CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	TRAFFIC International
Project Title:	Developing a model for the sustainable wild collection of medicinal plants through the implementation of FairWild in Vietnam
Date of Report:	August, 2013
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CEPF Region: Indo-Burma Biodiversity Hotspot

Strategic Direction: 2. Develop innovative locally led approaches

Grant Amount: US\$79,962.00

Project Dates: 1 June 2011 to 30th July 2013

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

TRAFFIC is the lead implementing organization for this project and the associated activities. Despite initial delays in signing the initial Memorandum of Understanding (MoU) with local authorities in Bac Kan Province we have subsequently had considerable buy-in and deep involvement from a number of project partners and stakeholders.

Bac Kan Provincial Forest Protection Department (FPD): The relationship between TRAFFIC and Bac Kan FPD has steadily strengthened throughout the project and as a result has become close over the duration of the project. As identified in the project development stage, Bac Kan FPD was identified as the most essential partner/focal point for the project as they are in charge of protecting medicinal and aromatic plants (MAPs) within the province and are tasked with control of the MAP trade across the province. Since the very beginning of the project period, they have been supportive of both TRAFFIC and the project activities and assisted in identifying and connecting TRAFFIC with relevant partners and stakeholders at the local level. The project reports regularly to this provincial authority in order to share progress and also gain comments from local managers at a local level in order to adjust project activities in appropriate ways so as to lead to increased effectiveness and efficiency. Bac Kan FPD is also a key partner in terms of liaison with and providing support and instructions to the management board to implement project activities.

People Resources and Conservation Foundation (PRCF) Viet Nam: In the proposed project, it was suggested that work with PRCF to build upon and complement the CEPF-funded projects currently being implemented by PRCF Viet Nam at the same location. Although PRCF has a good relationship with local authorities and communities in regards to a number of conservation issues, they were unable to assist in regards to influencing the local government's decision in terms of issuing the project permission. There were also difficulties in regards to collaborating with local partners and stakeholders as a result of the close links to PRCF. As such, TRAFFIC was unable to secure the permission for project implementation directly and as a result delays were experienced due to the complicated administration procedure to obtain the final project permission approval from Bac Kan Province People's Committee.

Management board of Nam Xuan Lac Species and Habitat Conservation Area: This government agency receives technical support and is managed by Bac Kan FPD. This is also the immediate enforcement authority that is in charge of daily protection of MAPs. Timely communication between TRAFFIC and Nam Xuan Lac SHCA has helped us to better understand their challenges in terms of

management of the MAP trade in the protected area and also the technical issue of guiding local villagers towards sustainable harvesting of wild MAPs in the project areas. In the beginning, they expressed their interests in participating in this project as they understood that sustainable harvesting may create a chance for local collectors who usually harvest NTFP in an unsustainable manner leading to biodiversity loss in the project area. Through sustainable harvesting, local communities may obtain additional and a more stable income, leading to a decrease in the overexploitation pressure created by local communities on natural resources. After the first six months of project implementation, the management board subsequently gained a greater understanding of the benefits of sustainable harvesting practices of MAPs and the benefit of a benefit sharing mechanism when managing MAPs/natural resources. They have actively participated regularly in project activities and remain very supportive and open in all discussions. The management board has also encouraged local collectors to form collection groups when the villagers hesitated to sustainably collect MAPs in cooperatives. The management board has assisted in helping local collectors better understand the benefits they would gain from establishing a collection group. They have also assisted in improving the understanding of local collectors on how to share market information including prices and the additional benefits of sharing such information and moving towards fair trade mechanisms.

The management board of the conservation area has been very actively involved in the project activities because they understand that if local people comply to the articles of the management plan and practice the benefit sharing mechanism, they will receive more support from local communities in regards to the forest protection and development strategy. Additionally, the activities required to implement the management plan will also create/generate/improve the limited/low income of forest dependent households and communities.

Bac Kan Traditional Medicine Association and Bac Kan Provincial Department of Health:

The Bac Kan Traditional Medicine Association was first engaged in the training for local people while the Department of Health expressed their interest when the project team shared the project activities when evaluating their implementation at the end of May, 2013.Traditional Medicine Association and Provincial Department of Health in have assisted local collectors to obtain their certificate on sustainable harvesting of MAP species and have widened the awareness of the project activities and assisted in forming strong connections with stakeholders. After two year of implementing the project, the importance of cooperation between Bac Kan FPD and Bac Kan Department of Health/Traditional Medicine Association remains clear.

Local People's Committee of Xuan Lac and Ban Thi Communes: The commune People's Committees in the project area have been actively involved in this project. It has provided the opportunity to develop new methods for MAP and natural resource management as well as helping local communities to obtain additional and stable income. They have indicated that they have found these methods useful in providing a livelihood to stabilize their villagers' income. After two years of implementing the project, local communities remain concerned about sustainable harvesting quotas for target species. As mentioned in the management plan, the Commune People's Committee will (1) facilitate and monitor local collectors applying the sustainable harvesting and processing techniques properly. The CPC will assign villager leaders to be in touch with the group leaders to understand the practice progress and find the best resolutions if conflicts arise; (2) control the trade of target species between collectors and traders to ensure minimizing negative impacts on other forest resources and the ecosystem. Additionally, the CPCs intend to coordinate with NXL SHCA Management Board to establish an inspection team to investigate and deal with the situation in accordance with the Regulations on Forest Management and Protection of the Conservation Area.

Local collectors of seven villages in the two project communes: Local collectors involved in this project are responsible for managing natural resources and have a chance to gain knowledge in regards to management methods that use benefit-sharing mechanisms. Furthermore, for the first time local collectors were able to know the market prices for their products across Bac Kan Province and in the Ha Noi market. This has helped them to determine and negotiate for a fairer price for their product according to market demand.

The level 1 trader groups in Bang Lung town: Despite the project period under the CEPF funding coming to an end discussions with the Level 1 trader groups in Bang Lung town continue to further support ongoing activities and engagement with local collectors. While it has taken considerable time to

identify and engage these stakeholders the evidence provided by successful project activities has provided the chance to engage this stakeholder. They have helped the project to remind the local collectors regularly about the sustainable harvesting techniques as they may offer lower prices for products that do not qualify as sustainable collected. These links are still being developed and are only in an early stage.

In addition, to links with local collectors, level 1 traders can liaise with the higher level traders/wholesalers or even final clients in the Chinese market. One of challenges experienced was how to get them involved in the project. For this group, a number of individual meetings, separate to the group meetings, have been done at their homes, in Bang Lung town and even in commune markets in order to help them better understand the notion of sustainable harvesting practice to conserve biodiversity and also toward fair trade in the future. In the few first meetings, some of them expressed their hesitance when working with the project and FPD because they were afraid that they might have trouble if they work with the project regarding certificates and paying tax for their traded products. However, some of them were really excited to participate in this project because they expected that they would have a chance to find potential wholesalers/clients in the domestic market in order to sell their products in a stable manner. Finally, they gave some commitment in regards to working with the project and how to cooperate with other relevant stakeholders to implement the sustainable harvesting practice in coming seasons as shown in the management plan. Although it will take some time to see how effectively and efficiently the management plan works, the level 1 traders' commitments demonstrates their cooperation with other stakeholders.

The level 2 traders/wholesalers and final clients in the Chinese market: Unfortunately the detail provided in the market assessment report, did not allow for the identification of these groups in sufficient detail to facilitate contact. For many of the identified final clients, working with them in China, was also well beyond the budget and scope of this project and requires additional activities in this neighboring country. Hopefully in coming work linked to this project, TRAFFIC will have a chance to get them involved in the project and its activities.

Private MAP processors/ processing companies in domestic markets/Pharmaceutical companies at national level: Once the target species/project products were selected, the project activities helped local collectors to look for a number of companies interested in *Amomum* and *Alpinia species* products. Although the discussions at this stage are ongoing, both the buyers and sellershave expressed their interest and commitment to working together.

During the project, we have been communicating closely with the BioTrade project implemented by Helvetas - Swiss Association for International Cooperation, in order to exchange project experiences. In January, the Forest trade officer joined a trip conducted by Helvetas to assess the sustainability of wild collection interventions and cultivation of *Ampelopsis* sourced from biodiversity to supply TRAPHACO Company. This trip provided some meaningful information about the sustainable harvesting of medicinal plants in Lao Cai. Although the information about the model is insufficient, the relationship with TRAPHACO - potential processor for the project communities - has been established. Furthermore, TRAFFIC has started to work closely with the Vietnam Association of Traditional Medicinal Materials on the national commitment to establish a network of traditional medicine shops/clinics interested in the sustainably collected wild medicine products from Bac Kan.

Centre of Plant Conservation (CPC): During the project course, representatives of the CPC, Association Professor, Dr. Nguyen Tap has worked as a consult to conduct the resource assessment and management plan for target species. The technical support and partnership with this centre has contributed significantly to the project's success.

Conservation Impacts

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

2. Develop innovative locally led approaches

This project has been implemented to promote the innovative locally lea approaches in two main aspects. The first one aims to address the site-based conservation issues in the Northern Highland limestone in Viet Nam. As described in the project social safeguard reports, there is an increasing and uncontrolled overexploitation of MAP species in the project site. Three main reasons leading to this situation are (1) high pressure from (both domestic and Chinese) market demand, (2) local villagers need an income to help them overcome hunger and continued poverty and (3) there is a lack of comprehensive regulations and enforcement guidance on sustainable harvesting of MAPs. In addition to these key factors there is a lack of integration between the Forest Protection Department, who is in charge of protection of MAPs, and the Department of Health who are knowledgeable regarding using of MAPs but do not have the authority to manage these natural resources. This project was designed to minimize the overexploitation and introduce the notion of sustainable harvesting of wild MAP. By employing the Fairwild Principle and criteria with fully participatory approach regarding site and species selection, the model of sustainable wild collection of MAPs was piloted in Vietnam to reduce the uncontrolled trade of MAPs.

The second aim of this project is that to empower local communities to engage in conservation and management of priority key biodiversity areas. In the Northern Highlands Limestone (now renamed Sino-Vietnamese Limestone), the project helped local collectors from Dao and Tay ethnic minority groups to be aware of the consequences of the overexploitation of Medicinal and Aromatic Plants. Through increasing the awareness of both Provincial and National level regulations and requirements and by guiding them to carry out the sustainable collection they are able to minimize the impact on the species and habitat, comply to local licensing requirements for collection of MAPs and contribute to the continued conservation and survival of species populations. The project activities also help them to better understand ecological, social and economic values of MAPs. This project focuses on empowering vulnerable groups such as ethnic minority groups (Tay and Dao people), particularly women within these ethnic minorities, who were identified as the main collectors in the project site. Besides, the project has developed co-management mechanisms for formal protected areas that enable community participation in all levels of management. In the management plan, a benefit sharing mechanism has been developed and has received high support/agreement from the project stakeholders including local collectors/villagers, commune people's committee, management board of Nam Xuan Lac Species and Habitat Conservation Area and the level 1 trader group. However, due to the limited time of the project and the timing of the harvest period for the selected species, the mechanism could not been implemented in the first harvesting and this mechanism does not include participatory of the pharmaceutical companies and/or processing companies/processors. In further activities in the project area, all relevant stakeholders have committed to participate closely in order to achieve the aim of the benefit sharing mechanisms.

Please summarize the overall results/impact of your project.

Although the sustainable wild-collected MAP products created through the CEPF project have not yet been introduced into the Vietnamese market or regional market, local collectors and a number of traders have paid great attention at the wild-collected products. The local authorities understand the significant role of collecting MAPs in the sustainable manner in order to conserve natural resource in a way that is compatible with improved income for low income forest-independent communities. This project introduced and employed both Fairwild and Fairtrade Principles and guidelines into the context of Bac Kan province. After two years of developing a model for the sustainable wild collection of medicinal plants through the implementation of FairWild in Vietnam, this project has gained a number of achievements as follows:

The first achievement is that the project conducted an inventory of MAPs within the project area in order to establish an indication of the diversity of MAPs in NXL SHCA. 328 medicinal plant species belonging to 117 plant families of tracheophyta (or vascular plants) were identified in Nam Xuan Lac Species and Habitat Conservation Area (SHCA). Of which, 45 species and subspecies are on the list of popularly exploited and used herbal plants of Viet Nam and about 20 species were identified as being suitable for both sustainable harvesting and current increasing market demand purposes. Twenty species listed as rare and precious and in need of protection in Viet Nam were also identified. Several species that are considered extremely rare in Viet Nam, such as *Aristolochia kwangsiensis*, *Podophyllum tonkinense* and *Asarum caudigerum* were found in the NXL SHCA. Through a fully participatory approach, local collectors and relevant stakeholders selected two target species for project implementation based on their economic and conservation values. This community-based decision assisted in engaging the project participants and provided an activity early on in the project

implementation to reinforce local ownership of the project and encourage a feeling of responsibility for the selection of the target species.

Another success of the project was that it identified a number of factors along the value trade chain of *Alpinia* and *Amonum species* as described in the market assessment report. This report also shows the relationship between sellers and buyers and market requirements for targeted wild-collected MAP products. The assessment findings help local communities and collectors (effectively the supply side) to understand clearly their strengths, weaknesses, opportunities and threats. Additionally, a number of techniques were identified and subsequently provide to the local collectors to enable them to add more value to the products they collect, when they sell the sustainable wild-collected products into the market. The subsequent increased quality in the product supplied enabled collectors to negotiate an increased price for their products, providing them with an increase in income. It has also enabled them to commence discussions with level 1 traders in regards to more regular supply of high quality products, the result of which would be a reliable, increased income from sustainably collected MAP

The project hoped to be able to engage with and help about 50 households, providing them with training and access to information to improve their financial income. While the initial target for such a small project was set at 50 households the management plan indicates there is 103 households practicing the sustainable harvesting techniques when they collect target species. This is a threefold increase in the number of households reached through project activities and made aware of the added benefits of sustainable harvesting. Although the average income earned by households in 2012, the first year of practicing the sustainable harvesting techniques, was not a large amount (collectors in 7 villages earned about 101.475 million VND from 4,059 kg of dried *Alpinia* species and about 8.52 million VND from 426 kg of raw *Amomum species*), local collectors indicated that this income was particularly important as it came at a time when their families often experienced lower income levels and as a result often went through periods of hunger. A number of households also indicated this source of income as particularly important in regards to additional expenses from children or even daily subsistence costs. The details were mentioned in the additional documents and project reports including the BTO report prepared by Mr. Heimo Claude.

An additional achievement from the project implementation was the completion of a detailed resource assessment for the target species. This assessment was implemented through employing the guidelines from the Fairwild website. Although the local collectors identified two target species during the initial consultation process, three species of the *Alpinia* genus (*Alpinia latilabris, A. malaccensis* and *A. menghaiensis*) and two species of the *Amomum* genus (*Amomum villosum* and *A. xanthioides*) are found in the buffer zones of SXL SHCA. The resource assessment has mapped the distribution of *Alpinia latilabris, Alpinia malaccensis. Alpinia menghaiensis*, *Amomum villosum,* and *Amomum xanthioides* populations. Furthermore, the assessment has studied each target species in terms of geographic distribution in the buffer zone, ecological characteristics, growth rate, annual regeneration ability and reproductive biology. These findings were used as the scientific foundations for the application of sustainable harvesting methods based on the FairWild criteria. As both *Alpina* and *Amomum* are annual herbs, the sustainable harvesting techniques for their collection will not influence their natural growth and the long term availability of these plants for harvesting. In addition, a handout "Guidance on sustainable harvesting, semi-processing techniques of the *Alpinia* and *Amomom* species" was developed from the resource assessment and was distributed to local collectors.

A number of village/commune meetings, workshops and trainings were organized for relevant stakeholders in order to build capacity, share information and raise awareness of current issues. Communication materials have been developed and distributed to the project participants to assist in raising awareness of the project, its activities and the necessity for sustainable harvesting techniques. In addition to regular social safeguard policy assessments and obtaining free, prior and informed consent from representatives of the seven villages before doing any project activities, the project implementers also have a much better understanding of the challenges and issues arising during the project and have worked together with local stakeholders to find the best solutions for each situation/circumstance.

Development of management plans through a participatory process with all stakeholders is unique and an innovative approach used in this project in Viet Nam in response to overexploitation of MAPs and their uncontrolled trade. The management plan, including a benefit sharing mechanism, was discussed openly and received a variety of supportive ideas from local managers, local collectors and traders. This demonstrates that the project's stakeholders have begin to be aware of the necessity of MAP conservation and have also begun to think about a long term strategy to conserve such invaluable resources in parallel with helping the MAP dependent communities generate income from sustainable harvesting of MAPs. This achievement will create incentives not only for conservation but also for local managers and communities to continue efforts to protect the resource. This project helps local collectors formulate 7 collection groups. When the project ends, these groups know how to share market information including market price. In addition the connections between collectors and traders have been strengthened and become both closer and more transparent. In order to achieve FairWild certification for a product, it is clear that all factors along the trade chain need to be closely linked to ensure the benefits will be shared fairly.

Finally, sustainable wild collection- a relatively new approach to better management of natural resources- has received considerable support from the local commune people's committee and the management and enforcement agencies. This method of approach, collaboration between communities and authorities, has been very successful in the implementation of the project but also increasing the cooperation of these stakeholders. In Vietnam, in regards to protection forest like the project site, many managers, researchers and forest collectors immediately think of "closed forest", preventing all external activities, as these must be "harmful" to the forest. The project and its activities introduced another way to work towards the conservation of these areas while also providing a livelihood for local collectors.

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

• The development and application of a successful approach to income generation linked to the sustainable use of wild medicinal plant resources through:

o The development of a successful pilot project for sustainable wild harvesting of key medicinal plant species in the Northern Limestone Corridor of Viet Nam through the use of FairWild guidelines that will be used as a model for sustainable wild harvesting elsewhere in Viet Nam.

o A mechanism to support ongoing activities in South Xuan Lac Species Habitat and Conservation Area (SXLSHCA) implemented by the Management Board and local community, and already supported by the Critical Ecosystem Partnership Fund (CEPF) and People Resources and Conservation Foundation (PRCF), in particular sustainable harvesting of Non Timber Forest Products (NTFPs)` in 'multiple use' areas.

o Support proposed for community based livelihood and conservation activities implemented by the Natural Resource Conservation Council; and further contribute to Village-level Conservation and Livelihood Interest Groups in activities relating to sustainable wild medicinal plant harvesting.

Actual Progress toward Long-term Impacts at Completion:

Although the project started slower than the proposed plan due to the time required to obtain the project permission and approval from Bac Kan People's Committee, overall, the progress towards the longterm impacts has been more successful than the initial expectations. This is largely due to: (1) this is the first project in Viet Nam that has employed the Fairwild guidelines and which the notion of sustainable wild harvesting is promoted and contextualized into the Vietnamese content. It has also promoted the main principles of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits; this pilot model has been recognized by local authorities as a new and innovative approach for the conservation sector and Bac Kan FPD have already expressed the desire to expand this model to other provincial protected areas; (2) A clear benefit sharing mechanism was discussed openly amongst the project stakeholders including the management board of Nam Xuan Lac SHCA, two commune People's Committees, local communities and the level 1 traders. Sustainable harvesting of NTFPs in 'multiple use' areas has been discussed clearly and collection groups were established in 7 villages. Additionally, local collectors have developed and accepted a model in which the harvesting would be supervised by group leaders/deputy group leaders and/or other members to ensure its sustainability in the long-term and fairness for all villagers in the communities. As such, this agreement is a significant advancement for natural resource utilization and management in Viet Nam which often lacks a fully participatory approach from local communities and forest/land tenure is sufficiently transparent; (3) Although the cooperatives of 7 collection groups have not worked exactly as proposed by the project, due to the limitation of local communities' and authorities' capacity and knowledge, we believe that the cooperatives will obtain both conservation and livelihood objectives in the foreseeable future.

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

• Sustainable management of two important medicinal plant species within the buffer zone of South Xuan Lac (area 7508 ha) that are currently declining as a result of overexploitation.

• Increase in income for the South Xuan Lac local community from sustainable supplies to market; through improving quality through value addition mechanisms; and through an equitable benefit sharing mechanism.

Actual Progress toward Short-term Impacts at Completion:

In order to manage collection of Alpinia and Amomum species in a sustainable manner, the management plan was developed as one of the key project activities. This plan contains clear articles regulating sustainable harvesting quotas, collection areas, times for harvesting, methods for monitoring collectors utilizing the sustainable harvesting techniques, semi-processing of the raw products to improve their quality, how to share market information to empower local collectors to better negotiate realistic product prices, and the benefits and responsibilities of each stakeholder. To enable the articles to be implemented in order to reflect the real conditions, the establishment of seven collection groups with clear work plans and outlines of how each group would operate was considered an important component activity to encourage the local collectors to establish closer links to the market and the improve the relationship between the supply and demand side of the trade chain, making the market more transparent and to contribute towards establishment of a fair trade mechanism. Completion of the Management plan and implementation of activities that have contributed to the other important components listed above has meant that considerable progress was made in regards to the short-term impacts. The Management Plan was completed and is being implemented successfully and collaboratively while other mechanisms to achieve the short term goals have been put in place including the formation of collection groups and monitoring of collection methods.

Another short term impact the project has successfully achieved at completion was increased empowerment of vulnerable groups, such as women and the poor, as a result of their involvement in the project activities and the decision making of the management plan implementation. The total number of voluntarily registered collectors in collection groups in the 7 villages is 103 households as shown in the management plan. The project helps them to improve their sustainable wild-collected products by providing technical trainings including increased understanding and awareness of the necessity of MAP biodiversity conservation, sustainable wild harvesting techniques, and sustainable harvesting quotas as part of a resource assessment and value addition practices for the target species. In addition to these benefits the project installed and provided training in the use of herb dryers for them to improve the quality of their products and assisted them in negotiating a fair price for the products sold into the market. An equitable benefit sharing mechanism was also agreed upon to ensure a fair right to access the natural resources, particularly NTFPs including MAPs and a mechanism to share benefits gained through sustainable harvesting are shared amongst the local communities.

Please provide the following information where relevant

Hectares Protected: the core zone: 1,788 ha, the buffer zone: 7,508 ha **Species Conserved:** Alpinia latilabris; Alpinia malaccensis; Alpinia menghaiensis; and Amomum villosum; Amomum xanthioides

Corridors Created: N/A

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

Successes/achievements of the project have been described briefly in the above text. This part of the report will focus on some challenges experienced by the project in regards to achieving its short-term and long-term impact objects:

- When the project first introduced the notion and practice of sustainable harvesting techniques for wild MAPs, this created an unexpected competition amongst local collectors within a village, between villages and inter-communes. This has put more pressure on the project in terms of finding potential customers/pharmaceutical companies for products with natural ingredients and biodiversity conservation. This leads to the key issue of finding and establishing a reliable domestic market.
- There are various factors such as limitations of literacy, poverty and harvesting competition among local collectors influencing the implementing of sustainable harvesting practice of wild MAPs in the project site.
- As a notable exception in Viet Nam, the harvest, use and trade of medicinal plants in the Bac Kan province is regulated by the Provincial Decision 435/2010/QD-UBNB of March 12th, 2010. In general, this decision seems to be a good tool to control the overexploitation and uncontrolled trade of MAPs but in fact, this is a barrier for local collectors and local authorities because local collectors have to deal with many complicated procedures to obtain an administrative permission for sustainable collection and capacity of the enforcement authorities' is limited to implement such regulation.
- Another challenge is land tenure. As with other areas in Viet Nam, it is difficult to know who is a real "owner" of the land because the land law and other regulations still only contain very general articles about this. In this project, management of wild-MAP harvesting has become more challenging because (1) local collectors have a common practice accepted by villages/communes that NTFP/MAP is not as valuable as timber so local collectors can collect in other peoples' allocated land/forest (2) although local villagers have been issued red books for their allocated forest/land in fact, they do not know where the land is.
- It proved very difficult to get the necessary detail and understanding of key factors regarding the demand side of the selected products to ensure fair trade. The market information provided through the market research is unfortunately still not clear enough to set up a data-based system for dissemination purposes. While many clients/users/consumers of traditional medicine are aware of the needs of using the sustainable harvesting products in order to conserve biodiversity, currently within the domestic market in particular the price of such products are more expensive than the "normal" products and it is very difficult to distinguish the natural ingredient products from others. As such, the buyers tend to select products based on competitive price options and are currently unwilling to pay the increased amount for sustainably collected products.
- The market for the target species is quite complicated and the links along the value trade chains are quite loose. As such, in the long term, it becomes increasingly important to persuade national consumers to not only understand and believe in the concept/notion of sustainable harvesting of wild MAP to ensure the biodiversity conservation but also to be prepared to pay an increased cost/price for such products.
- This project aims to achieve sustainable harvesting with a fixed sustainable harvesting quota. Unfortunately in many cases the actual market demand is higher than this quota and as a result higher than the supply capacity through sustainable harvesting methods. As such one important question is how to balance the supply capacity and the demand. Additionally, the harvesting still needs to meet the goal of biodiversity conservation.

The CEPF project interventions have mainly targeted collectors for the promotion of sustainable collection practices. Issues identified by the collectors during the project course indicate that the CEPF approach to the promotion of sustainable collection practices and the improvement of livelihood of forest-dependent communities through the sustainable collection wild medicinal plants proved insufficient. A stronger market orientation would be essential for meeting the objectives of the project and its success. The project, therefore, needs to urgently generate market information for the promotion of medicinal plants traded from the buffer zone of the NXL SHCA but also add value to the collected medicinal plants through the development of additional post-harvest technologies (drying, pre-processing, storage, packaging) while the current final market for target species is identified in China and domestic market information is not transparent and quite complicated. As such, it takes time to introduce the sustainable wild-collected products into market and can compete with other types of products.

Were there any unexpected impacts (positive or negative)?

In terms of unexpected positive impacts: During the project course, advice from the project team to establish a commission between Provincial FPD and Department of Health/Traditional Medicine Association (TMA) in order to conserve and control MAP collection and trade, and in long term to maintain and develop medicine materials in Bac Kan was taken on board. As a result, a provincial interdepartment Committee chaired by the Deputy Chairman of the Provincial People's Committee was established in 2012. This Committee includes two key vice-chair positions from the provincial FPD and the TMA. The objective of this committee is to (i) promote the sustainable use and cultivation of higher-value medicinal plants with domestic market and export potential; (ii) facilitate research on their uses as traditional medicine; and (iii) protect and promote their uses through certification and/or trademarks.

Regarding unexpected negative impact, the competition amongst villagers, between village and other villages and inter-communes is one issue we did not expect and remains difficult to control.

Project Components

Project Components: Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.

Component 1 Planned:

Species at risk of overexploitation through commercial trade selected for project implementation, including market assessment and development of technical materials, through sub-grant to PRCF

Component 1 Actual at Completion:

- 1. A short report on MAP biodiversity in NXL SHCA including a list of commercial species which can be harvested in a sustainable manner and a list of protected MAP species.
- 2. List of criteria to assess overexploitation and associated risk to species survival
- Final ranked MAP list completed, with top five medicinal plant species identified through a scoring process with two of these species selected for further market assessment (through a number of village meetings, commune meetings and consultations with buyers and the authorities)
- Market assessment report including species market trade chains and assessment of opportunities for increased market access for selected species' products was completed by PRCF.
- 5. Guidance on sustainable harvesting and value-addition processing was completed by TRAFFIC through combining one version by PRCF with a version by Dr. Tap.
- 6. Review of management plan. The management plan was initially to be reviewed by PRCF unfortunately they were unavailable when the first draft of the management plan was sent to them. TRAFFIC received comments from provincial FPD and Traditional Medicine Association.

Component 2 Planned: Sustainable collection and trade in selected species ensured.

Component 2 Actual at Completion:

- Species Resource Assessment reports for two species developed and printed (includes situation analysis for target species; baseline inventory of species in the area; yield and regeneration studies; harvest impact assessment; and periodic monitoring and harvest adjustments)
 – see final report attached
- 50 local harvesters trained in resource assessments, sustainable wild harvesting techniques and value addition practices for the two selected species. The first training was conducted for 51 villagers from 7 villages in May, 2012 then the second training was conducted in January, 2013 for an addition of 53 collectors. See the list of training participants and presentations used in the trainings attached.
- 3. Sustainable wild harvesting quotas established for the two selected species. This quota was mentioned in the resource assessment
- 4. Translated and contextualized FairWild guidelines. The Fairwild guideline was translated and contextualized and was introduced in the beginning of the project and the leaflet for the FairWild principles and criteria was developed and distributed to the project participants towards the end of the project.
- 5. Management plan for the two selected species developed and endorsed by SXLSHCA Management Board. The management plan was developed and endorsed by SXL SHCA Management Board in April, 2013.Implementation of the management plan is ongoing.

Component 3 Planned:

Financial income to approx. 50 households engaged in sustainable harvest and trade increased

Component 3 Actual at Completion:

- 1. Appropriate value addition mechanisms providing high quality products identified and implemented. In addition to providing technical support to improve the product quality, the project provided financial support to install two village-shared steel herb dryers and three brick dryers to help local collectors dry the raw material quickly and ensure high medicinal property in dried products.
- Accepted benefit-sharing mechanism developed and implemented by local community stakeholders. The benefit sharing mechanism was agreed upon and accepted by stakeholders two months before the project ended so the implementation of the accepted mechanism is ongoing.
- 3. List of relevant stakeholders produced (e.g. private sector involved with selected species). A list of traditional medicinal clinics and pharmaceutical companies that are interested in the sustainable wild-collected products has been produced. Unfortunately at the time of project completion, no contract between private companies and local collection groups had been made because the private companies still hesitate at the product quality supplied by local communities.
- 4. Assessment of suitability for selected medicinal plants/products for future FairWild certification. At the end of the project, it was unable to engage a private company to have a commitment with local collection groups in buying target products with fair trade/price although several companies express their interests in future FairWild certification.
- 5. If appropriate, both selected products certified under the FairWild scheme. Application for selected products to obtain FairWild certification takes more time that was available to the project as a result of early delays and limited information on the value chain. The high costs associated with certification have also limited the potential applications. Despite this collection of the target species complies with FairWild standards and principles and efforts will continue to pursue certification for the products.
- 6. Compliance with CEPF Social Safeguard Policies monitored and reported to CEPF. During the project course, we have conducted assessment of Social Safeguard Policies three times see attached social safeguard policy report.
- 7. Free, prior and informed consent obtained from indigenous people in seven buffer zone villages prior to initiation of any project activities on the ground. Regular communication with local communities and local authorities was maintained throughout the project and free, prior and informed consent was obtained prior to project implementation.

Were any components unrealized? If so, how has this affected the overall impact of the project? In general, the components were well developed/designed. However, for the two years of implementation, it was very difficult to introduce a sustainable wild-collected MAP product to the domestic market. There was more than one factor affecting this process such as limitation of literacy, poverty and harvesting competition among local collectors, no transparent information on the domestic market, competition between domestic medicinal products and lower quality but cheaper products provided by the Chinese market and uncompleted regulations in Viet Nam in terms of protection and control of MAP accessing, harvesting and trade.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

No.	Items	Language					
		EN	VN				
1	Report on MAP biodiversity in NXL SHCA	Executive summary of this report	Full report				
2	List of criteria to assess overexploitation and risk to species survival	×	×				
3	Final ranked MAP list	×	×				
4	Market assessment	×					
5	Guidance on sustainable harvesting and value- addition processing for target species	×	×				
6	Resource assessment for target species	×	×				
7	Presentations and handouts used for training course	×	×				
8	Management plan	×	×				
9	Communication materials (01 poster of protected MAPs in the conservation area; 2 leaflets introducing the project activities and FairWild principles and criteria)	×	×				
10	Periodic social safeguard policy report (the BTO report acts as the final social safeguard policy report)	×	×				
11	List of private companies/processors who expressed their interests in this project	×					

This is the list of project products made during the project and which will be submitted with this report:

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.

Regarding lessons learned during the design and implementation of the project, there were a number of lessons to be highlighted and taken from the implementation of the project activities:

The first and foremost lesson is that it is crucial to be realistic when planning project timelines and implementation and to not underestimate the amount of time needed to reach agreement on key issues amongst the varied and different, but equally important stakeholders. The two key examples of this were (1) it took more than four months to receive the provincial approval that was required for the project implementation in the field site. There are many administrative requirements from local authorities and this took much longer than expected in order to verify the project

goals/objectives/activities; (2) it was assumed, when developing the management plan, that it would be possible to obtain transparent information in relation to the land tenure of the allocated forest/land within the Xuan Lac commune. With clear information on land tenure it should then be relatively easy to manage the sustainable harvesting techniques by allowing clear identification of the households with access rights to the land. Unfortunately it was not easy to obtain clear information on existing land tenure and as a result this impacted on both the management plan and also the development of the guidelines on sustainable harvesting. In this instance an underlying legal issue in regards to allocation of land tenure had significant impacts on the implementation of the project and this was something neither foreseen nor planned for in the work plan. It also took significantly longer than planned to get final agreement on how to manage the species populations in a sustainable manner and subsequently minimize the environmental and social impacts of collection to their habitat and collector communities.

Another lesson for the project implementer is that it is crucial to set up both quantitative and qualitative indicators to monitor and evaluate the project regularly to assess and minimize any potential impacts and better manage the project from the initial project development/design. To develop this, it is necessary to budget about 5% of the total project budget for this component.

An additional lesson was that projects reliant to some degree on a product value chain should integrate both communities-based and market-based approaches. From a conservation approach this project is quite successful but from the aspect of development practitioners and the demand side of the market chain, this results in an imbalance between the supply capacity and demand. In many cases the market demand is higher than the sustainable harvesting quota for target species and as a result higher than the supply capacity through sustainable harvesting approaches. As such one important question is how to balance the supply capacity, the demand and still ensure that the harvesting will meet the goal of biodiversity conservation.

The other major lesson learned was how to reconcile specific interests of the project partners so as to meet their interests while also achieving the objectives of the project. Unfortunately, despite the project requirement of working with a local partner organization, in regards to the market assessment, identification of a suitable partner actually led to significant delays in completion of the market assessment report. PRCF was an existing CEPF recipient working in the project province. However, changes in staff and a lack of capacity resulted in delays in delivery and sub-standard reports. This has been an important lesson in regards to implementation of the project and highlights the importance of only selecting suitably qualified and experienced partners for project implementation and this choice should be based on a proven track record and existing capacity.

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

Base activities on the current conservation needs and obtain support from Vietnamese partners.

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

Using a community-based approach and flexibly combined with regularly working with project partners to adjust the project to ensure that it meets with realistic expectations and requirements.

Other lessons learned relevant to conservation community:

None

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

Donor	Type of Funding*	Amount	Notes
TRAFFIC (GMP)	Α	62,680	Staff costs in addition to
			those funded by CEPF
KNCF	В	37,000	Proposal developed
			based on continuation of
			activities initiated during
			CEPF project
WWF Germany	В	7,000	

*Additional funding should be reported using the following categories:

- A Project co-financing (Other donors or your organization contribute to the direct costs of this 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 funded 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.

Key successes for the project were the introduction and support provided to local collectors in regards to the ideas around the practice of sustainable harvesting of wild medicinal and aromatic plants.

Summarize any unplanned sustainability or replicability achieved.

TRAFFIC encountered two main challenges at the beginning of the project. The first of these was in regard to article 10 of the provincial decision no 435/2010/QD-UBND dated 12/03/2010. This decision is related to promulgating the regulation of management of medicinal plant resource harvesting, trading and use in Bac Kan Province. This article states that when transporting large numbers of local wild medicinal products (more than 500 kg) outside of Bac Kan province, wholesales/businesses must have transportation permission, a sales contract, medicines must be packed and appropriately labeled, they must comply to a list of approved medicinal plants for trading as well as identify the origin and source of the plants (the list must not include prohibited species in the Viet Nam Medicinal plants Red List).

Until 2015, exportation of wild, precious and rare medicinal plant products to other provinces and overseas was prohibited under this article. It is clear that local collectors can only transport less than 500 kg outside of Bac Kan province. From the results of the resource assessment for the two selected species, we found that local collectors can harvest more than 500 kg. TRAFFIC is working closely with Bac Kan FPD and provincial Traditional Medicine Association (TMA) to help change article 10 and ensure that local collectors comply with the provincial decision.

The second external assumption was the legality of local collectors harvesting plant materials in NXL SHCA. In this provincial decision, local collectors must be recognized as a person who collects medicinal plants and s/he must also meet the below requirements:

Be trained or at least have experience in harvesting MAPs in order to identify exactly what medicinal plants can be harvested and avoid confusion with similar appearing plants.
Know harvesting methods/techniques for each medical plant as well as methods of storage, processing and transportation.

- Have knowledge or have been trained in issues relating to medicinal plant harvesting such as environmental protection, biological resources conservation and sustainable harvesting.

Once a person provides the above information, they can then apply to be a legal collector from local authorities or responsible agencies. In order to have as many collectors obtain legal licenses for harvesting, TRAFFIC organized a one day training for local people concerning MAP biodiversity in NXL SHCA. This training also provided them with information on how to identify the two selected species, the distribution of these species in the buffer zone, sustainable wild harvesting techniques for *Amomum*and *Alpinia* species and value addition practices. The trainers were Dr. Nguyen Tap and one traditional medicine doctor from BK TMA. After participating in the training, all 51 collectors were issued legal harvesting licenses for two selected species by local authorities.

In the second year of the project implementation, one external risk identified was unfair competition between the 51 trained households with other untrained households who are interested in the project species. Once the project officer recognized this issue at the beginning of the species harvesting season, a meeting was held with the village head to encourage him, together with the 51 trained households in the 7 villages, to explain the advantages/benefits of harvesting sustainably (harvesting at the right time in order to improve the product quality and quantity; harvesting right techniques to ensure sustainable growth and regeneration; harvesting right populations to avoid conflicting with other communities) and allowing all villagers to be able to use the shared herb dryers installed by TRAFFIC to dry their raw product on the raining/wet days. In addition, the project continued to distribute guidance materials on sustainable harvesting techniques for the target species to all households. This immediate support from the project made not only local collectors but also local authorities happy and increased understanding of the project objectives and activities. This led to the development of the management plan with a number of changes and adjustments compared to what was initially considered during the planning stage. Discussions were held with all collectors in each of the villages no matter whether they were trained during the project. This consultation has created more fruitful outcomes than first envisaged. Local collectors feel they are being respected and they are owners of the MAP resource that needs to be protected and be collected wisely.

TRAFFIC has continued to investigate options for some of the issues that have arisen in regards to the long term sustainability of the project and its activities. Additional funding has been obtained to continue some of the project activities for 12 months to enable additional time for processes to be put in place to assist with the sustainability of the results. Further funding will be applied for to not only continue but also expand the activities in the project area, helping to ensure they reach a point of long term sustainability.

In regards to the sustainability of the entire trade chain for these products, unfortunately at the time of writing the final report the project has been unable to establish the proposed agreements between the local collectors and the level 1 traders/processors. One of the barriers to this kind of agreement is as reported in the both the market assessment and BTO report, that the majority of the profits from the products have been retained in the higher levels of the trade chain. In comparison the revenue local collectors have gained each year is guite small. Efforts to establish a more equitable distribution of the profits have met with some resistance from the level 1 trades as in order to ensure the sustainability for the trade chain, total revenue should be distributed fairly for all participated stakeholders. At this stage, TRAFFIC is trying to find resolutions for this emerging issue based on two options: (1) The first solution is that the project will strengthen the alliance between the collector groups and the level 1 traders. In this option, the level 1 traders in Bang Lung town will be part of the supply chain and they will be directly connected to the higher level traders/wholesalers who will have to pay higher price for the improved products; (2) The second option is that the project will involve a number of domestic companies and/or traditional medicine clinics/shops to buy the sustainable wild collected MAPs. For both options outlined above, it is crucial that the local communities be assisted to become more active to introduce and gain access of their products to the market. Capacity on the supply side of the trade

chain requires improvement and increasing to maximize benefits for the local collectors. In addition, financial and technical support to find a stable market for their products is also required to ensure the incomes derived from MAP collection are sustained.

Efforts have continued throughout the project to assist in establishing a benefit sharing agreement/arrangement/mechanism within the local communities. There are a number of policy and legal documents that currently impact on the benefit sharing mechanism being implemented in the project site. The key limitations include:

- Laws regarding trade in the MAP species exist within the province but there is a lack of information dissemination and therefore a limited understanding of the laws in the community

- There are inconsistencies between national and commune level rules/policies

- Implementation of laws is not appropriate or doesn't meet community needs

- There is conflict and lack of coordination between different agencies within the government

- Agreed benefit sharing articles are quite general so in the real situation/in practice, it is difficult to implement them

- The roles and responsibilities of some key relevant stakeholders such as the level 1 traders, the level 2 traders, processors or wholesalers in the benefit sharing mechanisms were not clarified or well defined

- There is limited budget for supervision/monitoring team to monitor, supervise the sustainable harvesting practices and deal with conflict among collectors in the harvesting process.

Safeguard Policy Assessment

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

There were no adverse impacts on the environment or society of the local communities during the project course. Project activities helped local people to minimize negative impacts on the environment that may be a result of MAP overexploitation. Although the benefits from sustainable harvesting of wild MAP's can't compare with illegal exploitation of timber in the NXL SHCA, the project encourages the project villages to pilot sustainable actions and management of natural resources by creating conservation partnerships. This specifically looks to introduce effective benefit sharing mechanisms between the NXL SHCA and local villages in the buffer zone. However, the biggest issue was the competition that arose between 51 collectors trained by the project and untrained collectors/villagers in harvesting. Local collectors feel pressure to collect MAP species as soon as possible to avoid the risk of other people harvesting these plants before they do. In addition, private traders offer to pay local harvesters for selected MAP species regardless of whether they are harvested at the optimal time to ensure the highest quality and market value of the product. This has created a social environment in which local collectors pick selected MAP species as soon as possible in order to be compensated by traders and not have other collectors harvest plants in the area before them. Furthermore, this conditioning has resulted in them not caring about product quality despite the fact that higher quality products earn them higher revenue. If somebody else harvests these plants first, they will not have any income during a harvesting season. To stop unsustainable harvesting from happening in the coming season, a number of regulations have been discussed openly with both trained and untrained collector groups in these respects for inclusion in the management plan:

- TRAFFIC continues to provide mechanisms to supply 'real-time' information and previous market prices and quality requirements at different times during the harvesting season to MAP collectors in preparation for when they negotiate at the 'farm gate' with traders, local collection points and commune level markets.

- TRAFFIC helps local collectors establish a patrolling group in each village or every two villages to ensure correct harvesting techniques and skills are being applied to target species in order to minimize environmental impacts and maximize the economic value of the product.

- TRAFFIC encourages local collectors to contribute at least 5% of the profits gained during each harvesting season to create a conservation and livelihood support fund. This fund is used to implement

alternative livelihood initiatives in villages that were unable to participate in TRAFFIC's project. This is an incentive for every village to keep harvesting sustainably.

Recognizing the key role of the level 1 traders who come to the project site villages to buy the target species products and then sell to wholesalers and on to processors in China, the project attempted to ensure their involvement in activities. However, in the beginning they hesitated to share with the project team in regards to information on the kind/type/species products, volume of the products they bought from the villages and where and to whom they were going to sell products. After a number of visits with informal and open talk, they started expressing their interests in better quality products and their awareness of the notion of sustainable wild collected harvesting not only in the project but also in other sites. This open dialogue on the activities and project took some time to establish but once there assisted in ensuring open discussions on activities and clarification of concerns of the impacts.

Level 1 traders shared that they may be happy to pay a higher price for products with better quality but it was also difficult to identify the products and ensure transparent information of wild-sustainable collection origin. Another concern coming from this group is that they are also limited in regards to accessing real market information such as prices and domestic demand. They generally have just a few contacts to compare prices before deciding whom they should sell to. Although they are ready to wait for prime time to achieve the prime price for their products but sometimes this was not an option and could actually lead to lower prices for the products.

It is clear that in the long term the information along the trade chain should be clear/transparent for all relevant stakeholders. The revenue from the farm gate to final destination should be distributed more fairly and clearly for the relevant links to ensure fair trade. In practice, it takes much longer time frames than was possible in this project and really needs human and financial resources to connect the factors/links and coordinate the market information sharing for the whole chain. Furthermore, the role of collectors, traders, processors/pharmaceutical companies should be clearer to each other and they should be more responsible for their roles in order to keep the trade fair along the trade chain.

Additional Comments/Recommendations

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: Nguyen Thi Mai- Forest Trade Officer Organization name: TRAFFIC Southeast Asia – Greater Mekong Programme Mailing address: Room 201, Building 2A, 298 Kim Ma street, Ba Dinh District, Ha Noi Tel: +84 4 3726 5026 Fax: +84 43726 4665 E-mail:mai.nguyen@traffic.org

If your grant has an end date other than JUNE 30, please complete the tables on the following pages

Performance Tracking Report Addendum												
	C	EPF Globa	ITargets									
	(En	ter Gran	nt Term	1)								
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, 2012 to 30 th July, 2013. (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.	Y	1,500 ha	1,500 ha	The management plan developed for Sustainable harvesting of the target species included management of these inside Nam Xuan Lac Species and Habitat Conservation Area (area of the species distribution in the Conservation Area Buffer Zone is 1,500ha)								
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	N/A											
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.	Y	9,296 ha	9,296 ha	Nam Xuan Lac Species and Habitat Conservation Area, including the buffer zone (9,296 ha), occurs in the Northern Limestone key Biodiversity Area. The management plan and activities strengthened the management and conservation of the key species from the project but also other collected species and their habitats across the Conservation Area.								
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Y	9,296 ha	9,296 ha	By helping local collectors to protect a number of species: <i>Amomum villosum</i> Lour and <i>Amomum</i> <i>xanthioides</i> var. xanthioides and Alpinia malaccensis and Alpinia latilabris in sustainable manner.								
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	Y	7	7	In the approved proposal, the project aimed to train 50 households to practice sustainable harvesting techniques for the target species. The project actually provided this training course for more than 50 households when it was first implemented in 2012. This training was subsequently offered again and provided additional training for more than 100 local collectors. In addition after the training the number of villagers willing to be a member of the collection group increased significantly.								

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

									fit, 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													
				Se		Urban communities			Increased Income due to:			ue able	ater	other og,			υŔ	al ntal	e ed.		
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants			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
Ban Na Da			Х				Х		Х				Х						Х	Х	<u> </u>
Ban Eng			Х				Х		Х				Х						Х	Х	
Ban Khang			Х				Х		Х				Х						Х	Х	
Ban Tun			Х				Х		Х				Х						Х	Х	
Keo Nang			Х				Х		Х		Х		Х						Х	Х	I
Khuoi Ken			Х				Х		Х		Х		Х						Х	Х	I
Phja Khao			X				X		×		X		x						X	X	
Total																					ļ