this village, we will be sure to include representatives from these households, determine the extent to which they may be impacted by project activities, and give them the opportunity to participate in any ecotourism activities implemented in the community.

### Costa Rica

The indigenous communities that use the Térraba river are Borucas, Curré and Térraba. FISHBIO is partnering with Fundacion Neotropica for social science services, and our main contact there is Jorge Cole, a social scientist with experience working with these indigenous groups. Please see Section 2 on Social and Threat Analysis above for additional information about these indigenous groups.

## **7. Potential Impacts:**

### Lao PDR

The impact of fishing restrictions associated with an FCZ will depend on the extent and locations of fishing practiced by each community. In FISHBIO's past projects, ethnic minorities such as the Khmu were less dependent on fish than Lao Loum, due to their historical roots as an upland people that relied on farming and livestock. We will use interviews to assess the potential impact of FCZs on the few indigenous households that have been identified in participating villages and determine whether the fishing restrictions of the FCZ make it more difficult for indigenous people to access food or income. If this is found to be the case, we will discuss ways to mitigate these impacts with the community, such as ensuring that indigenous communities have a way receive benefits that may be incurred through ecotourism at the FCZs. Ecotourism activities implemented by this project have the ability to potentially benefit indigenous people through increased income or social standing if they are able to participate, and FISHBIO will work to facilitate this participation with the help of project partners and community leaders.

### Costa Rica

The implementation of FCZs may result in minor restrictions to the typical fishing activities of indigenous people, but we expect that these restrictions can be adequately mitigated for the long-term benefit of the fisheries resources and, ultimately, the indigenous people themselves. Since we have not yet approached the communities, this is only an estimate, and once we begin the project we will find out how important fishing is relative to other sources of food or livelihood, such as crop planting. These communities are expected to benefit from being involved in this project, as FCZs serve as a social tool to empower these historically underrepresented groups. Also, this project may identify and revitalize traditional indigenous forms of management that could serve as alternative conservation tools. Initiatives like these may help in the long term to expand sustainable use efforts along the river basin and integrate more indigenous groups to participate in local and regional governance processes, since these groups traditionally made use of the whole Térraba River.

### **8. Conflict resolution and complaint mechanism:**

FISHBIO will provide opportunities for community members in both Lao PDR and Costa Rica to express grievances during all project workshops, and will inform the community during consultation meetings of their right to complain and stop participation in the project at any time if they are not satisfied. All grievances aired will be addressed with the community as they are brought to attention. Community members may also choose to complain through existing channels for conflict resolution, such as through village leaders and committees. FISHBIO staff will check in with these key village residents throughout the project to see if new complaints or grievances have arisen. A mid-project assessment will also be conducted in the villages, which will allow villagers to provide feedback on the effects of the FCZ, and any grievances will be addressed.

Additionally, informational posters will be placed in each village's community building that will explain the project's desire to address all grievances, and that villagers should contact project staff at any time. In Costa Rica, contact information for the government agencies of INCOPECA or SINAC, our Costa Rican colleagues, and the CEPF Grant Manager will be provided in addition to FISHBIO contacts, so if community members feel that FISHBIO is not responding appropriately to their grievances, they can speak to other project partners or directly to the funder. In Lao PDR, contact information will be provided for FISHBIO Laos and IUCN Lao PDR. Posters will also include email contact information for the CEPF Executive Director ([cepfexecutive@conservation.org](mailto:cepfexecutive@conservation.org)).

FISHBIO will have the responsibility to ensure any grievances are dealt with promptly, and will work with project partners to achieve this. Upon receipt of a grievance, we will hold meetings with local communities or individuals to discuss the issues and develop agreeable solutions to be implemented by the project. Since CEPF does not currently have a Regional Implementation Team

in Costa Rica, FISHBIO will keep CEPF Grant Manager informed about any grievances that arise, and develop the solutions that will be implemented by the project. We will share all grievances – and a proposed response – with the Regional Implementation Team (if the grievance arises in Lao PDR) and the CEPF Grant Manager within 15 days. If the claimant is not satisfied following the response, they may submit the grievance directly to the CEPF Executive Director at [cepfexecutive@conservation.org](mailto:cepfexecutive@conservation.org) or by mail.

## **9. Implementation Arrangements:**

As FISHBIO Laos has worked previously with two of the communities included in this project, the process will benefit from continuity among the project staff, and our existing relationships with the participating communities. In both Lao PDR and Costa Rica, we will work directly with major stakeholders during this project, including the community members of each target village, especially fisheries management committees and local fishers. Community members in Lao PDR have expressed a strong desire to better manage their fish resources, and were actively involved in the planning and design stage of the FCZs involved in the project. Consultations will be held with all potential communities in Costa Rica with the assistance of Fundacion Neotropica to assess their desire to establish new FCZs in their communities. Relevant government offices (the Lao Department of Livestock and Fisheries in Laos and INCOPECA and SINAC in Costa Rica) will be consulted and invited to join community meetings as appropriate.

## **10. Monitoring and Evaluation:**

FISHBIO and project partners will use project workshops and community interviews throughout the project implementation to monitor whether CEPF safeguards are being met. The project will include check-ins with communities throughout the course of the project, and FISHBIO staff will also implement the grievance mechanism to monitor any adverse impacts of FCZ establishment. Interview surveys to assess community satisfaction with the FCZ approach and project activities will be conducted with communities throughout the project, and the results will be reported to CEPF.

## **11. Budget:**

Multiple workshops will be held with each community in Laos and Costa Rica, during which all community members will be able to discuss any grievances or misunderstandings about the project. Particularly in Costa Rica, time will be taken during these community visits to assess community attitudes with regard to the concept of Fish Conservation Zones. Approximately \$20,000 has been budgeted to conduct these community meetings in both countries, which covers materials, refreshments, travel reimbursements, and other related logistics costs.