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Technical Brief

CONSERVATION ENTERPRISES

Using a Theory of Change Approach to Synthesize
Lessons from USAID Biodiversity Projects



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Conservation Enterprises Learning Group

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Front Cover: Women in Cambodia work together on their crab harvest. *Photo Credit: Ashleigh Baker*

Back Cover: Oceanside seafood market in Kep, along Cambodia's southern coast. *Photo credit: Ashleigh Baker*

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ACRONYMS

- BCN** Biodiversity Conservation Network
- CARPE** Central Africa Regional Program for the Environment
- CBNRM** Community-Based Natural Resources Management
- IIED** International Institute for Environment and Development
- SCAPES** Sustainable Conservation Approaches in Priority Ecosystems Program
- USAID** United States Agency for International Development

INTRODUCTION

Promoting conservation enterprises is a strategy that is widely supported by United States Agency for International Development (USAID) biodiversity funding. However, the evidence that conservation enterprises lead to conservation is mixed.

In an effort to increase the understanding of conservation enterprise approaches and outcomes and to improve the effectiveness of biodiversity programming, this brief synthesizes lessons from past USAID-funded efforts to support conservation enterprises (Box I).

A number of USAID programs have supported conservation enterprises, including the Biodiversity Conservation Network (BCN), the Global Conservation Program, the Sustainable Conservation Approaches in Priority Ecosystems Program (SCAPES), TransLinks, the Forests, Climate, and Communities Alliance, the Central Africa Regional Program for the Environment (CARPE) and others. For this review, staff of Measuring Impact examined readily available assessments of these and other centrally funded or multi-country USAID programs to synthesize the evidence and illuminate lessons regarding the effectiveness of conservation enterprises. This brief describes some of the key lessons of those experiences.

Each USAID biodiversity-funded program, as well as each site where a conservation enterprise strategic approach is implemented, involves a unique set of circumstances. From site to site, the conservation enterprises themselves, or the participants, threats, biodiversity, and other conditions may vary widely. Nevertheless, there is a common hypothesis underlying all the actions implemented by partners as part of this strategic approach: that supporting conservation enterprises will ultimately lead to improvement in the status of biodiversity at their sites.

BOX I. WHAT IS A CONSERVATION ENTERPRISE?

Conservation enterprises provide income to participants through the production and sale of goods and services such as ecotourism, beekeeping, and crafts. The hypothesis is that if participant income is increased, then that provides the motivation and ability for participants to discontinue unsustainable activities and exclude others from uses that result in threats to biodiversity.

Supporting or developing conservation enterprises with participants is often one element of an overall strategy to promote sustainable or alternative livelihoods, or to support community-based natural resources management (CBNRM) as part of a conservation project. These approaches generally seek to change behavior of people that induce threats to biodiversity by enabling a new benefit-generating activity that exceeds the benefit of the threat-inducing activity. In the case of conservation enterprises, the primary benefit is presumably the income generated from the enterprise.

THE APPROACH

LEARNING FROM PAST EXPERIENCE USING A THEORY OF CHANGE

As depicted in Figure 1 and Box 2, a generalized theory of change for conservation enterprises follows this logic: if projects support conservation enterprises, then the enabling conditions for enterprises (such as market demand and participant capacity) are in place; if enabling conditions are in place, then benefits (such as more income or improved governance) are realized by participants; if benefits are realized, then participants' behavior (such as hunting or illegal logging) is changed and threats to biodiversity are reduced, and biodiversity will be ultimately conserved. Assessing the soundness of these assumptions will help inform what works, what doesn't, and under what conditions.

If the program is funded using USAID biodiversity funding, the assumption is that biodiversity conservation is one of the highest-level goals of the project. Programs with biodiversity and other USAID funding sources may have livelihood and institutional outcomes that are an equal priority with conservation. As described in USAID's Nature, Wealth, and Power framework, the environmental, economic, and governance dimensions of a program are interrelated and mutually supportive.²

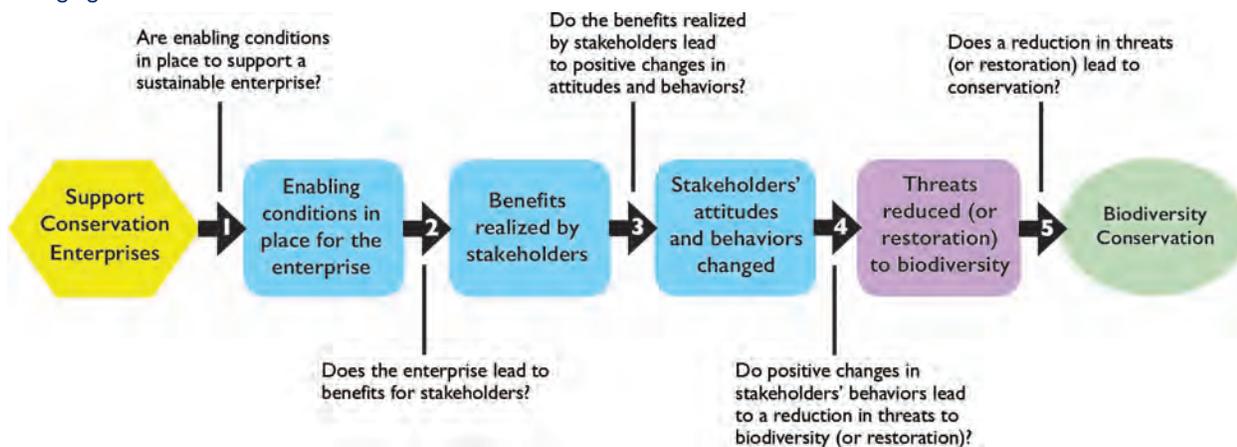
At any given site, a series of enabling conditions influences the likelihood that supporting a conservation enterprise will result in the desired outcomes for participants and biodiversity. Enabling conditions are context-specific – what may be important in one context may not be in another. The conditions identified overlap and interact with each other, strengths in some areas may compensate for weaknesses in others, and no one condition is sufficient to enable conservation enterprise outcomes by itself.

BOX 2. THEORY OF CHANGE FOR SUPPORTING CONSERVATION ENTERPRISES

For this summary, a theory of change was used to illuminate the logic and assumptions underlying the use of a conservation enterprise approach and to structure the lessons learned from past experience. A theory of change is used to test assumptions about the relationships among the actions implemented and the expected outcomes by exploring learning questions.

Below is a generalized theory of change for supporting conservation enterprises. The ultimate outcome – biodiversity conservation – is represented by the green oval. The strategic approach – support conservation enterprises – is represented by the yellow hexagon. Blue boxes represent expected intermediate results and the purple box is the expected reduction in threats. Arrows indicate assumptions that a given factor or result will lead to a subsequent one. Learning questions are aimed at exploring these assumptions to contribute to evidence regarding why or why not the approach is effective in a given context. [The Conservation Enterprises Learning Agenda](#) explores the conditions under which a specific strategic approach is successful or not in achieving desired outcomes, and why, in order to improve USAID's biodiversity programming.

Figure 1: Results Chain Depicting the Generalized Theory of Change and Learning Questions Under the Conservation Enterprises Learning Agenda



SYNTHESIS OF KEY LESSONS

This section examines the assumptions in the generalized theory of change for conservation enterprises by exploring the learning questions (Figure 1 on page 5). The learning questions were explored by synthesizing information from assessments of USAID-supported efforts.

Some of the assessments reviewed acknowledge that clear logic is key to conservation enterprise effectiveness in achieving conservation outcomes.^{13, 14, 15} They generally recommend that activities should be based on a theory of change (see Box 2 on page 5), designed using information on the drivers of the specific threats to biodiversity, and that assumptions in the theory of change should be tested through monitoring, evaluation, and learning.^{5, 12, 13, 14, 15} These recommendations are consistent with provisions of the 2014 USAID Biodiversity Policy and updated Biodiversity Code. The review of assessments found that most activities did not have a defined theory of change as part of the project design, and therefore lacked an monitoring, evaluation, and learning framework that tested assumptions. Lessons regarding the conditions under which conservation enterprises are effective were therefore drawn retrospectively and qualitatively.

THEORY OF CHANGE ASSUMPTION I:

Are the enabling conditions in place to support a sustainable enterprise?

ENABLING CONDITIONS AND LESSONS FOCUSED ON BUSINESS ASPECTS OF ENTERPRISES

The first set of enabling conditions is related to the business aspects of enterprises. Many of these conditions and lessons are common to other types of enterprise-development strategies in other sectors as well.

Profit potential

- BCN found that there was no single type of enterprise that would automatically be profitable.¹³
- Some USAID-supported enterprises struggled to meet their financial sustainability objectives within the short-term funding period provided by USAID and other donors.^{4, 5, 12, 15}
- Transaction costs and opportunity costs, which are sometimes overlooked, need to be analyzed to understand the viability of the enterprise and incentives for participation.^{2, 9}
- If an enterprise continues to receive funding (i.e., an ongoing subsidy) from an external donor, it is important that income from the enterprise cover variable and fixed costs, at a minimum. If ongoing funding is not planned, project design teams should consider the time needed for the enterprise to reach profitability, to ensure sustainability before subsidies end.^{9, 13}
- Even if the enterprise is partially subsidized over the long-term, the strategy may still be a net gain for donors and partners if the investment in the enterprise is more cost effective than the best alternative conservation strategy.^{5, 13}

Market demand for services and products

- The lack of a strong market, no market analysis, and superficial supply-driven approaches to creating markets are common mistakes in project design.²
- Key factors that influenced the conservation enterprise's ability to generate income are a sound feasibility analysis that considers participants' current livelihoods and skills, sustainable resource use relative to overall biodiversity conservation; access to markets, thorough market research (including international, national, and local trends), and an established but not-too-competitive market.^{3, 9, 11, 12, 13, 14, 15}

Established business alliances and partnerships

- A key factor in an enterprise's ability to generate income is identifying private businesses that are willing to form equitable partnerships with local enterprises. Business partners can provide critical expertise, experience, investments, and a secure market for goods and services.^{2,3,5,6,9,10,11,13,14,15}
- NGOs can help form business alliances, reduce the barriers to markets and profits, and assure equitable partnerships.^{2,5,6,10}

Access to credit or capital

- The enterprises' ability to access and manage credit is often a prerequisite for generating income and achieving financial sustainability.^{5,11,14} For example, increasing women's access to credit and capital may be important for improving enabling conditions for an enterprise.¹⁴

ENABLING CONDITIONS AND LESSONS NESTED IN BROADER APPROACHES

A second set of enabling conditions for conservation enterprises is more general than business practices alone. These enabling conditions are commonly included in broader approaches, such as CBNRM.

Regulatory compliance and legal frameworks

- Complying with (often complex) government health, safety, export, land tenure, land use, and benefit sharing regulations is a necessity^{4,6,9,14} and poses a challenge for enterprises.^{2,5}
- Understanding and meeting compliance requirements is important for private sector enterprises in government protected areas and for exporting goods such as timber or agricultural products.⁵
- Working to modify legal and regulatory frameworks, such as those that limit women's role in planning and economic development,¹⁴ may help enterprises succeed.^{4,6,10,14,15}

Constituency- and awareness-building

- Supporting community enterprises may lead to biodiversity conservation by giving environment project staff an entry point into the community and improving community interest in managing natural resources.^{7,10,13,14} In some situations, raising awareness and building community engagement in conservation may be as effective as community enterprises in meeting conservation objectives.¹³

Adequate regulation and enforcement of outside users

- Some enterprise projects help participants move from reliance on government enforcement of conservation rules to community co- or self-management of resources.^{7,14}
- Community enforcement against both internal and external threats can help achieve enterprise success and conservation outcomes;^{6,9,10,13,15} lack of enforcement capacity and regulations can be a barrier.⁶

Effective governance

- No single enterprise-ownership structure (e.g., individual versus joint ownership) seems best in all situations; instead, it is important to find the ownership structure that incentivizes participants to stay engaged in the enterprise.¹³ Additionally, strong and balanced enterprise leadership can support enterprise sustainability.¹³
- Local participant ownership and management of the enterprise can contribute to conservation outcomes,^{7,13} and to enterprise success, given that locals are familiar with the concerns and priorities of communities.^{6,14,15}
- Women and disadvantaged groups should be included in planning, decision-making, and implementation of the enterprise.¹⁴
- Many enterprises create decision-making protocols and hold regular meetings.^{5,6,14} It is important that conservation enterprise development and ongoing refinement is managed by the operators, community, and government of the site.^{6,14}

Skills, knowledge, and equipment

- Financial management and marketing skills are key to enterprise success.^{3,4,5,6,7,13,14}
- Long-term external investment may be required to build needed participant capacity.^{4,5,6,7}
- There may be risk in putting too much focus on achieving production and sales targets at the expense of developing long-term capacity in enterprise management.^{5,6}
- A focus on simple enterprises that use existing skills of the community (rather than complex enterprises that require new skills and ongoing technical assistance) can support enterprise success.^{9,13,14,15} Communities that have been involved in entrepreneurship in the past may already have developed many of the skills needed for conservation-based enterprises.¹⁴
- Most value chains for services or products do not inherently include conservation outcomes. The capacity of existing enterprises operating within the value chain may need to be strengthened, and/or new enterprises developed, to achieve conservation goals.⁹
- It is important to understand, and as necessary, address gender differences in access to education and technical skills in the local context.¹⁴
- Capacity building can be ineffective if the policy environment for the enterprise remains weak, or if participants' resource use rights are ill-defined.²

Benefit distribution

- In cases where special interests support a particular group or enterprise for political reasons the process for avoiding “elite capture” can be delicate and difficult.^{2,14,15}
- Arrangements to avoid “free-riders” in community-based enterprises may be needed to avoid situations where some are not benefiting appropriately,^{13,14} such as directing benefits to individuals who do the work the enterprise requires,^{7,13} rather than community-wide.
- Resentment may result if many people are expected to change threat-inducing behavior, but only a few community members directly involved in the enterprise benefit.⁸
- It may be helpful to distribute benefits only to resource-use decision-makers – those most directly causing internal threats or who have the ability to stop external threats to biodiversity.¹³



Fishermen dry the day's catch in the sun along Senegal's coast.
Photo credit: Ashleigh Baker

Resource use rights

- Many enterprise projects support transitions from uncontrolled, open-access resource use to forms of limited entry and user rights.^{6,14} When enterprises depend on in-situ resources, they may need the capacity and rights to counter threats to the resources.^{7,10,13}
- Clarity on ownership and access rights for enterprise-dependent resources and ecosystem services is crucial for effective management at the local level.^{2,6,7,10,14}
- The economic value of tenure security can provide a strong incentive for participation^{2,5} and for conservation.¹⁰ In contrast, annual contracts or short-term leases may not provide sufficient security and incentive for participants to participate in enterprises.^{2,5}
- In some situations, the full legal control by participants of resource use may not be necessary; even limited resource rights can be sufficient to reduce some types of threats.¹³
- In cases where participant management of resources increases the resources' value over time, issues of rights and claims may re-emerge, and external threats may increase.^{2,7,13}

Diversified livelihoods

- Enterprises can be affected by sudden changes like natural disasters or political unrest.^{6,12,13} Diversifying livelihoods may increase community resiliency to stresses and shocks,^{2,6,14,15} and reduce vulnerability from the failure of a single enterprise.^{13,14,15} Additionally, it may be helpful to create opportunities that provide participants with both short- and long-term benefits.¹⁵
- Livelihoods that depend on ecosystem functions may be vulnerable to climate change. It is important to consider climate-related stresses and other threats on resources that determine the enterprise's success over the longer term.¹⁴

THEORY OF CHANGE ASSUMPTION 2:

Does the enterprise lead to benefits for stakeholders?

The assumption behind supporting enterprises is that, if the donor-funded strategic approach supports enabling conditions and the creation of enterprises, then participants will receive cash benefits from participation in those enterprises.

Key Findings

- Cash benefits accrued by communities have been limited:^{2,10,13} just seven of the BCN-supported enterprises made a profit during the program period of 1990-1999. Of the 37 total enterprises for which BCN had usable financial data, four did not have revenues, three had minimal revenues, 13 covered only their variable costs, and 10 covered their variable and fixed costs.¹³
- Supporting the enabling conditions for enterprises results in important noncash benefits to participants, such as improved knowledge, governance, or resource use rights.^{5,6,13}
- Enterprise approaches may need to be supplemented by awareness-raising, law and policy development, improved enforcement of regulations, and/or other strategies at the site^{13,14} in order to generate benefits.
- Many conservation enterprises that are dependent on *in situ* biodiversity must cope with seasonality and variable, often long, production cycles. This can mean that participants may need income before revenue and profits can be generated by the enterprise.^{11,13,14}
- To understand the effectiveness of conservation enterprises, we need to measure the extent to which enabling conditions for the enterprise have been met and how these conditions support the generation of cash and noncash benefits for participants.

THEORY OF CHANGE ASSUMPTION 3:

Do the benefits realized by stakeholders lead to positive changes in attitudes and behaviors?

A key assumption of enterprise approaches to conservation is that the benefits, most often income, of the new or modified activity will outweigh those of continuing the unsustainable use of resources that are the focus of conservation.

Key Findings

- Relatively small amounts of funds, equitably and transparently distributed can be persuasive for participants to change their behavior.¹⁰
- The enterprise must show some benefits (not necessarily income) in the first years in order to motivate changes in behavior.^{13,14}

- BCN’s intent was to support enterprises that were linked to biodiversity (see Box 3 for a description of BCN’s hypothesis regarding linked enterprises). These results imply that, although cash income may not be important in influencing participants’ willingness to counter threats, participants do need some incentives to take action.¹³
 - There was little evidence to suggest that individual cash benefits to participants lead to threat reduction.
 - There was no association between the income contribution of the enterprise to total income of the average household and threat reduction.
 - Contrary to expectations, conservation occurred regardless of the percentage of participant households receiving income from the enterprise.
 - Qualitative results indicated that all sites with significant conservation outcomes had substantial noncash benefits.
 - Noncash benefits, such as enhanced community confidence, were an important enabling condition for conservation outcomes and seemed to engender trust and cooperation between key participants and project staff.^{2,13}
- Project managers or governing authorities may need to impose limits on resource use^{9,15} so that enterprises do not become additional activities for participants, rather than a substitute for threat-inducing activities.^{6,15}
- Forests, wildlife, and fisheries that are of interest to conservation are often a minor portion of the livelihoods of the rural poor; enterprises are often an additional source of income that usually do not replace their primary livelihood, such as agriculture.^{2,7}
- Short project timeframes leave managers with uncertainty about whether the benefits from enterprises will be sufficient to motivate and enable participants to change behavior.^{3,5,12,15}
- It may be important to understand how benefits to participants might affect the behavior of those in the community that are not receiving benefits from the enterprise.^{8,10}

There are still important information gaps regarding the linkages between the enterprise benefits and behavior change, such as if and how engagement in the enterprise may change participants’ attitudes so that they change their conservation behavior. Measuring if and how the benefits (both income on noncash benefits) are leading to behavior change of participants is key to understanding the effectiveness of the conservation enterprise.

BOX 3. LESSONS OVER THE LONGER TERM

The Biodiversity Conservation Network (BCN) was a landmark USAID-funded \$20 million program in the 1990s focused on enterprise-based approaches to biodiversity conservation. BCN both funded and analyzed 38 enterprises in 20 terrestrial and marine-based projects across the Asia-Pacific region, each of which implemented a business “linked”* to biodiversity, such as ecotourism or non-timber forest product harvesting and marketing.

BCN’s assumption was that, because enterprises are linked to biodiversity, participants are motivated to conserve the resources to maintain their source of benefits. Therefore, linked enterprises would be more effective at reducing both internal (those induced by the participants themselves) and external pressures (those induced by others not directly benefiting from the enterprise) than enterprises that are not linked to biodiversity.

BCN tried simultaneously to promote this enterprise-based conservation strategy as well as test the conditions under which it did and did not lead to conservation and other outcomes.¹³ Since BCN, USAID biodiversity programming has supported many other conservation enterprise approaches world-wide.

Measuring Impact is implementing a retrospective review of USAID-supported conservation enterprise approaches. A qualitative assessment of the history and outcomes of each of the enterprises and broader projects originally funded by USAID gives us a rare opportunity to do a truly long-term follow up of the results of a specific funding strategic approach.

**BCN defined linked enterprises as those conservation enterprises that are dependent on the in-situ biodiversity that is the focus of conservation. In contrast, enterprises that are not linked to biodiversity are those that use an alternative or substitute resource to that which is the focus of conservation (e.g., raising livestock as an alternative to hunting and selling bushmeat.)*

THEORY OF CHANGE ASSUMPTION 4:

Do positive changes in stakeholders' behaviors lead to a reduction in threats to biodiversity (or restoration)?

This assumption posits that those participating in the conservation enterprise strategic approaches are the right participants, and that the behaviors they modify will in fact reduce threats to the biodiversity focal interest.

Key Findings

- Failure to properly identify target participants in an enterprise can jeopardize its effectiveness at reducing the threats to biodiversity.^{14,15} Careful selection of participants that are involved in the specific threat-inducing behaviors (e.g., hunting, logging) is key. For example, engaging women, young, or elderly household members in a specific enterprise, such as raising small livestock, could provide household income, but may not reduce hunting threats if men are the primary hunters.
- Even when the appropriate participants are engaged, the scale of the enterprise or the number of participants involved must be sufficient in order to have the intended effect on reducing threats.^{8,14,15}
- In some cases, external threats are much greater than internal threats, which minimizes the potential overall reduction of threats to biodiversity through an enterprise approach alone.¹⁵
- Illegal activity by outsiders (external threats) can sometimes be deterred by enterprise participants simply spending more time and being more present in the project site.^{7,14}
- As resource condition improves and benefits to participants increase, external threats to revoke resource rights, increase extractive activities, or change ownership regimes may also increase, which may in turn reduce benefits to participants.^{2,7,10,13}
- Measuring the effects of participants' behavior changes on the reduction of internal and external threats is crucial to understanding the effectiveness of the enterprise. Threat reduction as a result of other strategic approaches, such as improved law enforcement, might need to be considered.

BOX 4. SYSTEMATIC REVIEW OF LITERATURE BY IIED

International Institute for Environment and Development (IIED) conducted a [systematic review](#) to address the research question: Are alternative livelihood projects effective at reducing local threats to specified elements of biodiversity and/or improving or maintaining the conservation status of those elements? The systematic review provides an overview for researchers, policy makers and practitioners of the current state of the evidence base. Conservation enterprises are included within the definition of alternative livelihoods.

THEORY OF CHANGE ASSUMPTION 5:

Does a reduction in threats (or restoration) lead to conservation?

This assumption states that the threat reduction delivered by the enterprise will in fact lead to observable improvements in biodiversity focal interests over time.

Key Findings

- For some enterprise projects, biodiversity conservation outcomes were difficult to define and measure in the context of a specific site, especially over short project timeframes.^{5,8,13}
- The cost, time, and expertise needed to conduct ecological monitoring may be prohibitively high.^{5,8,13,14,15} Therefore, the status of biodiversity focal interests may not be feasible to use in measuring effectiveness, and a threat-reduction measure may be used as a surrogate.^{8,13}
- Conservation outcomes may not be sustained if enabling conditions are not also strengthened. This may be especially true for enterprises with external funding.^{2,5,8}

CONCLUSIONS

It is clear from this review of assessments of past USAID programs that more systematically collected cross-site information on the effectiveness of conservation enterprise approaches could help to inform our collective knowledge and the design of USAID-supported projects. Each of the assessments we reviewed concluded that there is a need for more systematic monitoring and evaluation, cross-site learning, and adaptive management of conservation enterprise strategies. As stated in the assessment of CARPE projects:

“As a conservation community, gathering experience of success and failure from current and past projects is the only way to collectively begin to understand ‘what works and what doesn’t’ in different situations and environments and adapt accordingly... However, the lack of project monitoring and evaluation to date means that many projects are unable to properly evaluate their impacts and therefore many of these crucial lessons are being lost.”¹⁵

A systematic review of literature by IIED (see Box 4 on page 11) identifies evidence gaps. Measuring Impact is also conducting a follow-up review of USAID-supported enterprises (see Box 3 on page 10), a unique opportunity to draw lessons from conservation enterprise experience over a longer period.

Using a common theory of change across projects for supporting conservation enterprises (as in BCN) provides the comparative framework for assessing the soundness of assumptions across projects will help inform what works, what doesn’t, and under what conditions.



Tourists watch as an elephant rescued by the Elephant Valley Project in Cambodia bathes. Photo credit: Ashleigh Baker

DOCUMENTS REVIEWED & REFERENCED

The following USAID documents were reviewed to prepare this brief. They were generally produced after project completion (ex-post), and were mostly qualitative, descriptive, and anecdotal. The assessments of BCN¹³ and CARPE¹⁵ used a more systematic approach to gathering consistent cross-site data, though they, too, offered qualitative and ex-post findings.

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⁸ Joy Hecht and Arthur Mitchell. [Global Sustainable Tourism Alliance \(GSTA\) Performance Evaluation](#). Washington D.C.: United States Agency for International Development. 2014.

⁹ Ann Koontz. [The Conservation Marketing Equation: A Manual for Conservation and Development Professionals](#). Washington D.C.: EnterpriseWorks/VITA. 2008.

¹⁰ [Lessons on Community Enterprise Interventions for Landscape/Seascape Level Conservation: Seven Case Studies from the Global Conservation Program](#). Washington D.C.: EnterpriseWorks/VITA. 2009.

¹¹ Hetu Patel, Sara Nelson, Jesus Palacios, Alison Zander, and Helen Crowley. [Case Study: Elephant Pepper: Establishing Conservation-Focused Business](#). Bronx, NY: Wildlife Conservation Society. 2009.

¹² John Pielemeir and Matthew Erdman. [Performance Evaluation of Sustainable Conservation Approaches in Priority Ecosystems Project](#). 2015. (forthcoming)

¹³ Nick Salafsky, Bernd Cordes, John Parks, and Cheryl Hochman. [Evaluating linkages between business, the environment, and local communities: final analytical results from the Biodiversity Conservation Network](#). Washington D.C.: Biodiversity Support Program. 1999.

¹⁴ Elin Torell and James Tobey. [Enterprise Strategies for Coastal and Marine Conservation: A Review of Best Practices and Lessons Learned](#). Narragansett, Rhode Island: Coastal Resources Center, University of Rhode Island. 2012.

¹⁵ Sylvia Wicander and Lauren Coad. [Learning our Lessons: A Review of Alternative Livelihood Projects in Central Africa](#), IUCN and ECI, University of Oxford. 2014.



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