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UNDERSTANDING BIODIVERSITY – DEVELOPMENT INTEGRATION EFFORTS AND OPPORTUNITIES: A Review of Approaches and Frameworks



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	I
Major Findings	i
Key Recommendations	ii
LIST OF ACRONYMS	IV
1. INTRODUCTION	1
1.1 Evolution of Integration	1
2. WHAT DO WE KNOW ABOUT INTEGRATION?	4
2.1 International Policy Level	9
Convention on Biological Diversity (CBD)	9
Mainstreaming Biodiversity and Multilateral Environmental Agreements.....	11
The Global Environment Facility (GEF)	11
United Nations: TEEB, IPBES	11
Multilateral Development Banks (World Bank, Inter-American Development Bank).....	12
Organisation for Economic Co-operation and Development (OECD)	13
The European Union (EU)	14
2.2 National Policy Level – Definitions and Frameworks	15
Integration with Economic Sectors	15
Integration with Climate Change.....	16
Integration with Health	17
Integration with Food Security	18
2.3 Project/Program Implementation Level	22
Conservation Organizations’ Experiences.....	23
The Development Perspective.....	26
2.4 Summary Highlights of Frameworks	35
Common Components of Integration: Biodiversity, Ecosystem Services, and Human Wellbeing	37
3. CHALLENGES FOR DOING INTEGRATION – AND DOING IT WELL	39
4. RECOMMENDATIONS FOR MOVING FORWARD WITH INTEGRATION	42
4.1 Guiding Principles	42
4.2 Recommendations for Integration within USAID	43
4.3 Recommendations for Integration through USAID-Funded Projects and Partnerships	43
4.4 Recommendations for Definitions and Frameworks	45
5. CONCLUDING THOUGHTS	47
APPENDIX A. EXAMPLES OF INTEGRATION APPROACHES TAKEN BY BILATERAL GOVERNMENT AGENCIES	A-1
The Japanese International Cooperation Agency (JICA)	A-1
The U.K. Department for International Development (DFID)	A-1

Canadian International Development Agency (CIDA)	A-2
The Dutch Ministry of Foreign Affairs	A-3
The Norwegian Ministry of Foreign Affairs (NORAD)	A-3
APPENDIX B. KEY INFORMANTS CONSULTED.....	B-1
ENDNOTES.....	C-1

EXECUTIVE SUMMARY

Over the last three to four decades, the conservation community increasingly has been working outside of protected areas, using a broader array of strategies to influence social, legal, economic, and cultural factors in support of biodiversity conservation. These “integrated” strategies vary widely, ranging from national level systems that provide payment for ecosystem services to regional level efforts that clarify and strengthen governance over resources to site-based efforts that create the capacity among resource users to employ more sustainable techniques for managing their natural resources.

This report presents the results of a broad review to understand how other agencies and organizations have defined and integrated biodiversity with other sectors. The purpose of this review was to highlight some ways that various actors have approached integration to help USAID learn from what has been done and use this learning to inform its own approach to integration. More specifically, the review sought to:

1. Capture the state of the art on integration - Describe a spectrum of definitions and frameworks for integration, with a primary focus on biodiversity, as it has been integrated with the health, food security, climate, and economic growth sectors.
2. Understand current practices related to integration - Describe how other institutions and managers are integrating conservation and development goals.
3. Recommend a way forward - Provide draft definitions and a framework for E3/FAB to support USAID’s work in promoting and achieving integration through implementation of the Biodiversity Policy.

MAJOR FINDINGS

Most organizations do not formally define integration. Instead, they focus on what needs to be integrated or how it will be integrated. Where there are formal definitions, there are not significant differences. While there are technical differences in the connotations behind the terms “integration” and “mainstreaming,” this review found little difference in practice between the terms. However, those working at the international policy level talk about “mainstreaming,” while those working at the implementation level talk about “integration.”

There are relatively few formal frameworks for clarifying how biodiversity relates to, contributes to, or benefits from other sectors. However, some interesting frameworks include DFID’s Sustainable Livelihoods Framework, The Millennium Ecosystem Assessment’s Framework, and the Conservation Measures Partnerships framework and practical guidance explicitly defining the links between biodiversity conservation and human wellbeing.

Integration happens at different scales, for different reasons, and with different outcomes. This review identified three separate but interacting levels or scales: International Policy Level, National Policy Level, and Program/Project Implementation Level.

The international policy community has embraced the concept of mainstreaming. The Convention on Biodiversity has a long history promoting integration of conservation with development, with the Aichi Goals and Targets in 2010 representing a new, high-level push for integration across sectors and scales by 2020. Multi-laterals such as GEF, World Bank, and the UN system are placing heavy emphasis on mainstreaming.

National policy-level integration involves developing policies, enacting legislation, and establishing the systems and incentives needed to do integration. Examples of initiatives include environmental valuation and natural resource accounting, payment for ecosystem services, climate change mitigation and adaptation (e.g., REDD+), and water and air quality standards, the latter of which have been in place for decades. Some implementation-level initiatives (e.g., HEAL) are working with countries to define linkages and disease transmission routes.

At the implementation level, conservation organizations are working to improve human wellbeing through strengthening enabling conditions and ensuring ecosystem services. Actions happen at different scales, from transboundary and national-scale activities down to small-scale village projects. WWF has been actively pursuing integrated strategies for the last two decades. More recently, WCS has been active in leading in integration research initiatives (e.g., HEAL and AHEAD), and TNC has established a new Human Dimensions Program to understand and develop metrics for people-nature interactions.

Motivations for integration vary by sector. Some motivators include: desire to secure availability and improve quality of ecosystem services for human populations; ability to access remote areas; and, increasingly, ability to help human populations adapt to climate change. From the development world, CARE has been particularly active, partnering with WWF in several initiatives around the globe.

Clear evidence of impact is lacking across all levels. Though integration seems intuitively smart, few organizations, agencies, or programs have the data to show that an integrated approach achieves more than a single sector approach. Moreover, they lack clear assumptions, goals, and objectives which would help them collect the data to begin to analyze evidence of impact.

Integration is not easy. There are a number of challenges, including the conceptual and practical complexity of a multi-sectoral approach, the lack of political and associated governance constraints, the lack of immediate and direct human wellbeing benefit from conservation (in particular when the benefit derives from an ecosystem service), and the lack of clarity across scales of what integration is and how it should be done.

KEY RECOMMENDATIONS

While this report offers several recommendations, some particularly important ones include:

When identifying opportunities for integration, consider the three scales and where USAID is likely to have the greatest impact. USAID has engaged at all three scales, with a lot of investment at the program and project implementation level. Going forward, USAID could consider whether it should continue its involvement across all three scales and to what degree it engages at each level. At the same time and to the degree possible, USAID should be alert to opportunities to leverage change across multiple scales.

Use an adaptive management approach to integration: Integration may make sense under some conditions and not under others. For actions that USAID takes or supports, it should strongly encourage those involved to take an adaptive management approach to learn what is working, what is not working, and why so as to be able to systematically learn, adapt, and improve conservation actions.

Convene those working in integration to stimulate learning. Some key informants suggested USAID could play a role as a convener and incubator for learning, bringing together implementing organizations and agencies from the development and conservation sectors to work together in a systematic fashion – setting up simple pilot projects, testing to understand what works, what does not work, and why, and then working to replicate successes. Related to this, E3/FAB could play a strong role in learning about integration simply by promoting learning and sharing, harnessing lessons, and developing general guidance.

Push integration beyond coordination or “mushing together” funding sources. Integration is not about “mushing” two funding streams together; good integration requires a conceptual investment. It is important for the interested parties to work closely together and to understand why they are interested in integration and how they expect an integrated approach to contribute to their respective goals. Where USAID is integrating, it should work closely with other sectors within USAID that are in the same geographic area and, where possible, identify overlaps and work more closely to achieve shared goals and objectives. This may require restructuring within USAID itself.

Use CMP’s framework and results chains tool to clarify expected results and measure the effectiveness of integrated actions. The Conservation Measures Partnership’s framework (and associated guidance) on human wellbeing was the clearest and most relevant framework for USAID

identified in this review. It is also compatible with many of the integration pathways highlighted in USAID's Biodiversity Policy. The framework and guidance provide a clear path for laying out assumptions behind an intervention, setting measurable objectives directly related to those assumptions, and developing associated indicators. In essence, they help teams clarify expected results and assess outcomes and progress toward ultimate impacts – two issues that emerged repeatedly in the literature and key informant interviews as major challenges to integration.

LIST OF ACRONYMS

ACA	Annapurna Conservation Area
AHEAD	Animal Health for the Environment and Development
CARE	Cooperative for Assistance and Relief Everywhere
CBD	Convention on Biodiversity
CIDA	Canadian International Development Agency
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMP	Conservation Measures Partnership
CMS	Conservation of Migratory Species of Wild Animals
COP	Conference of the Parties
CSD	UN Commission on Sustainable Development
DAC	Development Assistance Committee (OECD)
DFID	Department for International Development (U.K.)
E3/FAB	Bureau for Economic Growth, Education and Environment/Forestry and Biodiversity Office
EbA	Ecosystem-based Adaptation
EBM	Ecosystem-Based Management
ELAN	Ecosystem and Livelihoods Adaptation Network
ENVIRONET	Network on Environment and Development Co-operation (OECD)
EPT	Emerging Pandemic Threats Program
EU	European Union
FONAFIFO	Fondo de Financiamiento Forestal de Costa Rica (National Forestry Financing Fund)
FUNDECOR	Fundación para el Desarrollo de la Cordillera Volcánica Central (Development Foundation for the Cordillera Volcánica Central Region)
GEF	Global Environment Facility
GIS	Geographic Information System
HEAL	Health & Ecosystems: Analysis of Linkages
ICDP	Integrated Conservation and Development Project
ICRC	International Committee of the Red Cross
ICZM	Integrated Coastal Zone Management
IDB	Inter-American Development Bank
IIED	International Institute for Environment and Development
IPBES	International Platform for Biodiversity and Ecosystem Services
IRBM	Integrated River Basin Management
IUCN	International Union for Conservation of Nature
JICA	Japanese International Cooperation Agency

KMTNC	King Mahendra Trust for Nature Conservation
LCDS	Low carbon development strategies
LEDS	Low emissions development strategies
LNV	Ministry of Agriculture, Nature, and Food Quality (Netherlands)
MDB	Multilateral Development Banks
MEA	Multilateral Environmental Agreement
NBSAP	National Biodiversity Strategy Action Plan
NCA	National Capital Accounting
NGO	Non-governmental organization
NORAD	Norwegian Ministry of Foreign Affairs
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PES	Payment for Ecosystem Services
PHE	Population Health and Environment
PRW	Toward a Rich Wadden Sea
REDD	UN Reducing Emissions from Deforestation and Forest Degradation
SD	Sustainable Development
SDN	Sustainable Development Network
STAP	Scientific and Technical Advisory Panel (through GEF)
TEEB	The Economics of Ecosystem and Biodiversity
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	UN Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
VDC	Village Development Committee
WAVES	Wealth Accounting and the Valuation of Ecosystem Services
WCED	World Commission on Environment and Development (Brundtland Commission)
WCS	Wildlife Conservation Society
WHC	World Heritage Convention
WWF	Worldwide Fund for Nature/World Wildlife Fund

1. INTRODUCTION

Biodiversity conservation traces its roots back to the early 1900s, with the establishment of protected areas where little or no human activity was allowed. Protected areas continued to be the main focus of biodiversity conservation well into the 1970s. While these efforts served to protect critical lands, waters, and species, they have not been effective at preventing encroachment of impacts outside of protected areas.¹ Moreover, protected areas currently cover less than 20% of the earth's surface.² Given the past century's unprecedented global population growth, rapid urbanization, and widespread settlement and expansion into previously undeveloped areas, relying on protected areas alone will not conserve critical ecosystems, species, and services. In addition, climate change has become a very real threat to human and ecosystem wellbeing. Understanding the relationships and dependencies between humans and nature is particularly important to prepare both ecosystems and societies to adapt to climate change.

Given this situation, the conservation community increasingly has been working outside of protected areas, using a broader array of strategies to influence social, legal, economic, and cultural factors in support of biodiversity conservation. These "integrated" strategies vary widely and could range, for example, from national level systems that provide payment for ecosystem services to regional level efforts that clarify and strengthen governance over resources to site-based efforts that create the capacity among resource users to employ more sustainable techniques for managing their natural resources. These are just a few examples of strategies the conservation community now uses to conserve biodiversity, while also creating the conditions that permit ongoing conservation and sustainable use. Likewise, economic, health, agriculture and other sectors have been trying to integrate biodiversity into their operations to improve their own sectoral goals, while simultaneously strengthening biodiversity conservation.

Within this broader context, USAID has recently crafted a Biodiversity Policy, which acknowledges and embraces the interconnectedness of nature and humans. This forthcoming policy includes a vision to "conserve biodiversity for sustainable, resilient development." More specifically, "USAID envisions a future in which biodiversity thrives and human wellbeing increases through improvements in economic prosperity, social equity, and environmental stewardship." The policy also states two goals: "(1) conserve biodiversity in priority places, and (2) integrate biodiversity as an essential component of human development."

This report, produced at the request of the USAID's Bureau for Economic Growth, Education and Environment/Forestry and Biodiversity Office (E3/FAB), presents the results of a broad review to understand how other agencies and organizations have defined and integrated biodiversity with other sectors. The analysis was based primarily on a desk review of white papers, project reports, journal articles, and websites. For specific questions or more in-depth background, we interviewed a limited number of key informants (see [Appendix B](#)). The purpose of this review was to highlight some ways that various actors have approached integration to help USAID learn from what has been done and use this learning to inform its own approach to integration. This review was not meant to be comprehensive. More specifically, the review sought to:

1. Capture the state of the art on integration - Describe a spectrum of definitions and frameworks for integration, with a primary focus on biodiversity, as it has been integrated with the health, food security, climate, and economic growth sectors.
2. Understand current practices related to integration - Describe how other institutions and managers are integrating conservation and development goals.
3. Recommend a way forward - Provide draft definitions and a framework for E3/FAB to support USAID's work in promoting and achieving integration through implementation of the Biodiversity Policy.

1.1 EVOLUTION OF INTEGRATION

The interest in integrating biodiversity and development dates back several decades to as early as the 1972 United Nations Conference on the Human Environment held in Stockholm. For example, Principle 13 states, "In order to achieve a more rational management of resources and thus to improve the

environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population.”³ The 1980 World Conservation Strategy (a joint effort of International Union for Conservation of Nature [IUCN], United Nations Environment Programme [UNEP], and World Wildlife Fund [WWF]) aimed to “help advance the achievement of sustainable development through the conservation of living resources...In particular, the Strategy identifies the action needed both to improve conservation efficiency and to integrate conservation and development.”⁴ The Third World Parks Congress, held in 1982, was another key conference focusing on the role of protected areas in sustaining society. Among other concerns, the Congress noted the links between protected areas and sustainable development and the need for economic tools to support and promote the value of protected areas.⁵

The 1980s also saw the establishment of the World Commission on Environment and Development (WCED), known informally as the Brundtland Commission, to unite countries to pursue sustainable development together. The Commission dissolved after releasing *Our Common Future* in 1987, but this document, also known as the *Brundtland Report*, had a lasting influence on integration. It coined the term “sustainable development” and recognized the links between economic development and ecosystem status: “...it is impossible to separate economic development issues from environment issues; many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality.”⁶ The seminal 1992 Earth Summit in Rio captured international attention and inspired governments, organizations, and individuals alike. The Earth Summit sent the message that poverty as well as excessive consumption by affluent populations was placing stress on the environment, and the only real solution was a fundamental shift in attitudes and behaviors – including redirecting international and national plans and policies to ensure that all economic decisions fully accounted for all environmental impacts.⁷ The Earth Summit also served as the launching pad for the Convention on Biodiversity (CBD), a global agreement promoting the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. Within its first year, the Convention had received 168 signatures.⁸

While these high-level congresses were happening and policy documents were being crafted, conservation practitioners were trying to address these very real issues on the ground. In the early 1970s, the United Nations Educational, Scientific and Cultural Organization (UNESCO) launched the Man and the Biosphere Programme to develop a scientific basis for the improvement of the relationships between people and their environment. At the time of this paper, its World Network includes 621 biosphere reserves in 117 countries all over the world.⁹ WWF was a pioneer in establishing integrated conservation and development projects (ICDPs) that tried to combine social development with conservation objectives.¹⁰ ICDPs first emerged in the mid-1980s as a reaction to the protected areas “fines and fences” approaches and initially focused on small-scale, site-based initiatives. Around this time, community-based conservation approaches also gained ground. This development paralleled the conservation community’s focus on specific sites that were home to high levels of biodiversity, as well as the interest in better engaging stakeholders in the conservation process. Over time, the conservation community started taking a more landscape- and ecoregion-based approach to conservation. Likewise, integrated initiatives also scaled up, with approaches such as integrated coastal zone management (ICZM), integrated river basin management (IRBM), and ecosystem-based management (EBM) becoming increasingly popular since the early 2000’s. Most recently, interest in ecosystem-based adaptation (EbA) has spiked as a potentially cost-effective approach to aid communities in adapting to climate change.¹¹

Over the last decade, the interest in integration and in addressing the complexities behind nature-human linkages has remained strong. At the higher global-policy level, for example, from 2001 to 2005, the Millennium Ecosystem Assessment evaluated the consequences of ecosystem change on human wellbeing, with the support of more than 1,360 experts worldwide. Their findings laid the scientific and conceptual basis for understanding the condition and trends of the world’s ecosystems and associated ecosystem services.¹² More recently, The Economics of Ecosystems and Biodiversity (TEEB) initiative, launched in 2007, has highlighted the costs of biodiversity loss and ecosystem degradation via various tools and approaches that help demonstrate and capture the value of biodiversity and provide guidance

for how to incorporate that value into decision making.¹³ Another important recent initiative is the Reducing Emissions from Deforestation and Forest Degradation (REDD+), which seeks to create financial markets for carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon options and technologies. While REDD+ is a global, multi-lateral initiative, it is designed to provide the technical and financial resources to help nations and regions implement initiatives that offer both economic and environmental benefits. Finally and most recently, CBD's strategic plan (2011-2020) includes five strategic goals and 20 targets (Aichi Biodiversity Targets) that explicitly acknowledge human dependence on and simultaneous unsustainable exploitation of biodiversity resources and ecosystem services and call for integration of biodiversity across government and society.¹⁴

2. WHAT DO WE KNOW ABOUT INTEGRATION?

Integration happens at different scales, for different reasons, and with different outcomes. For this review, it is useful to think of integration at three separate but interacting levels or scales:

- **International Policy Level** includes global agreements and policies (e.g., World Conservation Strategy and the Convention on Biological Diversity) governing national and international action, and the agencies supporting these agreements, as well as other major actors such as the United Nations, IUCN, Global Environment Facility (GEF), and the World Bank. These organizations develop international policies yet may also provide funding and technical support and be involved in implementation.
- **National Policy Level** encompasses the policies, regulations, and systems needed to promote and support integration within one country. A large number of actors fall within this category, including national policy makers, as well as other players, such as international agencies, multi-laterals, and bi-laterals – many of whom may be acting across all levels.
- **Program/project Implementation Level** includes the on-the-ground implementation at the project and/or program level, as well as technical frameworks that give clear direction on implementation. It is important to clarify that implementation occurs at different scales from the community or village through the departmental level within a country or across various departments, and even at a national or transboundary scale. The main distinguishing characteristic is the focus is on implementation, not policy.

Box 1. Summary – What We Know about Integration

- Integration happens at different but interacting and sometimes interdependent scales (international policy, national policy, and program/project implementation level). The actors involved, actions taken, and desired immediate results all vary by these scales.
- Donor organizations (multilateral and bilateral agencies, private donors) operate at all scales, though some are more likely to interact at certain scales (e.g., UNEP and GEF are important in the international policy arena, but they also fund on-the-ground actions).
- There are varying degrees of integration. Initiatives with a high degree of integration typically involve a heavy focus on process issues like ensuring participation in decision making.
- Most organizations do not formally define integration. Instead, they focus on what needs to be integrated or how it will be integrated. Where there are formal definitions, there are not significant differences.
- In practice, there is little conceptual difference between the use of the terms “integration” and “mainstreaming.” However, those working at the international policy level talk about “mainstreaming,” while those working at the implementation level talk about “integration.”
- There are some conceptual frameworks for depicting relationships between biodiversity and humans (e.g., DFID’s Sustainable Livelihoods Framework and Multilateral Environmental Agreement (MEA) Framework). The only approach we found that helps teams clarify assumptions and expectations and identify how they will assess impact is CMP’s guidance on human wellbeing

Bilateral organizations play an important role in integration because they typically operate at all scales.

For example, the U.K. Department for International Development (DFID) provided funding for the WAVES Initiative (a global partnership described in more detail below) within the World Bank. DFID also created and promoted the well-known Sustainable Livelihoods Framework – a framework identifying five livelihood assets (including natural capital) critical for achieving sustainable livelihoods (for more detail, see [Appendix A](#)). This framework, though no longer actively promoted by DFID, has informed work at both the national policy and implementation levels. Likewise, the Norwegian Ministry of Foreign Affairs (NORAD) has invested heavily in the REDD Initiative, helping countries develop the policies and systems to become REDD+ ready. Norway has also supported pilot carbon projects in Brazil, Democratic Republic of Congo, Indonesia, Tanzania, and Guyana. An in-depth review of bilateral support of integration at the three levels is a huge undertaking beyond the scope of this project. However, [Appendix A](#) includes descriptions of what a small sub-set of bilateral agencies are funding.

Definitions: In our review, we did not find any formal definitions for the term “integration.” The terminology tends to vary by scale, with “mainstreaming” used throughout the international policy community, while implementation-level initiatives tend to talk about “integration,” though in practice they seem to be referring to similar concepts. For the purposes of this document, we use these terms interchangeably, although technically, the terms do have different etymologies or connotations. Some interpret mainstreaming as a process through which an issue or topic gets incorporated into a wider process (e.g., gender mainstreamed into development), while integration is seen as more limited and targeted. These interpretations, however, also reflect an element of scale.

There are some definitions for mainstreaming, the most common of which is: “The systematic *integration* [emphasis added] of biodiversity in development processes” to have “biodiversity principles included at every stage of the policies, plans, programmes and project cycles, regardless whether international organizations, businesses or governments lead the process.”¹⁵

While we did not come across formal definitions of integration, there are some defining characteristics. These include working in collaboration across two or more sectors and with their associated stakeholders to achieve multiple goals. Another characteristic involves trying to understand sectoral motivations, identify synergies, and working toward those. Under ideal circumstances, such collaboration leads to greater results for all or most sectors than would be seen under a single-sector approach. However, integration also often involves identifying and understanding trade-offs and making decisions about which trade-offs are acceptable.

Dimensions of Integration: Like many actions, what integration looks like varies by scale at which it happens – including the motivations driving integration, the strategies chosen, the expected results, and the actors involved. Table 1 summarizes some dimensions, although the boundaries between categories are often not clear-cut, and integration can happen across and between scales. Box 2 provides a specific example of these dimensions in practice.

Box 2. Dimensions of Integration in Practice: The Wealth Accounting and the Valuation of Ecosystem Services (WAVES)

WAVES provides an excellent example of the scales and breadth that even one program, started by one institution at one scale, can have.

How integration happens: WAVES began as the World Bank’s follow-up to the TEEB report, and was launched at the tenth meeting of the CBD Conference of Parties (COP 10) in 2010, although significant activity took place prior to its launch with financial support to the World Bank from DFID.

Example strategies: WAVES helps governments better calculate and incorporate the value of ecosystems and specific environmental assets into planning and decision making. By working with central banks and planning and finance ministries to integrate natural resources into development planning through Natural Capital Accounting (NCA), WAVES hopes to enable more informed decision making that can ensure green growth and long-term advances in wealth and human wellbeing.

Primary actors: WAVES was launched as a global partnership of UN agencies, governments, international institutes, non-governmental organizations (NGOs), and academics. Initial core implementing countries were Botswana, Colombia, Costa Rica, Madagascar, and the Philippines.

Immediate expected results: These countries established national steering committees, carried out stakeholder consultations, identified policy priorities, and designed work plans that are now being implemented. In 2013, Guatemala, Indonesia, and Rwanda joined WAVES as implementing countries. The countries plan to establish national accounts for natural resources like forests, water, and minerals following the System of Environmental-Economic Accounting Central Framework and experimental accounts for services from watersheds and mangrove forests. While these are national-level commitments, there are also site-level activities within countries.

Drivers for Integration: Donor funding and technical support and fulfilling commitment to CBD to do better valuation were drivers behind this initiative.

Table 1. Dimensions of Integration

	Policies & Systems		On-Ground Implementation	
	Int'l/ Regional	National	Landscape/Eco-region	Site(s)
How Integration Happens	"Mainstreaming" policies; High-level goals; Treaties & conventions	Developing national systems & structures to support implementation	Program implementation	Program/project implementation
Example Strategies	Development of international goals; Guidance for mainstreaming at national levels; Roll-out of REDD/REDD+	Green accounting; Payment for ecosystem services (PES); certification programs	Integrated coastal zone management; Integrated river basin management; PES schemes; certification programs	Certification programs; Combined service delivery; Promoting alternative livelihoods; Strengthening governance systems
Primary Actors	International organizations, multi-laterals, governments, businesses	National organizations, governments, bi-laterals, businesses	Local/sub-national governments & organizations; bilaterals; businesses; cities; communities	Local/sub-national governments & organizations; bilaterals; businesses; cities; communities
Most Relevant or Immediate Expected Results	Agreements/policies developed; Countries sign agreements; Countries develop plans & systems consistent with global agreements; Countries implement plans & systems	Policies adopted at country level; Systems created; Incentives in place; Systems used/ adopted	Implementation plans developed & implemented; Co-benefits achieved; Threats reduced; Biodiversity conserved; Ecosystem services provided; Human wellbeing enhanced	Implementation plans developed & implemented; Co-benefits achieved; Threats reduced; Biodiversity conserved; Ecosystem services provided; Human wellbeing enhanced
Drivers for Integration	Desire for sustainability; Cross-border environmental issues; Demand from governments; Demand from researchers	International mainstreaming policies & agreements; High-level goals; National organizations; Civil society	Stakeholder needs; Donor (incl. bilateral & multi-lateral) priorities; National policies	Stakeholder needs; Donor (incl. bilateral & multi-lateral) priorities; National policies

Degree of Integration: In addition to varying by scale, integration also varies by the degree to which sectors try to integrate (Table 2). At the low end of the spectrum, integration is pursued between only two sectors (e.g., conservation and health). The high end of the spectrum involves integration of most or all of the (often competing) sectoral aims (e.g., food security, hydropower, conservation, shipping, and fisheries). The complexity of programs tends to increase as the extent of integration increases. Engaging at the low end of the spectrum involves coordination and direct action with a few players, while engaging at the higher end of the spectrum requires participation of many players in a transparent process. The role for conservation actors in highly integrated programs is often to ensure that the collective impact of trade-offs among sectors does not jeopardize ecosystem health. Ideally and as with any type of integrated approach, conservation actors should also identify how biodiversity can contribute to human wellbeing, increase the sustainability of development actions, and provide important ecosystem services and goods over time.

Table 2. Degrees of Integration

Degrees of Integration	What it Looks Like	Examples	Challenges for Donors and Implementers*
Single-sector integration (Conservation and single sector development aims are combined in one initiative)	<ul style="list-style-type: none"> Often initiated and/or financed by a development and a conservation organization 	<ul style="list-style-type: none"> USAID's Environmental Health Project Cooperative for Assistance and Relief Everywhere (CARE)/ WWF Payment for ecosystem services program World Neighbors' population and environment programs 	<ul style="list-style-type: none"> Requires good understanding of added value of integrating single sector development and conservation aims Need to avoid mission drift: conservation organization should maintain focus on conservation as end goal, the development partner on development as end goal
Multi-sector integration (Conservation aims combined with several sectoral aims)	<ul style="list-style-type: none"> Many players: often includes civic society (NGOs), relevant government agencies, and private sector Government partner often lead or key player Conservation is a leading force and/or motivating goal 	<ul style="list-style-type: none"> Sustainable fisheries in the Dutch Wadden Sea Puget Sound Partnership Action Agenda Nepal's Annapurna Conservation Area Project 	<ul style="list-style-type: none"> Requires good conceptual understanding of relationship between biodiversity/the environment and contribution to human wellbeing (including the economy) Requires good conceptual understanding of potential trade-offs between use and conservation
High integration (biodiversity is one of many goals)	<ul style="list-style-type: none"> Driven by various sectors with government partner often as lead or key player Multi-disciplinary, very participatory Process-oriented – highly dependent on decision making and governance structures Conservation is one of many goals, including economic, social, cultural, and recreational 	<ul style="list-style-type: none"> Mekong Integrated River Basin Management Helsinki Commission 	<ul style="list-style-type: none"> Requires good conceptual understanding of relationship between biodiversity/the environment and contribution to human wellbeing (including the economy) Requires good conceptual understanding of potential trade-offs between use and conservation Requires clarity on how biodiversity/ecosystem health is safeguarded in decision making

* Challenges in addition to the typical challenges around integration

The following sections describe how some organizations, agencies, and governments have pursued integration across the three levels: international policy, national policy, and implementation levels. However, it is important to keep in mind that there is some overlap, and actors at one scale (e.g., international policy) can also support efforts at other scales (e.g., national and implementation scales). Likewise, national scale efforts may influence global policy (e.g., a country proposes a change at international meetings), but they also develop national policies and systems, as well as support the implementation of specific projects or programs.

2.1 INTERNATIONAL POLICY LEVEL

Numerous international treaties and conventions and international programs and initiatives support mainstreaming, or integration, of biodiversity conservation with development. There has been a steady evolution in the emphasis given to integration, what that means, how it can be achieved, and its perceived urgency. This section looks at the current set of international agreements and commitments, global-scale activities, and actors that are promoting integration of biodiversity conservation and development.

Box 3. Integration at the International Policy Level – Key Highlights

- CBD has a long history promoting integration of conservation with development.
- Adoption of CBD Aichi Goals and Targets in 2010 represents a new, global, high-level push for integration across sectors and scales by 2020.
- National Biodiversity Strategy Action Plans (NBSAPs) due in March 2014 will be a strong indicator of what countries have done and will do to meet 2020 targets.
- Multilateral environmental agreements (e.g., Ramsar, Convention on International Trade in Endangered Species of Wild Fauna and Flora [CITES], World Heritage) are undertaking special actions to promote integration.
- Global Environment Facility is the main funder for CBD implementation and NBSAPs preparation, giving high attention to biodiversity mainstreaming.
- UN system (especially United Nations Development Programme [UNDP], UNEP, and United Nations Industrial Development Organization [UNIDO]) has heavy emphasis on mainstreaming biodiversity, particularly in production sectors.
- The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature in 2010 led to a burst of environmental economic and valuation activities worldwide.
- Multi-lateral activities encouraging mainstreaming have been selectively supported at World Bank and regional development banks (e.g., IDB, Asian Development Bank) through multiple pathways.
- The European Union Biodiversity Strategy to 2020 says ecosystem services underpin Member States' economies, so these must be integrated with planning.
- Decisions made at international and national levels can frame context for local decisions affecting biodiversity and so are a critical element.

CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity, to which 194 countries are a party (168 have signed), represents the first global requirement for integrating biodiversity conservation into development, asking countries “to integrate, or mainstream, biodiversity at several different scales into relevant sectoral or cross-sectoral plans, programs, and policies (article 6b)”¹⁶ and to integrate conservation and sustainability concerns into national decision making (article 10a). Delegates to Conference of the Parties (COP) 5 in 2000 endorsed an ecosystem approach that promotes integrating land, water, and living resources management with human development. Mainstreaming biodiversity into poverty reduction strategies and mainstreaming protected areas into development strategies were both highlighted at COP 7 in 2004. Generally, the CBD and various COPs have all promoted mainstreaming biodiversity with development at different scales and across different sectors, using the following definition of biodiversity mainstreaming:

“The systematic integration of biodiversity in development processes” to have “biodiversity principles included at every stage of the policies, plans, programmes and project cycles, regardless whether international organizations, businesses or governments lead the process.”¹⁷

Delegates to COP 10 in 2010 adopted the Strategic Plan for Biodiversity 2011-2020, setting out 5 Strategic Goals and 20 targets known as the Aichi Biodiversity Targets, and a framework for countries to establish national or regional targets that contribute to global targets. This new strategic plan has a strong emphasis on mainstreaming biodiversity into development and production, linking biodiversity with ecosystem services and valuing the benefits provided. Mainstreaming is prominently featured in Strategic Goal A to “Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.” Strategic Goal A is supported by four targets. Target 2 is the most specific, stating, “By 2020 at the latest, biodiversity values should be strongly integrated into national and local

development, poverty reduction strategies and planning processes, and national accounting, as appropriate, and reporting systems.”

While the other Strategic Goals and associated targets do not specify the need for integration as directly or clearly as Strategic Goal A, integration is both implicit and essential if countries will achieve their 2020 targets. The 20 targets each have their own focus, with varying implications for how conservation and development might be integrated in different sectors, at different scales, focused on different institutions, and using different mechanisms for implementation. For example:

- Target 2 focuses on integration within national policies, plans, strategies, and accounting or valuation. The emphasis is on getting biodiversity benefits and values, as well as costs of losses, included in overall development policy through development plans, poverty reduction strategies, and/or improved valuation of proposed development actions, generally at the national scale.
- Target 4 focuses on sustainable production and consumption and keeping the impacts of natural resource use within safe ecological limits. To accomplish Target 4, countries will need to increase mainstreaming of biodiversity concerns within production sectors.¹
- Target 11 focuses on equitable, representative, effective, and connected protected areas integrated into surrounding landscapes for “at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services” by 2020.

Other Aichi Goals and Targets incorporate mainstreaming along some dimension. But even when mainstreaming is not explicit, meeting targets for most requires some type of action, audience, or process that integrates biodiversity concerns with development. Linking the international- to national-scale are the two mandatory commitments for signatories: Article 6 requires parties to develop National Biodiversity Strategies and Action Plans (NBSAPs) while Article 26 requires periodic national reports on implementation. The NBSAP is an important prerequisite for mainstreaming biodiversity that should provide a roadmap for each country to achieve the CBD goals while accounting for the national context.

Parties at COP 10 agreed that each country would develop their NBSAPs by 31 March 2014, focusing on implementation of the 2011-2020 Strategic Plan and progress towards the Aichi Biodiversity Targets. While these NBSAPs are the 5th cycle of national reports to the CBD, they are the first on the new 2020 targets. As of February 2011, 172 countries had adopted NBSAPs or equivalent instruments. The CBD also encourages regional organizations to set regional targets and develop regional biodiversity strategies, and local-level activities by indigenous and local communities to support NBSAPs.

A lot of technical and financial support for helping countries prepare their NBSAPs is available from a wide range of organizations, from the GEF financing, to bilateral aid funding (e.g., the Darwin Initiative by the UK) to NGO support. There is a strong push to ensure that the NBSAPs process itself will support mainstreaming by including a range of stakeholders outside of those that would traditionally be involved in developing national biodiversity strategies. The African Leadership Group on Biodiversity and Developing Mainstreaming supports the NBSAP process in Africa, and they provided what is perhaps the clearest guidance on the mainstreaming process as part of NBSAP, defining it as follows:

“Biodiversity mainstreaming is the integration of biodiversity concerns into defined sectors and development goals, through a variety of approaches and mechanisms, so as to achieve sustainable biodiversity and development outcomes.”¹⁸

Some NBSAP preparation documents describe a need for separate strategies on mainstreaming biodiversity but also emphasize that mainstreaming is “a thread throughout the process” that spans from baseline data collection to sharing data.¹⁹ Aichi Target 17 calls for parties to have adopted and begun implementing this “effective, participatory and updated national biodiversity strategy and action plan.” The hope is that by 2015, biodiversity mainstreaming will be commonplace in most of the world.

¹ This issue was highlighted in a 2005 GEF report emphasizing the links between economic sectors with close relationships with biodiversity, such as agriculture, forestry, fisheries, invasive alien species control, wildlife utilization, mining, and tourism that recommends mainstreaming biodiversity into: energy, infrastructure, manufacturing, transport, construction, international trade, and military activities.

MAINSTREAMING BIODIVERSITY AND MULTILATERAL ENVIRONMENTAL AGREEMENTS

Apart from the CBD, there are five other key global biodiversity-related conventions: The Convention on Wetlands (known as the Ramsar Convention), the World Heritage Convention, CITES, the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and the International Treaty on Plant Genetic Resources for Food and Agriculture. National-scale actions that are aligned with the Aichi Targets and that meet country obligations under each of the treaties are to be included in the NBSAP. The links between each of the Conventions and the Aichi Targets are not always direct, but since all deal with biodiversity, there are efforts to align these, both at conceptual levels and directly within NBSAP development.

The rhetoric for mainstreaming has been widely adopted. This extends beyond individual organizations or conventions calling for mainstreaming biodiversity to include instances where conventions are “mainstreaming” their goals with one another. For example, a document demonstrating CITES representation on NBSAP working groups says: “the CITES Strategic Vision: 2008-2013 [is] to be continuously integrated, mainstreamed and updated in the development and implementation of the NBSAP.”²⁰ Similarly, CMS lists as a goal: “Mainstreaming migratory species considerations into the work of existing international organizations.”²¹

THE GLOBAL ENVIRONMENT FACILITY

The GEF is the financing mechanism for the CBD and four other international environmental conventions and global and regional multilateral agreements that deal with international waters or transboundary water systems.² The GEF partnership includes 10 agencies³ that support project implementation in countries. The GEF has had a significant historical role in promoting mainstreaming, with a 2004 workshop convened by GEF’s Scientific and Technical Advisory Panel (STAP) to describe principles, guidelines, and activities for mainstreaming approaches relevant to the GEF’s biodiversity focal area. A follow-up meeting in October 2013 again examined mainstreaming of biodiversity within the expanded GEF portfolio. There is a suite of products underway from these discussions intended to inform the GEF and relevant to USAID.²² “GEF’s niche in the environmental finance landscape is its ability to systematically address the inter-connected global challenges present at the land/ food/ water/ energy interface – which are central to sustainable development.”²³ Many of the processes and projects that will be needed to address these challenges all fall broadly within the realm of integrated projects, or in what is generally described as mainstreaming approaches. Direct funding for 327 biodiversity mainstreaming projects between 2004 and 2014 was US\$1.6 billion with an additional \$5.2 billion in co-financing, compared to GEF’s total protected-area investments of \$3.3 billion (\$5.5 billion additional in co-financing) and overall \$11.5 billion (\$57 billion in co-financing) for its history.²⁴ These investments are substantial, and given its strong analysis and project portfolio, the GEF may well be the lead global agency on integration at multiple scales.

UNITED NATIONS: TEEB, IPBES

Mainstreaming received much attention in 2010 when the global community acknowledged that 2010 targets to reduce biodiversity loss had fallen short. Recognizing that biodiversity remained at high risk, the UN General Assembly declared 2011-2020 as the United Nations Decade on Biodiversity, giving greater rhetoric to integrating conservation and development and noting that, “The main goal [of this decade] is to mainstream biodiversity at different levels.”²⁵ This declaration also meant that biodiversity mainstreaming was to be a component of the work of all UN agencies. A review of mainstreaming within the UN system would be an extensive review beyond the scope of this paper, but all UN agencies have been directed to consider environmental mainstreaming. The UNEP especially has a focus on mainstreaming biodiversity, and UNDP and UNIDO also have undertaken projects with attention to mainstreaming in production sectors.

2 The United Nations Framework Convention on Climate Change (UNFCCC), Stockholm Convention on Persistent Organic Pollutants (POPs), UN Convention to Combat Desertification (UNCCD), the Minamata Convention on Mercury.

3 UN agencies are: UNDP, UNEP, UNFAO (Food and Agriculture Organization), and UNIDO. MDBs are the World Bank; the African, Asian, and Inter-American Development Banks; the European Bank for Reconstruction and Development; and the International Fund for Agricultural Development.

In 2013, the UN created the High-Level Political Forum on Sustainable Development (SD) to provide leadership and accelerate global decision making on SD. This new Forum replaced the UN Commission on Sustainable Development (CSD), which was created after the first Earth Summit. The CSD was seen as bureaucratic and low level in status, and unable to integrate the economic, social, and environmental dimensions of SD.²⁶ The new Forum is intended to have high visibility and representation in pursuing the new round of Millennium/Sustainable Development Goals after 2015.

Two UN initiatives particularly relevant for integrating conservation and development are described below: TEEB and IPBES.

The Economics of Ecosystems and Biodiversity (TEEB) is one of the most significant and ambitious activities linking biodiversity with development. Launched in 2007 by Germany and the European Commission, TEEB was tasked with understanding the economics of biodiversity conservation and loss. A second phase of TEEB hosted by UNEP strengthened the economics by deepening the analysis of the links between biodiversity and ecosystem services. In 2010, TEEB identified six major targets for biodiversity mainstreaming: “economic, trade and development policies; transport, energy and mining activities; agriculture, fisheries, [and] forestry practices; corporate strategies and operations; development policies and planning at local, regional and national levels; and public procurement and private consumption.”²⁷ TEEB has emphasized the importance of accounting for ecosystem service values across a range of scales and sectors. The initiative has developed tools for environmental accounting in different sectors, with special attention to government and the private sector, including costs from externalities linked to biodiversity loss. Recent 2013 reports have highlighted values of water and wetlands, and a report for business looked at natural capital risk in financial terms, finding that environmental and social costs to the global economy from lost ecosystem services and pollution are costing the economy around US\$4.7 trillion per year.²⁸ The TEEB effort has given legitimacy to environmental economics and green accounting, with its adoption slowly increasing. It has focused attention on and increased capacity for better economic analysis within countries. In addition, it has influenced institutions worldwide (e.g., World Bank) to strengthen their internal environmental economics programs and broaden support to country programs.

International Platform for Biodiversity and Ecosystem Services (IPBES) was established after COP 10, in April 2012, as an independent intergovernmental body open to all UN member countries. It is intended to be the leading intergovernmental body for assessing the state of the planet's biodiversity, its ecosystems, and the essential services they provide to society. It is the heir to the Millennium Ecosystem Assessment process and is intended to (1) increase scientific capacity, data access, and scientific evidence available for biodiversity decision making through multi-scale scientific assessments, and (2) evaluate the huge amount of data generated on biodiversity by governments, academia, scientific organizations, NGOs, and indigenous communities. Such information is needed for biodiversity planning, and also for the strong environmental accounting and valuation promoted by TEEB.

MULTILATERAL DEVELOPMENT BANKS (WORLD BANK, INTER-AMERICAN DEVELOPMENT BANK)

Many multilateral development banks (MDBs) have invested in biodiversity conservation in the past decades, with a heightened attention to integration in recent years. Much of the attention has focused on improving environmental economics, including natural resource accounting and valuation, especially in productive sectors, which is a likely result of the TEEB initiative. The most active MDBs in terms of integrating conservation and development are the World Bank and the Inter-American Development Bank (IDB), summarized below. The African, Asian, and European Banks all have multiple projects supporting biodiversity conservation and appear to be strengthening economic valuation, though they do not seem to have major integration-focused programmatic initiatives underway.

World Bank has been struggling with how to integrate biodiversity conservation into its development portfolio for over 25 years.²⁹ It is one of the world's largest “green” lenders for conservation, with over 245 projects worth US\$1.058 billion from FY2004 to 2013, and \$8 billion (\$4 billion World Bank with co-finance match) since 1988.³⁰ While environmental mainstreaming was the focus of its 2001 Environment Strategy, there has been a lasting tension between having strong environmental policies, lending and

staff, and the Bank's role as a lender to development sectors, such as transport, infrastructure, and agriculture, which are often major drivers of biodiversity loss.

A 2006 reorganization integrated "units responsible for meeting basic human needs and infrastructure services with environmental and social units that guide our actions."³¹ This also created a Sustainable Development Network (SDN) that combined oft-conflicting sectors (agriculture, energy, rural development, and environment) to help integrate conservation into development lending. Whether this was successful is a matter of debate but will soon be irrelevant as there is a pending 2014 reorganization that will undo these SDN networks, putting environment and energy into its own stand-alone cluster. However, a ten-year environment strategy (2012-2022) that covers the World Bank and related institutions³² should remain relevant through the reorganization. Background papers for this strategy defined mainstreaming as "work either within the economic sectors or as part of environmental programs to promote the integration of environmental issues into development decision making."³³ Worth noting is that neither the definition nor actions are focused on biodiversity, but rather refer broadly to the environment sector. Key places within the strategy where biodiversity is directly relevant (but not explicitly identified) are in the emphasis on resilience and the WAVES program, which will improve valuation and natural capital accounting.

Inter-American Development Bank created the Biodiversity and Ecosystems Services Program in 2013 to help countries with: (1) integrating the value of biodiversity and ecosystem services into key economic sectors; (2) protecting priority regional ecosystems; (3) supporting effective environmental governance and policy; and (4) creating new sustainable development business opportunities.³⁴ Their emphasis is on five productive sectors: agriculture, sanitation, transportation, tourism, and water. Planned activities include promoting the use of ecosystem service values internally within the IDB's economic analysis, standardizing indicators and conducting impact evaluations, and promoting regional centers of excellence on ecology and environmental economics. They also will strengthen governance and policy, review public expenditures and look at perverse incentives, build capacity for economic analysis and ecosystem valuation, and generally promote mainstreaming biodiversity and ecosystem services into economic sectors. Analysis of prior actions showed that from 1995-2006, the IDB supported 240 projects with at least one component integrating biodiversity and ecosystem services, although this represented less than 1% of all IDB funding.³⁵

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD)

The Development Assistance Committee (DAC) of the OECD has provided guidance on mainstreaming to donor countries to support integrating environment into development assistance.³⁶ A draft scoping paper looking at biodiversity and development integration will be launched at the October 2014 CBD Conference of Parties.³⁷ DAC's Network on Environment and Development Co-operation (ENVIRONET) promotes and facilitates the integration of environment and climate change into all aspects of development co-operation. ENVIRONET brings together development cooperation practitioners to work together to promote good practice in both environment and development fields. It includes representatives from development cooperation agencies in DAC member countries and from multilateral agencies, such as the World Bank and the United Nations Development Programme. Civil society representatives also participate as observers.³⁸ In April 2010, DAC adopted a Policy Statement on Integrating Biodiversity and Associated Ecosystems Services into Development Cooperation, which discusses four key channels for biodiversity mainstreaming: (1) supporting country partners, (2) change within donor agencies, (3) promoting pro-biodiversity policies in OECD governments, and (4) raising biodiversity's profile in global-level dialogues.³⁹ OECD found that since 2006, bilateral aid for biodiversity has increased as has the proportion of biodiversity aid addressing multiple environmental targets, which may suggest that integration is occurring.⁴⁰ OECD has had ongoing support for the economic and policy analysis of biodiversity and for sector-specific analyses, such as with climate change and agriculture.⁴¹ Additionally, it has supported the Joint Development-Environment Task Team on Governance and (2) Capacity Development for Natural Resources and Environmental Management activities. OECD actions support strengthening the capacities of environmental institutions and integrating natural resource and environmental management into development policies and plans.

THE EUROPEAN UNION (EU)

A party to the CBD, the EU has developed a Biodiversity Strategy, which states that environmental services underpin Member States' economies and are integral to development. This complements direct biodiversity conservation actions.⁴² The strategy says that planning should include cost-effective natural solutions to problems (e.g., using wetlands for water purification and flood protection, or using carbon storage over other costly infrastructure solutions).⁴³ Ecosystem services are one of six priorities in the rural development pillar of the EU's Common Agriculture Policy⁴⁴ efforts for safeguarding European water (by 2015) and are generally regarded as a source of economic development.⁴⁵ The EU held a special meeting of Ministers and Heads of EU delegations in July 2013 dedicated to mainstreaming natural capital and biodiversity financing in different sectors and exploring biodiversity financing opportunities at national, EU, and international level. Participants agreed that loss of ecosystem services could negatively impact human wellbeing, jeopardize attainment of EU 2020 goals, and weaken ecosystem resilience to climate change and other impacts. They agreed that it was necessary to mainstream biodiversity-related actions at every level.⁴⁶

2.2 NATIONAL POLICY LEVEL – DEFINITIONS AND FRAMEWORKS

The national policy level encompasses the policies, regulations, and systems that are needed to promote and support integration. As mentioned earlier, this is a huge category, as it technically should include definitions and frameworks from any country doing integration. Even picking a sub-sample of countries to represent the rest of the world is challenging. However, it is important to include some attention to this level, as bilateral organizations and the international communities do influence and support national policies and systems.

While there are nearly 200 countries, there is some high-level consistency in the approaches – they establish the laws, policies, and systems that help support integration within their country. For this reason, this chapter focuses on some of the common types of laws, policies, and systems with a few examples of countries implementing them, though we not attempted to draw examples from countries in a systematic or representative fashion. Individual countries will be developing their NBSAPs by the end of March 2014. This will be the first time that they will be reviewed for progress on the CBD 2020 targets, which include a focus on integration. Thus, over the next few months, there should be more information on what processes, policies, and activities countries have undertaken to promote integration and what they have learned.

Box 4. Integration at the National Policy Level – Key Highlights

- Integration at the national policy level typically involves developing policies, enacting legislation, and establishing the systems and incentives needed to do integration.
- Countries will report on how they have integrated or plan to integrate conservation with other sectors in the NBSAPs by the end of March 2014.
- Environmental valuation and natural resource accounting is likely to be a key component of many NBSAPs after a strong push from the TEEB initiative and partnerships such as WAVES. Payment for Ecosystem Services is one example of valuation that will be highlighted by many countries.
- In productive sectors, eco-certification schemes and nature-based tourism policies should be evident in many national reports.
- Climate change mitigation and adaptation is another thematic area offering countries multiple avenues for integration. For example, REDD+ mechanisms directly link conservation with deforestation and forest degradation.
- Health sector integration policies and activities are slowly gaining momentum at national scales. Water and air quality standards have been around for decades and can be linked with ecosystem services.
- There is growing interest in understanding links between disease transmission and habitat change and/or wildlife use. Programs such as HEAL (Health & Ecosystems: Analysis of Linkages) are working with countries to define linkages and potential transmission routes.
- Mental health links of conservation, nature, and green space are increasingly being explored.
- Some countries are developing bioprospecting policies covering access and benefit sharing, property rights, and other social concerns.
- Food security is increasingly being linked to natural resources availability, especially for fisheries, forests, and water availability, with some countries placing special attention on the impacts of losses of wild pollinators and wild foods.

INTEGRATION WITH ECONOMIC SECTORS

The most widely mentioned approaches to integration at the national policy level focus on improving systems and policies to recognize both the contribution of biodiversity to the economy and the financial costs of unsustainable resource use and environmental degradation over the long term. Some examples of specific interventions nations are implementing within this category include:

- **Payment for Ecosystem Services:** Ecosystems provide society with a wide range of services, including reliable flows of clean water, productive soil, carbon sequestration, and food availability

(e.g., fisheries, wild foods). Payment for ecosystem (or environmental) services mechanisms focus on maintaining the flow of a specific ecosystem service, such as clean water, by charging those who use or benefit from the service (e.g., the water users).⁴⁷ A well-accepted definition for PES, proposed by Sven Wunder, states that “a payment for environmental services scheme is a voluntary transaction in which a well-defined environmental service or a form of land use likely to secure that service is bought by at least one ecosystem service buyer from a minimum of one ecosystem service provider if and only if the provider continues to supply that service.” PES transfer systems have the potential to make huge gains to poverty reduction.⁴⁸ (See [Case Study A](#) for an example of PES in Costa Rica).

- **Eco-certification systems:** There are many eco-certification schemes, covering a range of products and services, including forests, fish and shellfish, agriculture, coffee, chocolate, tourism, and investments. These systems involve integration at both the national policy and the implementation levels, and sometimes even the international policy level. Integration on the ground happens because suppliers must provide consumers with goods and services that meet environmental standards. Obtaining eco-certification can be time consuming, bureaucratic, and/or costly, but there can be significant economic benefits, as many consumers will pay a premium for such products and services. In order for them to work, however, supporting national legal policies, mechanisms, and checks need to be in place. These can include but are not limited to: external oversight to ensure that suppliers are adhering to eco-certification criteria, national policies that provide additional incentives or technical assistance to encourage participation in eco-certification programs, and international treaties that regulate trade in endangered species or species harvested in environmentally-harmful ways. Some examples of specific eco-certification programs include the Programme for the Endorsement of Forest Certification, Forest Stewardship Council, Sustainable Forestry Initiative, Marine Stewardship Council, and Sustainable Tourism Stewardship Council. Nations also support eco-certification systems through their own internal practices – for example, requiring the use of sustainably harvested timber for all government buildings, furniture, and paper, as the government of Denmark has done.⁴⁹
- **Ecotourism Policy:** Whether called nature tourism or ecotourism, recreational and educational travel based on natural attractions is widely considered to be a promising means of conserving biodiversity and advancing social, economic, and environmental objectives in developing countries. Ecotourism offers countries new opportunities for small-enterprise investment and employment and increases the national stake in protecting biological resources. However, making ecotourism a positive economic and environmental tool requires policies that foster (1) conservation of developing countries' biological heritage, generally through the creation and management of protected areas, (2) responsible nature tourism development, and (3) broad-based and active local participation in its benefits. The International Ecotourism Society has published a book discussing the role of tourism in addressing the challenges and opportunities for sustainable development.⁵⁰ It includes case studies and examples of best practices related to poverty alleviation, education enhancement, gender equity and empowerment of women, and biodiversity conservation. [Case Study C](#) describes how the government of Nepal legally protected the Annapurna Conservation Area and the Chitwan National Park and established decentralized, participatory management structures that have enabled local people to feel a sense of stewardship over the protected areas' resources and to earn revenue through ecotourism.

INTEGRATION WITH CLIMATE CHANGE

Integration of biodiversity with climate change has gained a lot of ground over the last decade, as consensus indicates that climate change is one of the most pressing environmental concerns governments and societies must address. Some examples of specific interventions nations are implementing within this category include:

- **Reducing Emissions from Deforestation and Forest Degradation:** Under the UN Framework Convention on Climate Change (UNFCCC), REDD+ refers to a mechanism which includes reducing emissions from deforestation and forest degradation as well as forest conservation, sustainable forest management, and enhancements of forest carbon stocks. National governments, private sector, and civil society have all shown interest in REDD+, especially with respect to its potential for increasing the resources available for protecting forest ecosystems and promoting sustainable development.⁵¹ For example, Vietnam has been proactive in addressing climate change mitigation and adaptation

and has developed a REDD+ National Action Plan, which includes approaches for establishing voluntary carbon markets. The government is also working to build the monitoring, reporting, and verification capacity of provinces and to develop benefit distribution systems.⁵² Indonesia has also been active in REDD+, signing in September 2013 a presidential regulation to establish a REDD+ managing agency tasked with helping the President coordinate, synchronize, plan, manage, and oversee REDD+ in Indonesia. Once established, the REDD+ agency will create a funding instrument for REDD+ in Indonesia.⁵³ Many argue that there is clear potential for REDD+ to provide benefits for local communities; however it will require substantial technical and financial resources for developing nations to implement initiatives that offer both economic and environmental benefits.

- **Low Emissions Development Strategies:** Low carbon or low emissions development strategies (LEDS) are national economic development strategies based on low-emission and/or climate-resilient economic growth. LEDS focuses on integrating climate change into development objectives and includes provisions for reducing vulnerability to climate change impacts. There is international understanding that achieving sustainable development requires LEDS and that incentives are needed to support the creation of LEDS in developing countries. In June 2009, with support from the government of Norway, Guyana launched a national Low Carbon Development Strategy. One of Guyana's priority projects is a Micro and Small Enterprise Development project to facilitate access to financing for small businesses and enable vulnerable groups to build alternative livelihoods.⁵⁴ USAID has also been active in supporting LEDS through its Enhancing Capacity for Low Emission Development Strategies program which aims to provide partner countries with targeted technical assistance and build as shared knowledge base.⁵⁵
- **Climate Adaptation and Climate-Smart Policies:** An increase in atmospheric carbon is already causing changes such as flooding, heat waves and drought, an increase in the severity and frequency of storms such as hurricanes and tornadoes, sea level rise, and ocean acidification. Climate adaptation focuses on decreasing the vulnerability of ecosystems, species, and human communities to these changes. For example, cities such as Chicago are preparing for a warmer, wetter future by planting different species of trees, installing permeable pavement (to decrease stormwater flow), providing incentives for the installation of green roofs, and installing air conditioners in public schools.⁵⁶ Similarly, the concept of ecosystem-based adaptation is becoming increasingly popular. EbA involves the use of ecosystem management actions to increase resilience and reduce the vulnerability of people and the environment to climate change. Ecosystem conservation, sustainable management, and restoration help people adapt to climate change impacts in a cost-effective way, using "green" rather than built infrastructure approaches. Some examples of EbA include sustainable agriculture, integrated water resource management, and sustainable forest management interventions that all use nature to reduce people's (and nature's) vulnerability.⁵⁷ Likewise, increasing the resilience of agricultural systems, also known as "climate-smart agriculture," has been endorsed by the World Bank and put into place in several countries. In western Zimbabwe, for example, NGOs are showing how conservation agriculture can increase resilience to drought.⁵⁸

INTEGRATION WITH HEALTH

There is growing international interest in understanding the relationships between biodiversity and human health. Biodiversity provides many ecosystem services that are important for human health (e.g., clean water, clean air, food production, and medicinal sources).⁵⁹ Although in some cases, disease risk may increase with proximity to wild areas or intact habitats, such as certain forest areas or wetlands, other disease outbreaks such as SARS, Ebola, and malaria have been associated with human encroachment on wildlife and ecosystems. At a national policy level, there are many opportunities for integration, but it is not clear how much countries have done, except in some more obvious areas such as setting water and air quality standards. As such, many of our examples below highlight the potential for national policy level integration rather than examples of current work underway.

- **Healthy Forests, Healthy Children:** Forests provide human communities with a host of important ecosystem services, including the provision of food, clean water, fuel, and natural medicines. Yet globally, about 13 million hectares of forests are lost every year, with the biggest losses in Africa and South America. As biodiversity loss and ecosystem degradation due to deforestation continue at unprecedented rates, with concomitant loss of ecosystem services, impacts on human health remain poorly understood. In a research partnership between USAID, ICF International, and NASA, data

from the 2010 Malawi Demographic and Health Survey was linked with satellite remote sensing data on forest cover, to explore and better understand the relationship between human health and ecosystem degradation⁶⁰. The analysis found that net forest cover loss over time was associated with reduced dietary diversity and consumption of vitamin A-rich foods among children in Malawi, and net forest cover gain was associated with reduced risk of diarrheal disease. Additionally, children living in areas with greater forest cover were less likely to experience diarrhea. These preliminary findings suggest that protection of natural ecosystems could play an important role in improving health outcomes.

- **Preventing Disease Transmission:** We are not aware of country-level policy initiatives focused on preventing disease transmission via conservation interventions. However, initiatives like Wildlife Conservation Society's (WCS) HEAL Program (Health & Ecosystems: Analysis of Linkages) are trying to create the scientific case to encourage such action. One HEAL study is examining the health impact of land-use transitions to support conservation and planned development in the Amazon region. HEAL has a strong emphasis on translating science to policy, so in this study, the results will be used to inform the level of deforestation and options for agricultural expansion to optimize forest conservation, resource utilization, and disease prevention.⁶¹ Likewise, USAID's own Emerging Pandemic Threats (EPT) Program works to strengthen capacities in developing countries to prevent, detect, and control infectious diseases in animals and people with an emphasis on early identification of, and response to, dangerous pathogens from animals before they can become significant threats to human health.⁶² Specifically, EPT partners are working with governments and key partners to improve the understanding of viral distribution and key drivers of disease emergence – from deforestation and land use change to wildlife trade and livestock production. This information, along with other EPT investments to strengthen country-level capacities, will be used to improve surveillance and response as well as risk-mitigation strategies.⁶³
- **Supporting Mental Health:** Newer to the scene at a national policy level is the growing recognition of the role of nature in supporting mental health, and its potential to reduce public health costs. Some countries have initiated programs to encourage its citizens to get outdoor time and exercise. For example, the British Green Gym program involves people in local environmental or gardening work. In Japan, public and private sectors have designated some forests as “forest therapy base” because of scientific evidence showing their calming effects.⁶⁴
- **Developing Standards for Bioprospecting:** Bioprospecting involves the search for economically valuable genetic and biochemical resources from nature, often for medicinal purposes. Bioprospecting can provide many benefits, but safeguards need to be in place for the countries, communities, and/or indigenous groups holding the resources and knowledge. This issue crosses into the international policy level, with the CBD setting international policies requiring bioprospectors to obtain informed consent to access resources and to share benefits with the biodiversity-rich country. At a national level, some governments have developed national bioprospecting policies. For example, Cameroon included access and benefits-sharing language in its Forestry Law in the mid-1990s in response to bioprospecting by the US National Cancer Institute showing promising compounds in the country.⁶⁵ Via the Biodiversity Conservation Network, USAID has supported to Fiji to develop bioprospecting policies and partnerships between drug company and local communities. The World Health Organization maintains that developing a comprehensive bioprospecting policy requires coordinating and integrating policies and strategies across sectors, including addressing issues related to intellectual property rights, tenure of land and natural resources, research and development, and biodiversity conservation.⁶⁶

INTEGRATION WITH FOOD SECURITY

There is growing recognition of the connections between biodiversity conservation and food security. Healthy marine ecosystems support productive fisheries, sustainable grassland management can increase the productivity of ranches, watershed conservation ensures availability of water for irrigation during the dry season, and pollinators are essential for many agricultural crops. Some examples of specific interventions nations are implementing within this category include:

- **Ecosystem Approach to Fisheries Management:** Wild-caught fisheries provide a vital source of food, especially for coastal communities. The ecosystem approach to fisheries management recognizes the need to protect the ecosystems that sustain fisheries, rather than managing fisheries

based simply on catch limits, gear restrictions, and closed seasons. This approach is being used throughout the world. One example is the Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security, a partnership of six countries (Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, and Timor-Leste) working together to conserve extraordinary marine and coastal resources by addressing crucial issues such as food security, climate change, and marine biodiversity. Marine protected areas management is often an important part of ecosystem-based fisheries management. Throughout the world, government agencies and NGOs are using marine protected areas as a vehicle for conserving the marine habitats that support healthy fisheries, protecting natural processes such as spawning aggregation events, and establishing sustainable fishing practices.

- **Conservation of Agricultural Biodiversity:** Though USAID does not focus on agricultural biodiversity in its biodiversity programming, agricultural biodiversity is vital to the food security of billions of people worldwide. Agricultural biodiversity includes not only the plants and animals used for food but also the ecosystems that support food production. Because greater genetic diversity within crop plants makes them more resilient to climatic changes, disease, and pests, it is also important to conserve the wild relatives of crops. Their genetic material can be used to increase resistance to disease, increase productivity, and otherwise improve crops.⁶⁷ Climate change presents particular threats to food production systems and to animal and plant health, through impacts on weather patterns, soil quality, pollinators, the availability of clean water, and the distribution of pest species and infectious diseases. The importance of agricultural biodiversity conservation will increase as climate change becomes a greater threat to society. In devising and implementing national development strategies and agriculture policies, governments should ensure that the genetic and species diversity of agricultural produce is preserved and improved, that the ecosystems that support food production are conserved, and that the importance of dietary diversity based on crop and livestock varieties is explained and promoted to producers and consumers.
- **Conservation of Pollinators:** Pollinators are essential to the reproduction of nearly 70 percent of flowering plants, including 2/3 of crop plants. Bees are especially important pollinators and their absence often results in lower crop yields and products with less economic value. The International Pollinators Initiative is working to reduce threats to pollinators (especially bees) in North America, Europe, and Africa.⁶⁸ The African Pollinators Initiative is focusing on public education and awareness, conservation and restoration of pollinators, and capacity building.

Case Study A: Extracting Costa Rica from Crises - Payment for Ecosystem Services Supports Both Conservation and Development Outcomes

Background and Motivation for Integration: Costa Rica provides a model of how integrating conservation with development can help a country rebound from crisis and be transformative. In the 1980s, Costa Rica experienced multiple crises – its deforestation rates, population growth rates, and per capita debt were among the world's highest. When the Arias administration came to power in 1986, they began integrating environment and development by experimenting with economic, institutional, and political reforms. USAID was highly supportive of many of these early efforts. For example, USAID funding started the FUNDECOR (Development Foundation for the Cordillera Volcánica Central Region) project, linking economic growth and conservation in the central volcanic region. The institutions and capacity created, and lessons learned from FUNDECOR and other projects, were fundamental for the adaptive process that led to the dramatic expansion of the protected area system, the protection and restoration of forests, the boom in nature-based tourism, and the introduction of payments for ecosystem services.

Costa Rica's PES program, instituted through FONAFIFO (National Forestry Financing Fund) in 1996, pays landowners for four bundled environmental services: watershed protection, carbon sequestration, landscape beauty, and biodiversity protection. Initially funded by a tax on fossil fuels, the program also has received high levels of outside funding and is pursuing transfers from the private sector (including small hydroelectric producers). Payments for watershed protection (hydrologic services) demonstrate very clear and direct links. Laws passed in 2006 direct 25% of the water tax to FONAFIFO, which finances about 40% of total PES funding.⁶⁹

Additionally, private deals were allowed between downstream and upstream users (brokered by FONAFIFO) for private hydroelectric plants, a bottling company, and the municipality of Heredia. By 2009, these payments had channeled over US\$3 million to upland farmers who benefited economically.

Theory of Change: The following figure lays out a high-level theory of change (results chain) that helps clarify how PES schemes operate and how they contribute to both development and conservation outcomes. It includes two branches – the upper branch focuses primarily on the implementation level, while the lower branch focuses on getting the national policies and systems in place to support PES over the long-term. As the arrows indicate, these levels are not completely independent of one another. This generic theory of change can be contextualized to one component of the Costa Rica case: watershed protection. To launch the PES system, it was important to identify priority lands for watershed protection (IL01) and establish the legal mechanism to support PES (NP01). Within the priority areas, upstream landowners were approached both by FONAFIFO and by hydroelectric companies with downstream installations (IL02) to gauge their interest in PES. Funding from the water tax and from hydroelectric companies (NP02) helped lead to financial sustainability (NP03 and NP04). With sufficient resources and a sustainable financial mechanism in place, landowners participate in PES (IL03) and benefit from a guaranteed income stream that encourages them to remain in the program (IL04), while simultaneously benefiting their economic livelihoods (HWB/DO). This area of the theory corresponds to USAID's Integration Pathway B (co-benefits).

Combined, these results implicitly integrate conservation and development outcomes (USAID Objective 3). In addition to the direct economic benefit from PES, there has been reduced forest clearing (related to USAID Objective 2), which in turn has led to three clusters of causally-linked benefits: biodiversity outcomes (BD), water quality (ecosystem service) outcomes (ES), and development outcomes (DO/HWB). This latter portion of the theory of change maps to USAID's Integration Pathway A (Biodiversity and healthy ecosystems provide goods and services that help sustain development outcomes).

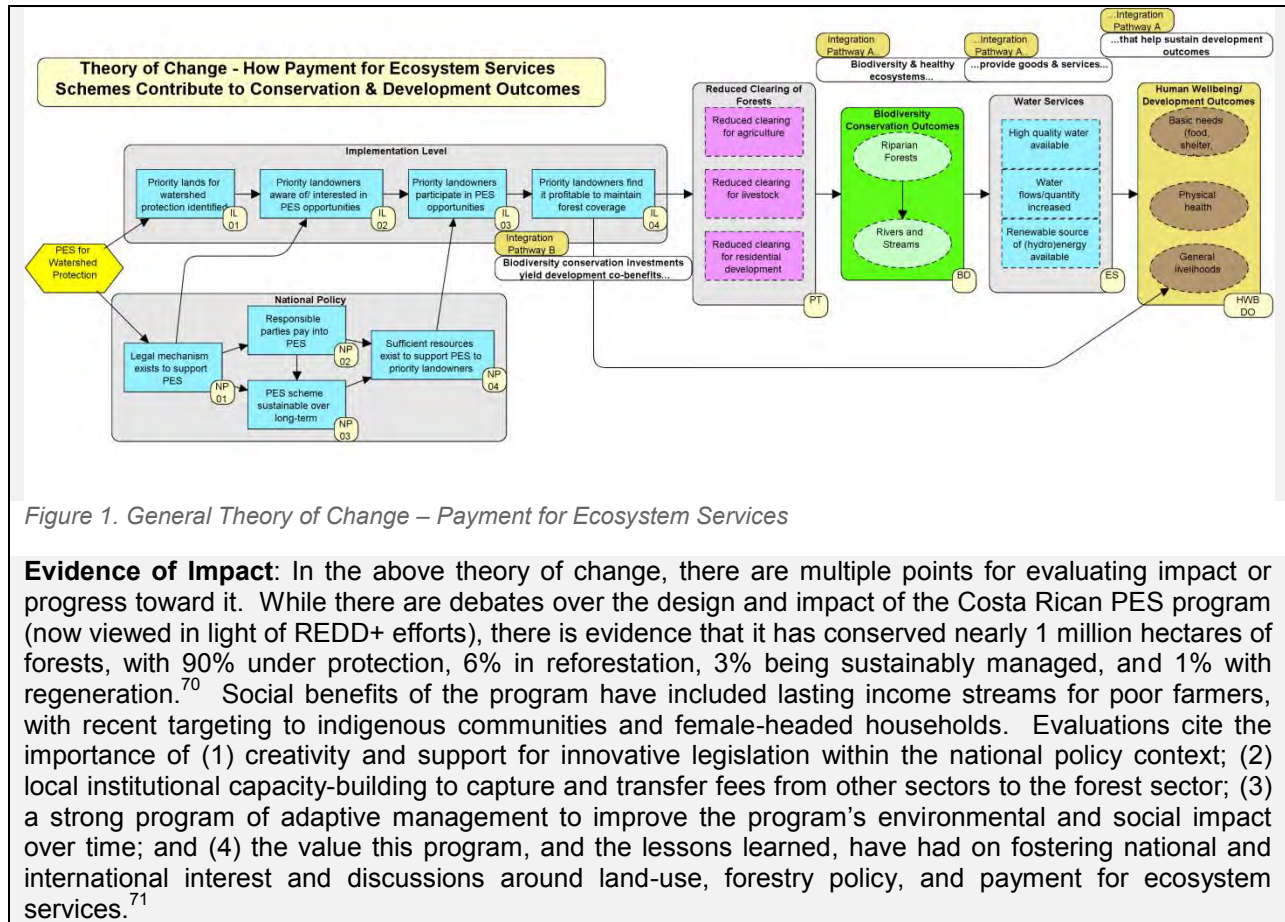


Figure 1. General Theory of Change – Payment for Ecosystem Services

Evidence of Impact: In the above theory of change, there are multiple points for evaluating impact or progress toward it. While there are debates over the design and impact of the Costa Rican PES program (now viewed in light of REDD+ efforts), there is evidence that it has conserved nearly 1 million hectares of forests, with 90% under protection, 6% in reforestation, 3% being sustainably managed, and 1% with regeneration.⁷⁰ Social benefits of the program have included lasting income streams for poor farmers, with recent targeting to indigenous communities and female-headed households. Evaluations cite the importance of (1) creativity and support for innovative legislation within the national policy context; (2) local institutional capacity-building to capture and transfer fees from other sectors to the forest sector; (3) a strong program of adaptive management to improve the program’s environmental and social impact over time; and (4) the value this program, and the lessons learned, have had on fostering national and international interest and discussions around land-use, forestry policy, and payment for ecosystem services.⁷¹

2.3 PROJECT/PROGRAM IMPLEMENTATION LEVEL

This section focuses on implementation efforts at the project and/or program level, as well as the technical frameworks that give clear direction on implementation. Major actors include international NGOs as well as regional and local governments and civil groups working at the implementation level. This section draws primarily on the experience of a handful of these NGOs, as this universe is more easily bounded and these actors tend to be more traditional partners of bilaterals. While this section focuses on on-the-ground implementation, it is important to clarify that implementation can be within a small-scale village, at a departmental level within a country, across various departments, or even at a national or transboundary scale. Thus, the main distinguishing characteristic here is the emphasis is on non-policy implementation.

We focused the review of large international NGO experiences and approaches at the implementation level on the following organizations: Rare, The Nature Conservancy (TNC), Wildlife Conservation Society (WCS), World Wildlife Fund (WWF), Conservation Measures Partnership (CMP), CARE, World Neighbors, and the Red Cross. We chose these organizations because they all have a history of trying integrated approaches. The review highlights the most current approaches these organizations are taking. However, in some cases, we provide some additional historical perspective and insight into how and why institutional definitions and/or approaches have shifted over time.

Broadly speaking, most of these organizations have not explicitly defined an integration strategy, but all recognize the importance of integration and have tried to implement some form of conservation and development programming within their organization. The development sectors most frequently integrated with biodiversity conservation across these organizations are economic development, climate change adaptation, food security, human health (including reproductive health), and the empowerment and capacity building of vulnerable populations.

Conservation and development organizations are motivated to implement integrated programming for a variety of reasons. In recent years, some organizations have started expressing a commitment to integration through their mission statements and taglines. However, the primary driver is a belief that conservation and development issues are intertwined, and are therefore most effectively addressed through holistic and integrated approaches that incorporate an understanding of the tradeoffs, co-benefits, and otherwise complex relationships that exist between the sectors. For example, most if not all conservation NGOs working in Africa integrate livelihood strategies to ensure that local communities have either an incentive to conserve or an alternative to overexploitation. There is a strong belief that some degree of co-benefits or contribution to human wellbeing is necessary for conservation actions to stand a chance. Another broad trend across nearly all conservation organizations (including government agencies) is a focus on creating enabling conditions such as institutional and civil society capacity and stronger governance structures. While these could be considered a means to a conservation end, they are undeniably direct social benefits of a conservation strategy. USAID's Biodiversity Policy refers to these as "co-benefits." Underlying the focus on these types of enabling conditions is the belief that the sustainability of conservation impact depends on local ownership of and buy-in to the solutions.

Box 5. Integration at the Program and Project Implementation Level – Key Highlights

Integration from Conservation Perspective

- Implementation activities happen at many different scales, from transboundary and national-scale activities down to small-scale village projects.
- Many international conservation NGOs have promoted integration either programmatically or within individual projects. Livelihood is a common focus.
- Few large international NGOs have an explicit strategy on integration, although many have mission statements that imply interdependence of people and nature, suggesting that programs will be integrated.
- Nearly all conservation organizations have a strong focus on creating enabling conditions (e.g., institutional capacity, improved governance) that support long-term conservation and create co-benefits that contribute to development outcomes.
- Most organizations have not had a clear strategy for monitoring and evaluating integration impacts.

Examples of initiatives:

- Rare uses social marketing strategies to promote behavioral change throughout its programs.
- TNC is trying to understand interactions between people and nature, and developing metrics through its new Human Dimensions Program.
- WCS has been active in leading integration research initiatives (e.g., Health & Ecosystems: Analysis of Linkages (HEAL) and Animal Health for the Environment and Development [AHEAD])
- WWF has promoted integration programmatically, and within policies and projects, across more sectors and for longer than any other NGO.
- The Conservation Measures Partnership has guidance on defining how conservation strategies contribute to human wellbeing and development, thus providing clear points for monitoring and evaluation and for capturing co-benefits.

Integration from Development Perspective

- Some motivators for development organizations to integrate conservation into their work include: desire to secure availability and improve quality of ecosystem services for human populations; ability to access remote areas; and, increasingly, ability to help human populations adapt to climate change.

Examples of initiatives:

- World Neighbors has worked on natural resources development issues since the 1950s. Its work in the population-health-environment (PHE) arena is well known and has shown some success. More broadly, however, it is not clear whether or under what conditions PHE efforts lead to better results for conservation and/or health partners.
- The Red Cross has looked at integration within the context of disaster prevention, relief, recovery, and rebuilding and has selectively partnered with WWF.
- CARE has partnered with WWF in several countries. They are also collaborating with WWF, IIED, and IUCN through the Ecosystem and Livelihoods Adaptation Network (ELAN). ELAN aims to develop, evaluate, and share successful strategies for climate change adaptation at a global level.

CONSERVATION ORGANIZATIONS' EXPERIENCES

Rare: Rare's tagline is "Rare inspires change so people and nature thrive." In practice, Rare maintains that, "conservationists must become as skilled in social change as in science; as committed to community-based solutions as national and international policymaking."⁷² Rare's signature approach is its Pride campaigns, which draw on private sector marketing techniques used for selling things like cars and soft drinks but adapts these techniques to sell more sustainable behaviors. Rare is ultimately a conservation organization, but it recognizes that humans are part of both the conservation problem and the conservation solution. Its Pride campaigns have typically focused on raising pride among community members for a particular resource or species unique or special to their area. The pride instilled serves to

motivate conservation. However, Rare's efforts also emphasize the connection between conservation and human wellbeing and livelihoods. For example, Rare partnered with the Mexican National Commission of Natural Protected Areas to strengthen six fishing cooperatives in La Encrucijada, Mexico. The project aimed to protect mangrove and lagoon biodiversity while also strengthening the cooperatives' organizational capacity and helping them develop no-take zones to allow fish stocks to replenish themselves, thus providing a longer-term source of economic livelihood.⁷³ Recently, Rare played a leading role in a cross-institutional effort under the Conservation Measures Partnership to develop a framework for understanding, describing, and monitoring the complex relationships between conservation, human wellbeing, and development outcomes (see further below under the CMP section).

TNC: In recent years, the executive management of TNC has demonstrated strong support for integrating benefits to people and nature through their organization's work. Although they do not have a formal integration strategy, TNC believes that "conservation is about people and nature,"⁷⁴ and they have taken integrated approaches in a number of efforts, such as water fund initiatives in Latin America and REDD+ projects across the globe. Although it has often implemented strategies that are social in nature, TNC has historically focused on conservation as its primary end goal. In 2013, TNC established a Human Dimensions program and hired three new social scientists in order to strengthen their interdisciplinary capacity to implement conservation programs in ways that positively impact people. One of the program's main goals is to effectively account for impacts on people in conservation strategies through the incorporation of new people-oriented metrics and monitoring systems. These new metrics will be integrated into project theories of change, also known as results chains. The second main goal of the program is to better identify and consider the social benefits of ecosystem services in planning processes. Under this goal, TNC engages with government ministries that have either no-net-loss or positive-impact sustainability goals to help them incorporate quantified, spatially representative information on nature's benefits to people into environmental, transportation, or development planning. The Human Dimensions Program also aims to develop more rigorous analyses of the tradeoffs and synergies between conservation and development outcomes to improve program design. TNC's decision to invest in integration stems from a transition towards a more holistic approach that addresses whole ecosystems, including nature and people, and interactions between the two.⁷⁵

WCS: Like many conservation organizations, WCS has often used socially-oriented strategies to help achieve its conservation agenda. In recent years, however, they have spearheaded some initiatives that have a strong integration focus. The previously-mentioned HEAL Program is one such example. Another example of work in this area designed to ultimately influence national policy is WCS's AHEAD Initiative, which tries to understand the impacts of domestic and wild animals coming into increasingly frequent contact. For example, transfrontier conservation areas, which link up national parks, game reserves, hunting areas, and conservancies within a matrix of communal land, offer great promise for conservation at a large scale that can support megafauna. However, these transfrontier conservation areas, which allow free, unfenced movement of species, are in direct conflict with conventional knowledge for managing transboundary animal diseases. To help find creative solutions that work for both conservation and health, the AHEAD Program is bringing together policy makers and relevant sectoral expertise to explore new options.⁷⁶

WWF: WWF is a huge organization with many offices and programs, making it difficult to cover all the approaches it has taken to integration. While WWF has not formally defined integration, the organization has a long history of using integrated approaches. It pioneered programmatic work on site-scale integration in the 1980s through its Wildlands and Human Needs Program. Likewise, WWF International began analyzing linkages between conservation and development in the early 1990s, in studies such as Root Causes of Biodiversity Loss.⁷⁷ Here we highlight a few of its well-known initiatives.

Like the conservation community in general, some WWF programs have moved from a site-based focus on integration to a landscape focus, supporting work on integrated river basin management. For example, they are working with HSBC Water Programme, collaborating with WaterAid and Earthwatch over the next five years to protect the world's water supplies and river basins, educate people about saving water, and give a million people access to safe water and better sanitation.⁷⁸ This includes working with more than 100,000 fishers and farmers and 1,000 businesses to help them use water more

efficiently. The program focuses on five vital river basins: the Yangtze, the Ganges, the Mekong, the Pantanal, and the African Rift Valley.

More generally, WWF works to integrate conservation into development programs and policies at multiple levels, addressing issues including human rights, food security, access to energy and resources, health and family planning, and adaptation to climate change (e.g., WWF EU Policy Office; WWF New Security Beat). The WWF approach to integrated programming emphasizes building partnerships with development agencies and NGOs that work with communities in high biodiversity areas (e.g., WWF Species and People). An example of one such partnership is the CARE-WWF Alliance, which was launched in 2008 as a 10-year commitment.⁷⁹ The three main goals of the Alliance are to (1) attain healthier livelihoods and ecosystems, ensuring natural resources are managed for current and future generations, (2) empower citizens, especially vulnerable women and girls, and (3) build supportive policies and institutions from the community to the global level. The predominant success story of the Alliance is the Coastal Communities initiative, which works with communities and partners across local, regional, and national scales to create a healthy marine ecosystem on the East African coast. This initiative has resulted in greater resilience of communities and ecosystems, the development of commercial associations for small-scale producers, and the establishment of Africa's largest coastal marine reserve.⁸⁰

WWF also collaborates with CARE, the International Institute for Environment and Development (IIED), and the IUCN through ELAN. ELAN aims to develop, evaluate, and share successful strategies for climate change adaptation at a global level. ELAN promotes the integration of existing human rights-based approaches with environmental sustainability-based approaches to create climate change adaptation strategies that better capture the interdependent roles that communities and ecosystems play in building resistance to climate change.⁸¹

With support from USAID, WWF has also implemented the PHE approach since 2000 within site-based conservation programs. As with many integrated approaches, the evidence base for the impacts of PHE interventions is limited and inconclusive. However, in the mid 2000's, WWF worked with Foundations of Success to use a theory-of-change approach to identify how to evaluate the conservation outcomes of family-planning interventions. Based on this work, WWF developed a conservation-focused PHE manual and collaborated with Johnson & Johnson and USAID to scale up PHE-related work within WWF.⁸²

The Conservation Measures Partnership (CMP): CMP is a consortium of 24 members (as of January 2014) that include NGOs, donors, and government agencies and programs working on biodiversity conservation. CMP's seminal product is the *Open Standards for the Practice for Conservation*, which provides guidance for doing good project design, management, and monitoring to learn from and improve projects over time.

Because the Open Standards focus on conservation, for many years they lacked clear guidance for how to think about and address human wellbeing from a more integrated perspective. There was always implicit attention to social benefits achieved as a result of a conservation strategy or as means to achieve a conservation goal. However, it became clear that teams working across several conservation and resource management organizations and agencies wanted and needed better guidance. Thus motivated by demand from those designing and implementing projects and programs on the ground, CMP members approved and published guidance in 2012.⁸³

CMP uses results chains to help teams clearly define their theories of change for how they believe their conservation strategies contribute to human wellbeing and development outcomes. The main conceptual paths identified include improvements via ecosystem services and/or improvements directly from a conservation strategy (a "co-benefit" per USAID's Biodiversity Policy). The guidance also helps teams understand how they can portray tradeoffs, unintended consequences, and feedback loops - all of which are particularly important linkages to understand when taking an integrated approach (see

Figure 2 for example). Finally, the guidance provides a structure for developing human wellbeing and development goals and associated indicators, when approaching these outcomes from a perspective of showing how conservation affects human wellbeing.

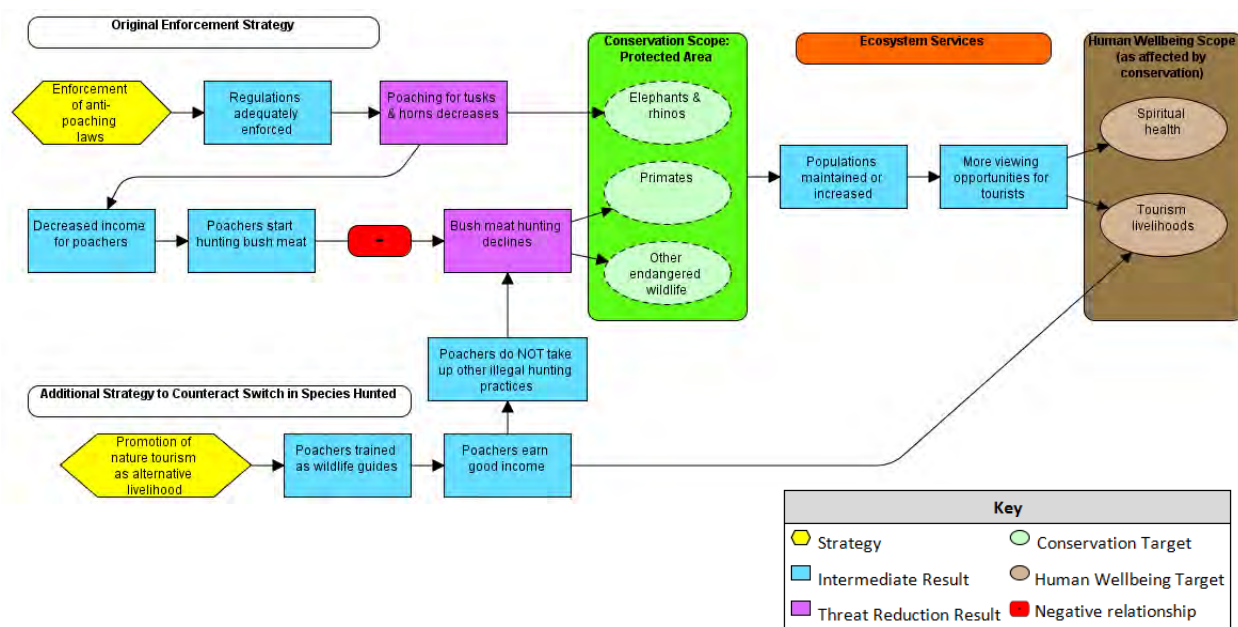


Figure 2. Example of Illustrating Trade-offs and Using Theories of Change to Identify Additional Strategies Source: [CMP 2012](#)

Looking across all the references reviewed for this report, CMP’s guidance and the use of theories of change provide the clearest means for teams to (1) illustrate how they expect integration will improve conservation and/or development outcomes and (2) help prepare them to systematically assess progress toward impact.⁴ For this reason, we have used theories of change throughout this review to highlight assumptions in cases.

THE DEVELOPMENT PERSPECTIVE

While it is interesting to understand why and how biodiversity-oriented organizations and projects work to contribute to development objectives, it is equally interesting to understand why development organizations choose to integrate biodiversity into their programs. The reasons tend to vary by the development sector with which they are trying to integrate (Box 6). For example, some reproductive health organizations have partnered with conservation groups because the conservation organizations can help them increase their reach, especially to remote areas, in a cost-effective way.⁸⁴ Another benefit development organizations receive is technical knowledge regarding resource and species management that, for example, can help development agencies develop resource management plans that will help their constituents secure their livelihoods over the long-term in a way that is resilient to climate change.⁸⁵ Finally, partnering with other organizations can help secure buy-in to communities, either because the partner organization has an established reputation or because together the two organizations can provide a valuable package of services.

World Neighbors: World Neighbors, an international development NGO founded in 1951, strives “to eliminate hunger, poverty and disease in the poorest, most isolated rural villages in Asia, Africa and Latin America.”⁸⁶ World Neighbors, an early pioneer in integration, works to help individuals and communities create their own life-changing solutions through programs in agriculture, literacy, water, health, and

4 For more information, see [The Open Standards for the Practice of Conservation](#), [Using Conceptual Models to Document a Situation Analysis](#), and [Using Results Chains to Improve Strategy Effectiveness](#).

environmental protection. Their integrated programs include teaching farmers sustainable practices for hunger and poverty alleviation and introducing climate change adaptation techniques to impoverished populations. World Neighbors investment in integration is inspired by appreciation for the intertwined relationship between environment and development. From the World Neighbors' perspective, the environment impacts livelihoods because people depend on natural resources for income and food. Specifically, climate change, unsustainable agricultural practices, and misuse of chemicals in the environment can adversely impact people and the environment.

In the late 1990s, World Neighbors was often touted as a model for integrating health and family planning service delivery with environment and development programs.⁸⁷ This work spanned several countries (including Ecuador, Bolivia, Honduras, Philippines, and Nepal) but followed the same general model of training volunteer community promoters to share messages related to family planning, health, and resource management (e.g., soil and water conservation, cover crops, and small livestock improvement). The work in Ecuador is one of those rare instances where the project team collected data (using an operations research approach) to systematically test the effectiveness of an integrated approach. Findings indicate that participants in communities with an integrated approach increased their use of sustainable agriculture techniques, increased their knowledge and acceptance of family planning, and expressed positive attitudes toward World Neighbors.⁸⁸ However, there were no significant differences in health status or health-seeking behaviors. World Neighbors also partnered with Participatory Research, Organization of Communities, and Education towards Struggle for Self-Reliance (PROCESS) in the Philippines but did not see statistically significant differences using an integrated approach.⁸⁹ The critical piece of missing information here is why the approach worked in the Ecuadorian villages but not in the Philippines. Going a step further, it would be informative to understand why a similar integrated approach undertaken by IPOPCORM (Integrated Population and Coastal Resource Management) in the Philippines did work. We were unable to find reports on this or track down World Neighbors or partner staff familiar with these initiatives. However, the main take-away message is that to understand impact and generate more generalizable results, it is critical to compare across sites and understand the conditions under which an intervention does or does not work, and why.

The Red Cross: The Red Cross has been integrating environmental strategies into programming for decades because they see the importance of secure resource access and environmental services to helping prevent or mitigate the impacts of disasters. For example, the Vietnam national chapter worked with local communities in the 1990s to protect mangrove forests as a climate change adaptation strategy to protect vulnerable populations from natural disasters.⁹⁰ Another example of the Red Cross's investment in integration is the American chapter's partnership with WWF to create a toolkit for integrating environmental considerations into disaster recovery and rebuilding.⁹¹

In addition, the International Committee of the Red Cross (ICRC) has been integrating environmental sustainability into its humanitarian and disaster relief efforts over the last few years. This decision to integrate recognizes that: (1) incorporating ecosystem and ecosystem services considerations can facilitate a return to normal conditions for affected populations, (2) an approach that incorporates environmental sustainability lowers operating costs, and (3) as a leader of international humanitarian organizations, the ICRC should demonstrate a respect for the environment and set an example for sustainable development. To execute this vision of environmental sustainability and direct their operations, ICRC has seven objectives. The objectives encompass themes of reducing environmental degradation and climate change impacts on victims of conflict and violence, tracking and reducing the environmental footprint of ICRC operations, and referencing indicators for sustainable development parameters that are reported annually. To put these objectives into practice, the ICRC developed a Framework for Environmental Management in Assistance Programmes which provides conceptual and practical approaches for integrating environmental considerations into humanitarian work.⁹² This framework classifies environmental issues frequently mentioned within the scope of humanitarian work into the following categories: (1) environmental issues that fuel tension, (2) environmental issues created by conflicts, (3) environmental issues created by humanitarian presence, and (4) environmental issues related to assistance programs.⁹³ The ICRC conducts an overall analysis of each situation in which it is involved and assesses risks in relation to expected impacts. It identifies four types of crises: (1) Acute crisis, in which the first priority is to address the needs of the victims rapidly, with an acknowledgement that some environmental damage may be avoidable; (2) Pre-crisis, in which ICRC mobilizes others to

prevent humanitarian disasters (this includes ensuring awareness of environmental issues); (3) Chronic crisis, in which ICRC focuses on finding sustainable solutions to problems and building capacity; and (4) Post-crisis, in which ICRC supports ongoing activities, as needed. In all these situations, ICRC maintains that consideration of environmental factors should be systematic, documented, and an integral part to disaster response.⁹⁴

CARE: CARE is a development organization with a mission to “serve individuals and families in the poorest communities in the world.”⁹⁵ CARE works in 84 countries in the areas of disaster relief, women’s empowerment, health, world hunger, education, and economic development. The CARE-WWF Alliance is designed to collaboratively address the root causes of poverty and ecosystem degradation. For example, the CARE-WWF Alliance in Mozambique helps communities sustainably manage natural resources in order to provide more income and food, maintain more productive ecosystems, and reduce vulnerability to natural disasters. Among other results, the Alliance has established two marine sanctuaries where fish stocks are recovering and three mangrove management projects that provide communities with protection against cyclones.⁹⁶ CARE and WWF came together in Mozambique because they felt that, working together, they have the experience, scale, and reputation as “trusted advocates to change the paradigm and create lasting solutions.”⁹⁷ More specifically, they can draw on their collective field experience to develop new approaches to address underlying causes of poverty and ecosystem degradation, to advocate at all levels for changes in policies and practices, to reach a diversity of partners, and to mobilize public support and build civil society capacity to further their common goals.⁹⁸

CARE and WWF are also partnering on the USAID-funded Hariyo Ban program, which works to reduce adverse impacts of climate change and threats to biodiversity in Nepal by restoring and conserving forests while improving livelihoods and building resilience to climate change in both people and ecosystems. The project works on three core components – biodiversity conservation, sustainable landscapes, and climate adaptation – with livelihoods, gender, and social inclusion being important crosscutting themes.⁹⁹ Although the partnership with WWF brings a new perspective and scientific expertise to CARE’s work, CARE Nepal has been taking an integrated approach since its founding in 1978. Taking an integrated approach simply makes sense to CARE and its partner communities. They don’t live in sectors.” More specifically, CARE Nepal works on biodiversity conservation because communities depend on natural resources for both subsistence and livelihoods. In this sense, improving livelihoods is one of CARE Nepal’s goals, and working on biodiversity helps them secure those livelihoods. When CARE partners with an organization like WWF whose end goal is biodiversity conservation, securing livelihoods then becomes a means to a conservation end.

CARE Nepal’s interest in working on climate change links back to resource management and helping people find a sustainable source for their livelihoods over the long-term. Again, this is where partnering with a conservation organization like WWF provides CARE with insights to help develop “climate-smart” livelihood interventions informed by scientific knowledge. By lending a biodiversity focus to climate change and livelihoods security, CARE can help communities understand how some practices may not be sustainable over the longer term, especially given anticipated climate changes. As an example, CARE Nepal staff mentioned a major reforestation effort that happened a few years ago where those involved looked to plant a diversity of trees without considering what species were being planted. Now, with the scientific expertise WWF brings to the Hariyo Ban program, they are looking for species that will survive the next 25 years given anticipated climate change impacts. One of the greatest challenges in understanding and planning for climate change in a country like Nepal, however, is the huge diversity in a small area - over 200 microclimatic conditions across the country.

Like other organizations, CARE Nepal does not have concrete, scientific evidence that an integrated approach is better than a sectoral approach - or even if their integrated approaches are having a positive impact. However, some of their existing projects (e.g., Hariyo Ban and a food security project) are trying to develop systems to generate and collect that evidence, and staff members seemed genuinely interested in adding monitoring to their projects as part of doing business.

Box 6. Potential Motivators for Other Sectors to Integrate with Biodiversity

Health

- Ecosystem services support human health (e.g., clean water, food, medicines)
- Avoidance of health impacts of land-use change (e.g., land clearing increases malaria) or infrastructure development (e.g., dams & irrigation systems increase vector-borne diseases)
- Overlap between local dependence on wild resources (e.g., fuelwood) & specific disease links (e.g., respiratory diseases)
- Ability to decrease emergence & spread of infectious diseases & pandemic threats associated with wildlife trade
- Opportunity to access remote communities (and with greater programmatic efficiency)
- Geographic Information System (GIS) capabilities could be important for mapping homes, communities, disease transmission

Food Security:

- Biodiversity's importance for pollinators & global food supply (e.g., recent concerns about honey bees); Agrodiversity's importance to lasting food security
- Biodiversity's role in helping minimize climatic impacts on agriculture
- Wild foods serve as local & cheap food source
- Wild foods can be potential disease vectors (e.g., bushmeat) & need to understand how to minimize transmission
- Forest & water cycling important to reliable & predictable water retention, water flow, & agriculture

Economic Growth:

- Importance of ecosystem services as foundation for economic development
- Illegal & unregulated resource extraction (e.g. logging, fisheries) represents major source of national revenue losses
- Premium pricing & revenue for "green" products & techniques
- Helps businesses meet "green" pledges & improve or repair image
- Dependence on resources for future products
- Employment in biodiversity & natural resource-related sectors

Climate Change:

- Access to technical knowledge about best, most resilient ways to adapt to, avoid, or minimize climate change impacts
- Green methods to adapt may be less costly & more durable over longer term

Democracy/Governance:

- Helps to secure resource rights, land tenure, & empower communities
- Illegal natural resource use is closely linked to corruption & other illegal sectors (e.g. wildlife trade, drug production & trafficking)
- Well-developed databases & GIS systems used in conservation support democracy & governance

Common across Multiple Sectors:

- Buy-in with communities (build on good relationships)
- Programmatic efficiencies – for implementation level, can combine trips, activities
- Access to funders, broader programs
- Good public relations stories

Case Study B: Mussels and Mudflats: The Wadden Sea (Netherlands)

Background: For decades, the Dutch Wadden Sea has been the scene of intense conflicts among various stakeholders. Nature conservation organizations fought against resource exploitation in order to protect the ecological integrity of the disturbed ecosystem. Businesses in turn defended the commercial exploitation of various natural resources, particularly natural gas and shellfish (mussel, cockle, and shrimp), arguing that negative impacts of exploitation were minimal and outweighed by the economic gains. Meanwhile, the scientific community lacked consensus on the area's ecological status and the severity of human pressures, and government agencies seemed stuck in mandates and formal responsibilities. Consequently, parties settled disputes in court, and the state of the Wadden Sea ecosystem deteriorated further.¹⁰⁰

Reason for integration: In early 2008, a breakthrough resulted from a Council of State ruling in the case of Birdlife Netherlands against the then Ministry of Agriculture, Nature, and Food Quality (LNV). LNV was ordered to withdraw a 2006 permit for catching 12 metric tons of mussel seed (<2 cm) annually through bottom trawling due to lack of evidence that the practice was not damaging the Wadden Sea ecology.¹⁰¹ Subsequently, in 2008, the Minister of LNV, the Dutch Mussel sector, and four local conservation NGOs signed a Memorandum of Understanding to collaborate in (1) the transition of the mussel sector from bottom trawling towards low-impact alternatives and (2) nature restoration in the Wadden Sea.¹⁰²

Challenges: To implement these goals, a highly integrated program, Toward a Rich Wadden Sea (PRW), was formally launched in March 2010. PRW has a dual ambition: to guide the transition to more participatory governance of the Wadden Sea, but with concrete aims of sustainable use (e.g., the mussel sector) and natural ecosystem restoration. It combines both horizontal channels of participation (spanning different sectors and different types of actors) and vertical channels of participation (spanning different hierarchical levels of decision making, from national to local). The biggest challenge has been working on a concrete action like phasing out bottom trawling while simultaneously trying to determine how the wide set of stakeholders will work towards joint-governance in the future.

Enabling Factors: PRW is assumed to have the support for decision making needed to work towards this vision, with partners representing most key stakeholders.¹⁰³ The enthusiasm for PRW's participatory nature raises expectations about bridging different viewpoints and even sharing decision-making power. This requires transparency in terms of trade-offs and outcomes. One trade-off has been to allow oil and gas exploitation in the area, some profits of which support nature restoration.

Evidence of Success: One of PRW's core strategies focuses on phasing out bottom trawling, while phasing in low-impact harvesting alternatives in the water column that provide comparable and sustainable returns on investment for mussel fishers. Monitoring data show that the transition is on track, and mussel banks are being closed for harvesting. Progress around the governance of the Wadden Sea, however, is fragile, and the collaboration risks falling apart if competition among stakeholders increases.

General Theory of Change: The following figure illustrates the generic theory of change underlying the work in the Wadden Sea.

Facilitate Multi-Stakeholder Participation in Ecosystem Management: The lowest portion of the chain shows that a legal ruling was made, in this case to require the withdrawal of permits for and the cessation of bottom trawling (NP 01). As such, alternatives were needed for the Dutch mussel sector (IL 01, lower chain). To help develop alternatives, LNV facilitated a multi-stakeholder process to manage the Wadden Sea ecosystem. Various stakeholders came together (IL 02) and participated in a transition effort for the mussel sector, forming PRW (IL 03). This multi-stakeholder group took on several initiatives, include the transition effort, illustrated in the upper branch of the chain.

Assist Fisheries Sector to Transition to Low-Impact Alternatives: The first expected result from the transition action was that the multi-stakeholder group would help identify alternatives to bottom trawling (IL 01). The alternatives, however, needed to be feasible for the mussel sector to use (IL 02). If the sector was capable of using them, then the next assumed result was that they would use those alternatives (03). This has a straight path to reducing threats from bottom trawling (PT) and conserving mussel populations (BD). These conserved mussel populations provide a variety of ecosystem services (ES), including mussel populations for harvesting, food for foraging migratory birds, and a base for bird watching. These services in turn contribute to human wellbeing and development outcomes, including mussel-based and tourism-based livelihoods and spiritual health (HWB DO).

Finally, the mussel sector benefits not only from the sustained mussel populations provided through good conservation, but also directly via the use of alternatives (IL 03) that help the mussel sector remain economically viable (IL 04). The mussel industry had no choice but to cease bottom trawling, so the alternatives offered the industry a way of staying in business and thus had a direct connection to the far-right human wellbeing and development outcomes – in this case, mussel-based livelihoods.

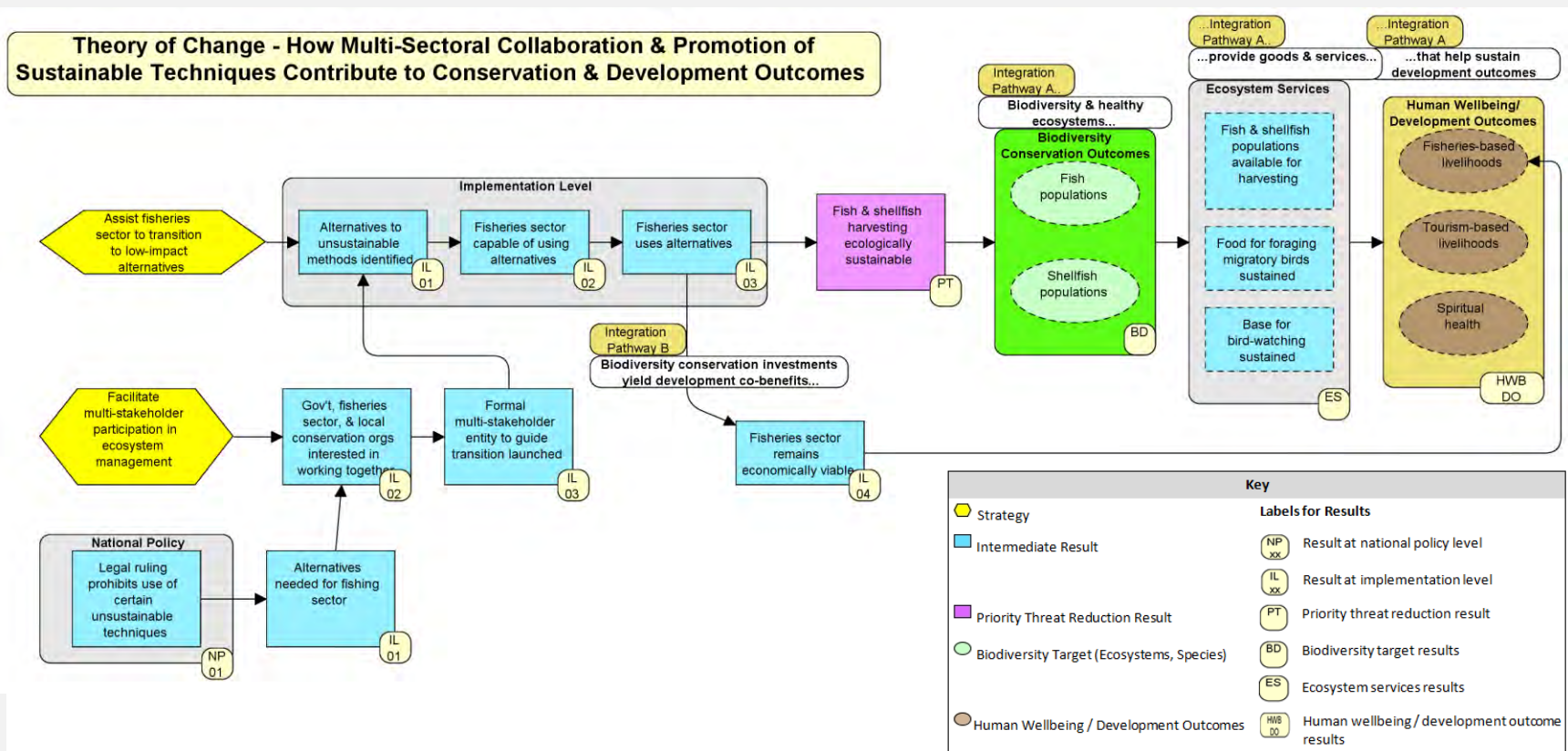


Figure 3. General Theory of Change for Multi-Sectoral Collaboration and Promotion of Sustainable Techniques

Case Study C: Local Implementation Brings About National and International Change: Annapurna Conservation Area and Chitwan National Park

Nepal Makes Major Strides in Integration

Since the mid-1980's, Nepal has made extraordinary efforts to integrate conservation and development, with critical links made between implementation at specific sites and national policy. For over 25 years, there has been a genuine reorientation of government policies directly linking conservation and development, through:

- Recognition of and rights for community forestry;
- Legislation promoting revenue sharing from tourism;
- Creation of new categories for conservation management; and
- Legislation requiring protected-area managers to support decentralized management of locally owned buffer zones, compensation for wildlife conflict, and revenue sharing for development activities.

This case highlights this history, drawing on two well-known USAID-supported protected areas: Annapurna Conservation Area (ACA) and Royal Chitwan National Park. These sites have effectively provided the groundwork for global “experimentation,” where best practices and cutting edge ideas on ICDPs and community-based conservation influenced Nepal’s national policies and provided lessons for the international conservation community. These two protected areas illustrate how integration efforts at local implementation and national policy levels can interact and influence one another. Both areas began as local projects, yet their needs and impacts changed national policy, and they were frequently used as examples internationally. Key to their success was a strong emphasis on process, institution building, structured local participation, and adaptive management. One study found that for both ACA and Chitwan, over 95% of respondents would be happy if tourism increased and 96% thought it was good that the land was protected, even if they did not feel that happy that their village was in or near a protected area (74% happy in ACA and 65% in Chitwan).¹⁰⁴ Respondents had strong views on conservation, supporting efforts to protect plants (over 99%) and wild animals (over 87% in ACA and 98% in Chitwan) and to punish poachers (over 94%). One study concluded, “The integrated and participatory approach has given people a greater appreciation of conservation and a sense of ownership towards the protected areas”.¹⁰⁵ Conservation can only be successful with local support, and Nepal has laid such a foundation.

Annapurna Conservation Area (ACA)

Background: In 1985, Nepal’s king decided to protect the ACA, leading WWF and the King Mahendra Trust for Nature Conservation (KMTNC) to establish the ACA project in 1986. The project sought to secure a large area for conservation, integrate conservation and development initiatives, manage tourism impacts, and demonstrate that protected area management could be done by and provide benefits to local residents. A core aspect of integration was institutional strengthening and local capacity building. ACA was formally protected in 1992. Revenue-sharing legislation grew out of ACA in 1996, requiring that 30% to 50% of park revenue from tourism should be allocated to a local fund, with 30% for community development, 30% for conservation, 20% for income generation and skill development programs, 10% for conservation education, and 10% for administrative expenses.¹⁰⁶ By 2000, there were 75 forestry committees, 10 endangered wildlife committees, 27 tourism committees, 13 hydroelectric committees, 13 monastery committees, 18 saving and credit groups, and 290 women’s groups involved in revenue sharing and management.¹⁰⁷

Reason for integration: KMTNC maintains that, “conservation efforts in low income economies, such as Nepal, cannot be successful, much less sustainable, unless the needs and welfare of the local people are addressed. Holistic and integrated conservation and development programs promoting local guardianship have been the focus of all the Trust activities”.¹⁰⁸ This overarching philosophy, along with the belief that local residents can manage protected areas, was the driving force behind integration in ACA.

Types of Integration: Integration of conservation goals and livelihoods has happened via several strategies, including (but not limited to) organizing local management and zoning for different resource uses, strengthening local institutions for management, and pioneering revenue sharing from tourism.

Economic development has been a priority, and from the early days focused on decreasing the negative employment in tourism and ownership of local tourism ventures.¹⁰⁹ The focus on building institutions and generating development benefits to meet human needs was strong early in the project, while conservation components have steadily increased as development needs have been addressed.

Challenges: The high ethnic and linguistic diversity, large area and population spread over this area, and harsh conditions all made this a highly challenging project. The local (and national) context also was strongly affected by the Maoist insurgency from 1996 to 2006.

Enabling Factors: KMTNC's substantial patronage was important for launching the ACA project, as well as for linking local issues to national policy. ACA has successfully built institutional resilience and maintained a lasting mechanism for integrating conservation and development by: (1) establishing flexible nested governance structures; (2) devolving responsibility to local entities; (3) retaining institutional memory; (4) insuring locals viewed new institutions as legitimate; and (5) utilizing many forms of capital accumulation or improvement (e.g., natural resources, human capital through training and jobs, social capital through institutions, financial capital).¹¹⁰

Evidence of Success: The size and administration of the Annapurna Conservation Area grew dramatically from one Village Development Committee (VDC) in Ghandruk to 56 VDCs. The project quickly attracted international support (overall budget was US\$2.5 million in the first five years).¹¹¹ A 2007 study found high levels of trust between Village Development Committees and villagers (87% expressed trust) and across the different Committees (89%).¹¹² Villagers also thought that the Village Development Committees were the right authority to manage natural resources, and strongly believed that conservation benefits were equitably distributed and natural resources had improved over time. When the Maoist insurgency ended, the VDCs again became active – an indication of the strength of the structure. The Annapurna Conservation Area project established legislation promoting tourism revenue sharing, and now over half of Nepal's trekkers visit the area (more than 100,000 tourists in 2012), providing at least seasonal employment for more than 50,000 local people and 497 locally owned lodges.¹¹³ ACA helped spur the systems and mechanisms needed to support protected area conservation, decentralized management, and tourism revenue sharing more generally. For example, Royal Chitwan National Park has a revenue sharing program that covers 37 local Village Development Committees, supported by 1,470 user groups. Despite problems in the early years with resettlement and repressive management and the challenges of working in a densely populated and ethnically diverse area, revenue sharing and local decision making have led to strong support for conservation. Conservation status of most species has improved, and 82% of respondents in the buffer zone believe the Park benefits local people.¹¹⁴

General Theory of Change: The following figure provides a theory of change that outlines the basic logic for both ACA and Chitwan but can be generalized to any protected area involving local management and/or revenue sharing. At a general level, the theory of change illustrates how actions at the national policy level created the conditions necessary for taking an integrated approach to protected area management at the implementation level. The theory of change highlights two key aspects of the ACA and Chitwan cases (strengthening local protected-area governance and developing a tourism revenue-sharing mechanism), showing how they came together to reduce threats, improve biodiversity, and contribute to development outcomes. In reality, projects in both areas used multiple approaches to integration, and one could develop several other theories of change.

Strengthen Local Protected-Area Governance: The top portion of the chain shows how Nepal, in this case, created policies and systems that supported decentralization and local management of protected areas (NP 01 and 02). The bottom half of this first chain emphasizes the need for residents to have the interest in and capacity to participate in protected area management (IL 01 and 02). Combined with the national policy conditions, these created the enabling conditions for local residents to participate in protected area management (IL 03). The assumption (which appears to have held true) was that the residents would then feel a sense of stewardship over protected area resources (IL 04), thus decreasing their likelihood to engage in practices threatening the status of protected area resources (PT and BD). Well-conserved biodiversity, in turn, would provide ecosystem services (ES), including scenic vistas and recreation areas and wildlife for viewing – two services that are necessary for tourism, as well as for the spiritual health of the residents themselves (HWB DO). Well-conserved forests and wildlife also provide

other benefits, such as high-quality water for drinking – a factor important for physical health.

Develop Tourism Revenue-Sharing Mechanism: This lower chain begins with the need for a legal mechanism to support tourism revenue sharing (NP 01) and an assumption that tourism fees will then go to a local fund (NP 02). These are two national policy level results that, in Nepal’s case, were necessary for integration to happen at the implementation level. These allowed local communities to receive the tourism revenues (IL 01) – this point in the chain also maps to USAID’s integration pathway related to co-benefits. If the villages received tourism revenues, it was assumed they would recognize the need to conserve resources to sustain tourism (IL 02). In addition, this new revenue source would provide residents with resources to meet basic needs, such as food and fuel (IL 03 and 04). As such, their dependence upon forest resources would decline (PT). Recognizing the need for conserving forest resources also contributes to reducing threats to protected area resources (PT). The remainder of the theory of change holds, as described under the governance strategy.

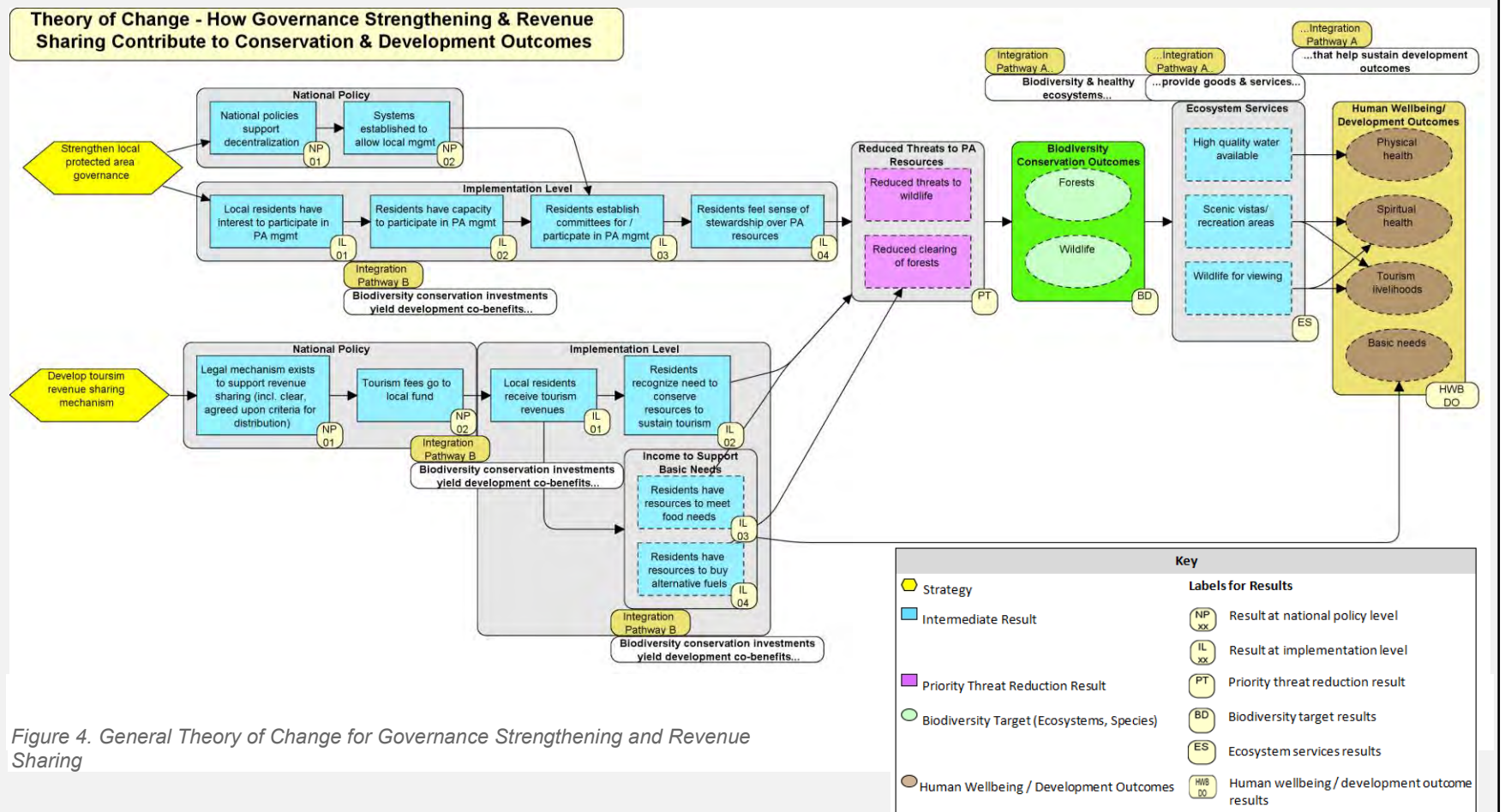


Figure 4. General Theory of Change for Governance Strengthening and Revenue Sharing

2.4 SUMMARY HIGHLIGHTS OF FRAMEWORKS

One of the main objectives of this review was to describe the spectrum of definitions and frameworks for integration. However, we found that most organizations have not formally defined “integration.” As discussed earlier, they focus on what needs to be integrated or how it will be integrated. So, they may integrate biodiversity valuation with economic decision making, or they may piggyback health services on resource management outreach. Also discussed earlier is the observation that those working at the international policy level talk about “mainstreaming,” while those working at the implementation level talk about “integration.” Those working at the national policy level use both terms, depending on the partners with whom they are working.

There are also relatively few formal frameworks for clarifying how biodiversity relates to, contributes to, or benefits from other sectors. DFID offers the Sustainable Livelihoods Framework, but it appears to be no longer in use, and it is also not a tight fit with E3/FAB’s interests, as its central focus is on livelihoods. More broadly, however, it could be an interesting conceptual framework for USAID. The Millennium Ecosystem Assessment also offers a well-known and widely-used framework for conceptualizing at a high level the links among human wellbeing, indirect drivers of change, direct drivers of change, and ecosystem services (Figure 5). However, as described in more detail below, it equates ecosystem services to biodiversity conservation, and the framework is at a high level that is difficult for most conservation practitioners to operationalize.

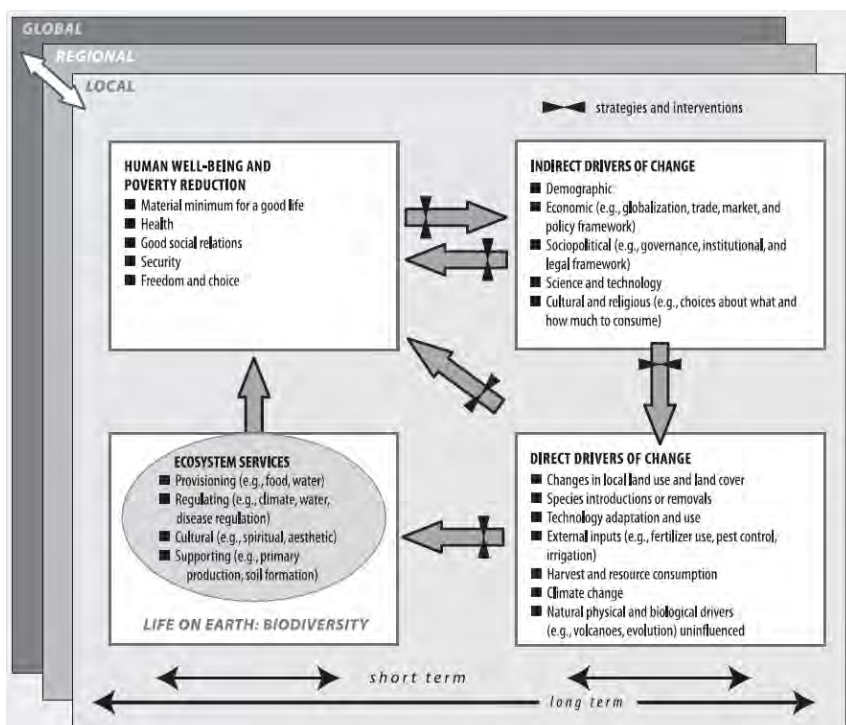


Figure 5. Millennium Ecosystem Assessment Conceptual Framework. Source: Millennium Ecosystem Assessment (2005)

The Conservation Measures Partnership has developed a framework for understanding and measuring human wellbeing that is compatible with many of the integration points highlighted in USAID’s Biodiversity Policy. CMP uses the results chains tool to specify theories of change that help those working on integration clearly define how they believe their conservation strategies contribute to human wellbeing and development outcomes. Figure 6 shows the main conceptual paths identified in CMP’s guidance. It also shows how these paths map to USAID’s “Integration Pathways”^v identified in the Biodiversity Policy:

^v USAID Biodiversity Policy identifies “Linkages Between Biodiversity and Development: Integration Pathways.” For simplicity’s sake, we refer to these as “Integration Pathways” throughout this document.

- A. Biodiversity and healthy ecosystems **provide goods and services** critical to human wellbeing (clean water, food, reduced natural disaster risk) and can help sustain development outcomes.
- B. Biodiversity conservation investments **yield development co-benefits** such as diversifying livelihoods, promoting gender equity, increasing government transparency, and contributing to peace and security.
- C. **Development is a major source of pressure** on biodiversity, and proactive engagement can produce a spectrum of results from avoidance or mitigation of impacts and compensation for biodiversity loss to delivering positive conservation outcomes.
- D. **Approaches from other development** sectors can enhance biodiversity conservation practice (e.g., value-chain analysis, land registration) and in turn other **development sectors can benefit from the adoption** of biodiversity conservation approaches (e.g., ecosystem-based approach, land-use planning).

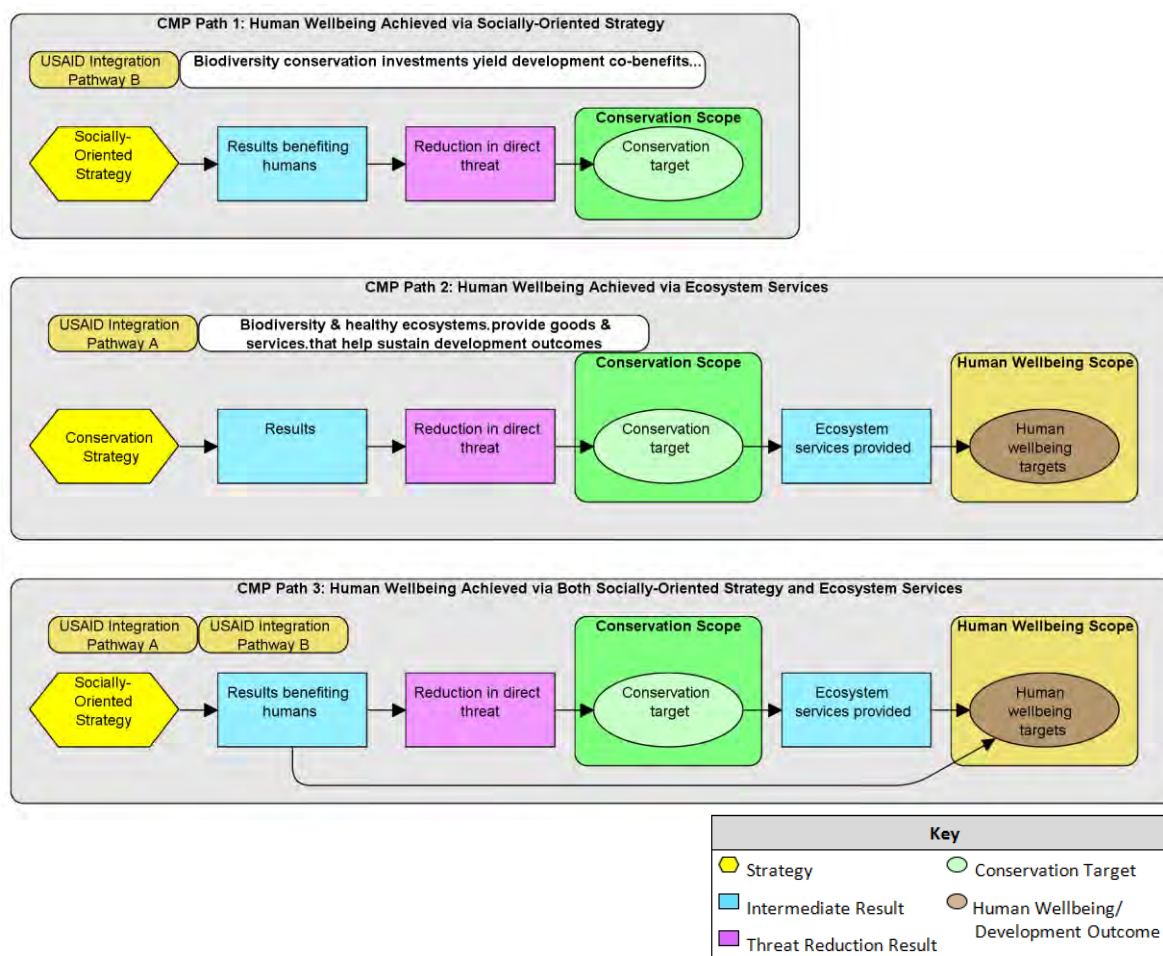


Figure 6. CMP Framework – General Relationships about How Conservation Contributes to Human Wellbeing

CMP’s human wellbeing guidance does not explicitly identify Integration Pathway C because CMP uses another tool, conceptual models, to lay out sources of pressure on biodiversity (Figure 7 provides an example). Theories of change focus on what project teams are trying to change or achieve, not on the state of the world as it is. CMP’s guidance also does not explicitly recognize the first part of Integration Pathway D, though one could use theories of change to show these relationships. The second portion of Integration Pathway D is addressed through the existing paths.

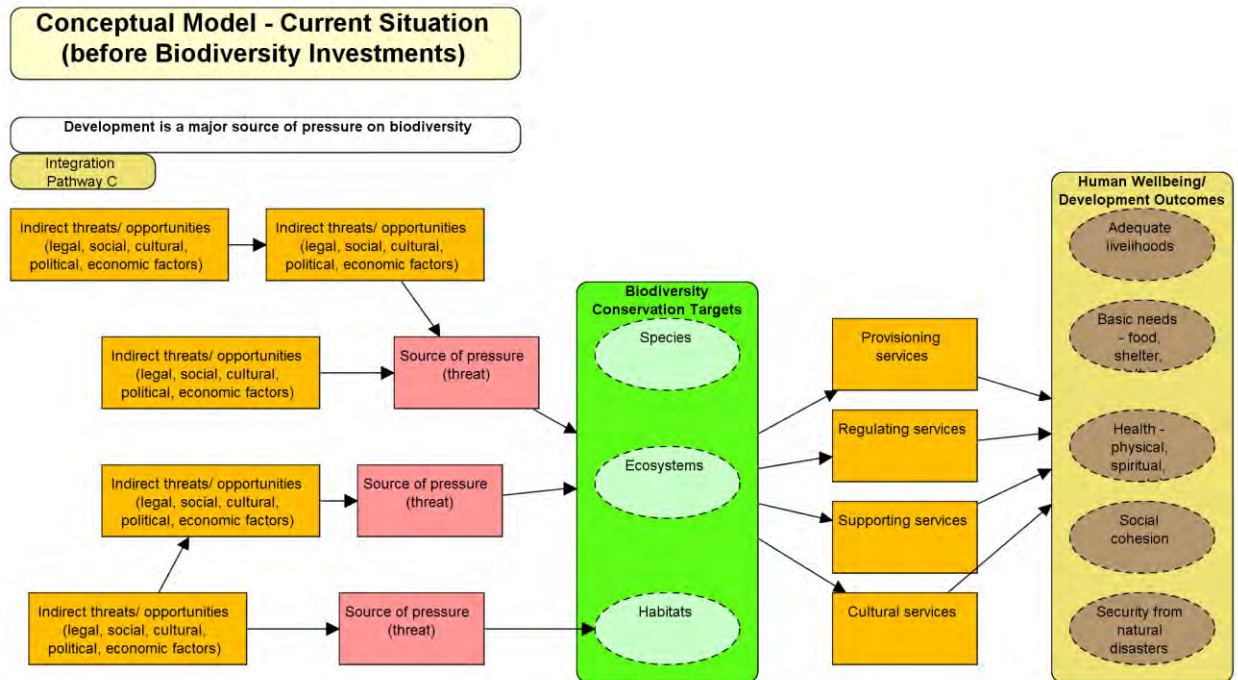


Figure 7. USAID's Integration Pathway C Mapped to a Generic Conceptual Model

COMMON COMPONENTS OF INTEGRATION: BIODIVERSITY, ECOSYSTEM SERVICES, AND HUMAN WELLBEING

The Millennium Ecosystem Assessment (Figure 5) provided the first, widely-used and internationally-recognized framework relating biodiversity and ecosystem services to human well-being. It focused positive attention on linkages between ecosystem degradation and the ecosystem services on which humans depend, and the need for better understanding of socio-ecological systems. However, some have noted problems with the MEA, including that biodiversity and ecosystem services were too closely equated with one another, there were multiple overlaps in categories of ecosystem services, and scale issues were overlooked.¹¹⁵ Recent collaborations have sought to improve the understanding of these linkages from research, operational, and management perspectives spanning multiple sectors and combining understandings of socio-ecological coupled systems.

There is a general trend that organizations doing or promoting integration implicitly or explicitly identify biodiversity, ecosystem services, and human wellbeing as key, complementary components. Ecosystem services, in particular, are a common thread through most integration efforts since they provide critical services upon which humans depend, and they offer an easy, clear message to people for why nature matters. However, ecosystem services are not the same as biodiversity.¹¹⁶ An area reforested with a single species can protect riparian areas and guarantee clean and plentiful water downstream (ecosystem services). As mentioned by CARE Nepal staff, that reforested area does not represent a "natural" forest, and over the longer term, it will be less resilient to stresses (e.g. climate change) and more vulnerable to disease, pests, and other shocks than a healthy, natural, native forest.¹¹⁷ In general, however, organizations with development as a central theme tend to focus on ecosystem services, rather than biodiversity, as ecosystem services provide a clear and direct benefit to achieving their human wellbeing/development mission. USAID focuses on biodiversity explicitly as a method to achieve human wellbeing, in addition to its role in supporting ecosystem services.

The conservation community has been actively clarifying the science, policies, and implementation issues that relate biodiversity and ecosystem services to one another and to human wellbeing. For example, Balmford et al. draws on the best science to clarify ecosystem service flows, and the impact of biodiversity loss on ecosystem services in ways that improve the MEA and allow for better economic valuation, thus providing ways forward for better policies.¹¹⁸ Other recent research develops consensus statements (based on extensive literature reviews of 1,700+ papers) on impacts of biodiversity loss on

human wellbeing and emerging trends that will likely affect human wellbeing and merit action.¹¹⁹ Yet other work targets the spatial overlaps of biodiversity, ecosystem services, and human wellbeing and identifies where synergies are greatest.¹²⁰

Nevertheless, substantial debate remains within the conservation community on the appropriate emphasis to give to ecosystem services versus biodiversity, especially within conservation organizations. It is worth noting that Conservation International and TNC have realigned their focus from biodiversity to “nature” and ecosystem services, with TNC’s CEO writing a book called “Nature’s Value.”¹²¹ General statements such as Conservation International’s tagline “people need nature to thrive,” are adopted for general rhetoric and external audiences. Within organizations, however, scientific and economic analyses, as well as project planning and design, require greater clarity. CMP’s framework (adopted by 23 conservation members, Figure 6) offers a step in that direction by explicitly distinguishing among biodiversity, ecosystem, services, and human wellbeing and clarifying how they tie together.

3. CHALLENGES FOR DOING INTEGRATION – AND DOING IT WELL

Taking an integrated approach to conservation makes intuitive sense, yet doing so is not easy. There are many constraints to doing integration. Challenges occur across political, institutional, and technical dimensions and tend to vary in degree and nature depending upon the circumstances under which integration takes place.¹²² The following are the main challenges identified through this review for doing integration and doing it well.

Integration is complex. Working to conserve biodiversity is complex. Add to that the layer of formally integrating biodiversity conservation with other sectors, and things quickly become very complex. The individual actors, goals, and ways of operating are different. From the perspective of a bilateral or multilateral agency, it can be difficult to know where to start, with which actors to work, or which actions are likely to yield the greatest impact with the least effort. Making these sorts of decisions requires a strong situation analysis. For example, in a given country, is it easier to work with the Ministry of Finance to promote environmental valuation and identify the real costs of infrastructure development, or is it better to understand and work to address the links between poverty and conservation within the context of Poverty Reduction Strategic Plans? Or, is it best to create “demand” by working at state or regional levels within a country (e.g., state governors of highly forested areas) to build constituencies that pressure national governments to value resources differently?

At global scales, there are political trade-offs. At venues such as CBD, national delegations and international organizations bring slightly different positions and try to move agendas in ways favorable to them. Countries may block integration at one meeting when it affects them, but support integration when it is more indirect.

With climate change, integration is going to become even more complex. Threats to biodiversity and their impacts are becoming more severe less predictable, given the role that climate change is playing in the human and natural world. Though finding and implementing the “right” policies and actions has not been easy in the past, the conservation community has accumulated knowledge and experience that has helped guide decisions on future actions. With climate change and all the uncertainties surrounding it, our current knowledge base may not be adequate, and it is likely to become even more challenging to define sound policies and interventions. Again, a good situation analysis will be important, but the situation analysis will need to also take into account climate change and anticipated changes. Even when teams take into account the best available knowledge, taking action under uncertainty can be perceived as risky.

Contrary to the rhetoric, integration often involves trade-offs. Integration is frequently presented as a “win-win” solution to conservation and human wellbeing. While it certainly can be in many situations, it is not always that simple. Trade-offs are common at some scale. Even things that appear to be “win-win” at larger scales may face trade-offs at implementation. When trade-offs are needed, some sectors may feel that the outcomes from an integrated approach are not optimal. From a biodiversity perspective, true integration will not always be good for biodiversity. For example, if an integrated effort strives to provide certain ecosystem services important for the human populations, doing so does not equate to protecting

Box 7. Integration Challenges at a Glance

- Integration is complex
- With climate change, integration is going to become even more complex
- Contrary to the rhetoric, integration often involves trade-offs
- Not everyone is ready for integration (lack of political will, governance constraints and clashes)
- There is little evidence of the impact of integrated approaches
- Human wellbeing and development benefits from conservation are not always immediate.
- Integration is not a silver bullet – there is a need to understand when integration is appropriate and when it is not
- Integration can be costly in terms of process and systems
- It is difficult to get the right skill sets within individuals or teams
- Expectations of what integration is and how it should be done do not align across different scales
- Integration guidance has been inadequate

biodiversity – as illustrated in the case described by CARE Nepal staff where those implementing a massive reforestation effort in Nepal did not consider which types of species were best from a biodiversity perspective. The reforested areas could serve functional purposes such as timber and fuelwood provision, water purification, and flow regulation, yet they probably were not representative of a natural system typical for that area.

Not everyone is ready for integration. Change is never easy and is rarely fully embraced. The systems and mindsets at many levels are not fully ready or prepared for integration. In general, there is a **lack of political will** across many countries to look at longer-term needs and ensure environmental responsibility in decision making. The dominant development models are based on economic growth rather than sustainability and are measured by inadequate indices such as gross domestic product (GDP) rather than rights, welfare, or environmental services and limits.¹²³ Biodiversity and ecosystem services are generally seen as externalities rather than as valuable commodities that can generate development benefits through conservation programming. As a result, biodiversity conservation continues to be marginalized in development frameworks and funding sources.¹²⁴ The lack of political will also carries forward to **governance constraints and clashes** over territorial power among government ministries and between national and decentralized levels.¹²⁵ Integration requires working across agencies and sectors in a cooperative, open fashion. Despite the lack of political will and governance constraints, communities are often very ready for integration. To them, it is very obvious that the issues they face are integrated and that the sectoral-based institutions are not well equipped to handle their needs.¹²⁶

There is little evidence of the impact of integrated approaches. Several key informants and nearly all literature reviewed stated there is little or no evidence of the impact of integration. This is not necessarily because integration has not been successful, but rather because few project teams have clearly identified their assumptions, set up their projects to truly assess effectiveness, or collected baseline data needed to identify correlations or potential causal relationships. Data, when collected, are often unreliable.¹²⁷ Furthermore, there is a lack of skills, capacity, and resources to invest in building this evidence base.¹²⁸ These challenges are not unique to integration, but those doing integration have found it difficult to clearly link biodiversity to development outcomes and to identify the added value of taking an integrated approach.

Human wellbeing and development benefits from conservation are not always immediate. Where conservation actions provide co-benefit (e.g., livelihood strategies, governance actions), there is a fairly clear and immediate benefit to people. However, when benefits come via well-conserved ecosystems and the services they provide, the benefits are much longer-term in nature. In these circumstances, conservation may seem a social good rather than an individual good. As such, it can be more difficult and less direct to convince people of the human wellbeing and development benefits of conservation actions, as opposed to, for example, direct health or livelihood interventions.

Integration is not a silver bullet – there is a need to understand when integration is appropriate and when it is not. There is often an assumption that integrating is good, but as mentioned above, the evidence base does not exist. Those practicing integration are not collecting data about the impact of their efforts in general, nor the value added from taking an integrated rather than a sectoral approach. Even in the cases where they have collected data and can say that the integrated approach worked, the conservation community still lacks a broad base of evidence. Without cross-project learning to build this evidence base, it will be difficult, if not impossible, to understand the conditions under which integration is likely to be successful or unsuccessful, and why.

Integration can be costly in terms of process and systems. Integration represents a new way of thinking or doing business, often across “competing” sectors and/or in the context of changing government priorities.¹²⁹ This can be time consuming, as it involves getting to know new actors, determining which actors are the key players, understanding how they think and operate, and then facilitating effective collaboration and coordination across these actors and sectors. In essence, integration becomes as much (if not more) about the process as it is about the technical content and implementation. Moreover, as signatories to international treaties, many governments at the national level find themselves tied to a wide set of conditions and obligations (e.g., preparing NBSAPs, seeking broad consultation, and limiting development) that are burdensome and/or difficult to promote internally.

It is difficult to get the right skill sets within individuals or teams. By now, it is clear that integration is complex and challenging. Finding the right individuals or right mix of individuals with the skills to successfully confront these challenges and take an integrated approach is difficult.¹³⁰ Most professionals – at all levels – tend to have a narrow, sector-focused skill set. Moreover, formal education systems take a primarily sectoral approach, so few individuals are entering the work force with the interdisciplinary skills needed to effectively work with and communicate across sectors, agencies, or organizations. Skills needed include an understanding of both the natural and the social sciences. However, this is not sufficient. Some special technical skills are useful (e.g., knowledge of valuation tools). Moreover, the ability to communicate effectively across sectors, as well as to different audiences ranging from communities to high-level policymakers, is critical. As one key informant pointed out, the research that is being done on integrated models is not available in the language or format that would allow policymakers or practitioners to easily understand the models.

Expectations of what integration is and how it should be done do not align across different scales. International treaties and conventions, by nature, seek to inspire. As a result, they often set lofty goals with time horizons that do not reflect the longer-term needs and realities at the implementation level, especially given the complex nature of integration. Likewise, scale disjunctures exist. Treaties and agreements happen at the international scale, are translated to national levels, and then become a top-down policy process. Those involved in designing policies are often very removed from the people responsible for implementing them or affected by them, making it difficult to get local buy-in. This is not a problem unique to integrated approaches, but it, nevertheless, has proven to be a challenge.

Integration guidance has been inadequate. There has been a lot of guidance on integration, but much of it is vague, complex, and overly ambitious. Moreover, it has been developed by high-level policymakers and is “pushed” down to those responsible for implementing it with little “real-world” testing. When it is based on experience, it tends to identify failures and promote ambitious actions to counter the failures – rather than basing guidance on actions that may be more modest but have shown some success. A related challenge is that a lot more effort is placed on developing guidance and toolkits than helping those on the ground understand and effectively implement the tools and guidance.¹³¹

4. RECOMMENDATIONS FOR MOVING FORWARD WITH INTEGRATION

Taking an integrated approach theoretically makes sense: synergies can increase the likelihood of success, conflicting agendas can be aligned, and win-win situations can be created. Yet, doing so is not easy and there is little to no proof that it is paying off in reality. In this section, we outline high-level guiding principles and recommendations focused on three main areas: Integration within USAID; Integration with Other Agencies and Partners; and Definitions and Frameworks for Conceptualizing USAID's Integration Work.

4.1 GUIDING PRINCIPLES

The following thirteen principles for effective integration come from various sources.¹³² The principles span themes of garnering institutional buy-in, creating lasting change, appropriately engaging stakeholders and sectors, incorporating metrics and knowledge, and developing transparent and adaptive processes.

1. **Leadership** – Create and mobilize political will and awareness at multiple levels of government and across sectors. Engage champions who can institutionalize processes.
2. **Strategic linkages** – Link integration interventions to the strategy, mission, or long-term vision of the organizations involved in the integration process.
3. **Stakeholder Involvement and Collaboration** – Promote cooperation at different levels and sectors, both private and public. Ensure that a wide range of voices is heard and the most vulnerable populations have access to tools and knowledge to influence decision making. Develop cross-sector partnerships and collaboration mechanisms.
4. **Ownership** – Involve the focal country or locality in assuming control and responsibility of the integration process. Management should be participatory and inclusive.
5. **Equity of Integration** – Integrate environment and development approaches with balance and mutual respect.
6. **Sector-specific** – Analyze motivations and opportunities for each sector, identify sector-specific entry points, and tailor tools and interventions to each sector. Focus integration on sectors that are motivated to integrate.
7. **Environmental knowledge** – Incorporate scientific understanding of environmental processes, stresses, and limits into the integration process. Create awareness of relevance of biodiversity for different sectors and identify capacity needs for integration implementation.
8. **Clearly identify how integration helps the sectors involved** – Lay out conceptual linkages with all sectors involved to understand how each sector can help the other improve its work.
9. **Understand trade-offs and win-win scenarios** – Develop a clear understanding of the tradeoffs between biodiversity and development outcomes and make these tradeoffs explicit in program design. Where possible, identify win-win solutions for biodiversity and development outcomes and the associated conditions and constraints.

Box 8. Recommendations at a Glance

Within USAID

- When identifying opportunities for integration, consider the three scales and where USAID is likely to have the greatest impact
- Look across USAID Programs to understand integration potential from within
- Clarify integration pathways

With Other Agencies and Partners

- Use an adaptive management approach to integration
- Share lessons and develop guidance for integration
- Convene those working in integration to stimulate learning
- Push integration beyond coordination or “mushing together” funding sources
- Focus on desired impacts, not simply the sectors
- Build on existing external efforts and processes

Definitions and Frameworks for Guiding Integration

- Use CMP's framework and results chains tool to clarify expected results and measure the effectiveness of integrated actions

10. **Create tools, metrics, and incentives** – Create economic and regulatory tools and incentives to encourage and reward integration. Design metrics to measure behavioral outcomes and biodiversity gains and to generate evidence for cause-effect linkages.
11. **Use existing processes** – Use existing national, sectoral, or local processes as much as possible for analytical and planning purposes.
12. **Transparency and accountability** – Document and share information on environment and development relationships, decision-making rationale, and underlying assumptions.
13. **Learning and adaptation** – Collect evidence, document lessons learned, and adapt the integration process as necessary. Share information across organizations, sectors, industries, and individual cases.

4.2 RECOMMENDATIONS FOR INTEGRATION WITHIN USAID

The scope of this review focused on integration opportunities with others outside of USAID. However, we offer a few recommendations that emerged from this review and that would be useful for E3/FAB to consider as it determines how it will promote integration within the Agency.

Recommendation: When identifying opportunities for integration, consider the three scales and where USAID is likely to have the greatest impact

USAID has engaged at all three scales, with a lot of investment at the program and project implementation level. Going forward, USAID could consider whether it should continue its involvement across all three scales and to what degree it engages at each level. At the international policy level, for example, USAID could become another voice in the drafting of treaties and guidance. If USAID pursues integration at the national policy level, it could continue and possibly expand work to help countries develop the frameworks, mechanisms, policies, and incentives needed to support integration at the implementation level. USAID's role could also be to help look at linkages between the NBSAPs and other development strategies. At the implementation level, much of integration is about building institutions and capacity – both of which are critical but time consuming. USAID already has a strong base at the implementation level but would still need to work closely with its partners and others who are doing integration to identify how USAID could be most supportive and strategic. While USAID should clarify the scale(s) at which it intends to work going forward, it should also be alert to opportunities to leverage change across multiple scales.

Recommendation: Look across USAID Programs to understand integration potential from within

Integration involves finding synergies that enhance sectoral results and/or reduce potential conflicts among them. Within USAID, there are many sectors that have at least conceptually strong linkages with biodiversity conservation, including the four sectors discussed in this review (economic development, climate change, health, and food security). As a first step, E3/FAB could try to understand current opportunities for integration with USAID programs. It already has a rich internal history to mine from integration efforts between biodiversity and health sectors.

Recommendation: Clarify integration pathways

USAID's different integration pathways generally reflect the breadth of what others are doing. Working on development threats is not necessarily an entry point for integration, as conservation has always worked on reducing threats. The USAID Biodiversity Policy (launched July 2014) recognizes this distinction and clarifies the difference between ways that biodiversity conservation actions can contribute to development (and vice-versa) and how development actions threaten biodiversity conservation. It also uses the terminology "integration pathways," so as not to imply that threats to biodiversity are a (unique) entry point for conservation.

4.3 RECOMMENDATIONS FOR INTEGRATION THROUGH USAID-FUNDED PROJECTS AND PARTNERSHIPS

Recommendation: Use an adaptive management approach to integration

Integration may make sense under some conditions and not under others. For actions that USAID takes or supports, it should strongly encourage those involved to take an adaptive management approach. Climate change is amplifying the uncertainty and risk already present in conservation. It may seem scary to try new approaches, but deciding to do nothing in the face of risk and uncertainty also leads to its own

problems. An adaptive management approach – in which USAID and its partners are able to learn what is working, what is not working, and why – will help teams systematically learn, adapt, and improve their conservation actions.

Recommendation: Share lessons and develop guidance for integration

Completely unprompted, a couple of key informants suggested that E3/FAB could play a strong role in learning about integration simply by promoting learning and sharing, harnessing lessons, and developing general guidance. Guidance should be tailored to the audience’s needs and interests (e.g., short bullets for high-level managers and more detailed analysis of conditions contributing to success for practitioners). This recommendation seems in line with USAID’s programmatic objective to apply science, technology, and learning to enhance biodiversity conservation practice.

Recommendation: Convene those working in integration to stimulate learning

Some key informants suggested USAID could play a role as a convener and incubator for learning, bringing together implementing organizations and agencies from the development and conservation sectors to work together in a systematic fashion – setting up simple pilot projects, testing to understand what works, what does not work, and why, and then working to replicate successes. Ideally, these tests are carried out in the context of existing projects, learning across projects on specific themes such as livelihood benefits of marine protected areas, carbon storage in areas undergoing reforestation, or watershed benefits of upland protected areas. Such studies could be very helpful in identifying and optimizing the co-benefits and ecosystem services provided through USAID investments.

Likewise, USAID could also convene interested actors to identify potential impacts of ignoring conservation. Engaging key experts from both conservation and health sectors for a particular ecosystem that is under threat could provide a novel and engaging problem-solving approach for both sectors to better understand the trade-offs of particular issues at a given site. For example, recently there have been a series of studies that look at the possible negative health effects of ecosystem transformation.¹³³

Recommendation: Push integration beyond coordination or “mushing together” funding sources

One key informant noted that integration is not about mushing two funding streams together; good integration requires a conceptual investment. It is important for the interested parties to work closely together and to understand why they are interested in integration and how they expect an integrated approach to contribute to their respective goals. CARE Nepal staff suggested that USAID could push the Hariyo Ban project (with CARE and WWF) to work collectively with other USAID-funded projects in the region and to require that they share some collective results. For example, Feed the Future is working in the same geographic area and shares some of the same objectives, but each project is preparing its own plans and reporting on its own indicators in isolation of one another. The meetings that USAID hosts with its partners are helpful for coordination purposes, but, in the words of a CARE Nepal staff member, they are “not helping to bring synergy and value added.” This all suggests that where USAID is integrating, it should work closely with other sectors within USAID that are in the same geographic area and, where possible, identify overlaps and work more closely to achieve shared goals and objectives. This may require restructuring within USAID itself. Also, if USAID wants to pursue the concept of collective reporting on shared results, it will have to help partners over the major hurdle of USAID compliance (e.g., if one project is funded through a cooperative agreement and another through a contract).

Recommendation: Focus on desired impacts, not simply the sectors

When organizations approach integration, they often start with the sectors that they want to integrate and then figure out what they could do together to enhance one another’s goals. An alternative approach is to focus on the desired impact and then work across those sectors that will help you achieve that impact. For example, instead of focusing on integrating biodiversity into agriculture, it may make sense to integrate biodiversity with efforts to improve livelihoods. This would require biodiversity to be integrated into everything that USAID does to support livelihoods, across sectors and from policies to programs to building a knowledge base.

Recommendation: Build on existing external efforts and processes

Regardless of at which level USAID chooses to work, it should build off of existing efforts and processes. Countries reported back in March 2014 with new NBSAPs that have a heavy focus on integration. This offers many opportunities for USAID. For example, USAID could join existing efforts to analyze progress

to date through a consultative process with CBD and relevant organizations (e.g., GEF, IIED) to identify strategies building on these NBSAPs. Over the shorter term and in advance of the NBSAPs, USAID could define key integration impacts or sectors it wishes to support, identify relevant national documents that include these, and then develop a portfolio program supporting a set of actions (e.g., economic valuation, health linkages, and tourism). At the implementation level, there is a lot of interesting research to understand the conceptual linkages between biodiversity conservation, human wellbeing, and development outcomes. Examples of these initiatives include HEAL, AHEAD, and EPT, as well as several research initiatives seeking to establish the relationship between biodiversity conservation and ecosystem services provision. USAID could help bring that research to its implementation programs, use it to help build the pilot programs recommended by some key informants, and/or choose management actions that are supported by research.

4.4 RECOMMENDATIONS FOR DEFINITIONS AND FRAMEWORKS

Recommendation: Use the Conservation Measures Partnership’s framework and results chains tool to clarify expected results and measure the effectiveness of integrated actions

The clearest and most relevant framework for USAID that we identified in this review is the Conservation Measures Partnership’s framework (and associated guidance) on human wellbeing.¹³⁴ It is also compatible with many of the integration pathways highlighted in USAID’s Biodiversity Policy (Figure 7 from the Implementation Section).

We can take the CMP framework another step and apply it to USAID’s integration pathways.

Figure 8 maps these pathways onto a results chain (with the exception of Integration Pathway C). In reality, a results chain usually would not show so many strategies and associated theories of change on a single page; however, it is useful to illustrate this complexity to give USAID a more complete visual of the various ways these pathways might occur.

While Figure 8 is high-level and generic, theories of change can provide a very useful framework for laying out assumptions behind an intervention, setting measurable objectives directly related to those assumptions, and developing associated indicators. In essence, they lay out the path to clarifying expected results and assessing outcomes and progress toward ultimate impacts – two issues that emerged repeatedly in the literature and key informant interviews as major challenges to integration. CMP’s human wellbeing guidance and tools used to implement the *Open Standards* provide detailed, practical guidance for assessing impact.^{vi}

^{vi} See [The Open Standards for the Practice of Conservation](#), [Using Conceptual Models to Document a Situation Analysis](#), and [Using Results Chains to Improve Strategy Effectiveness](#).

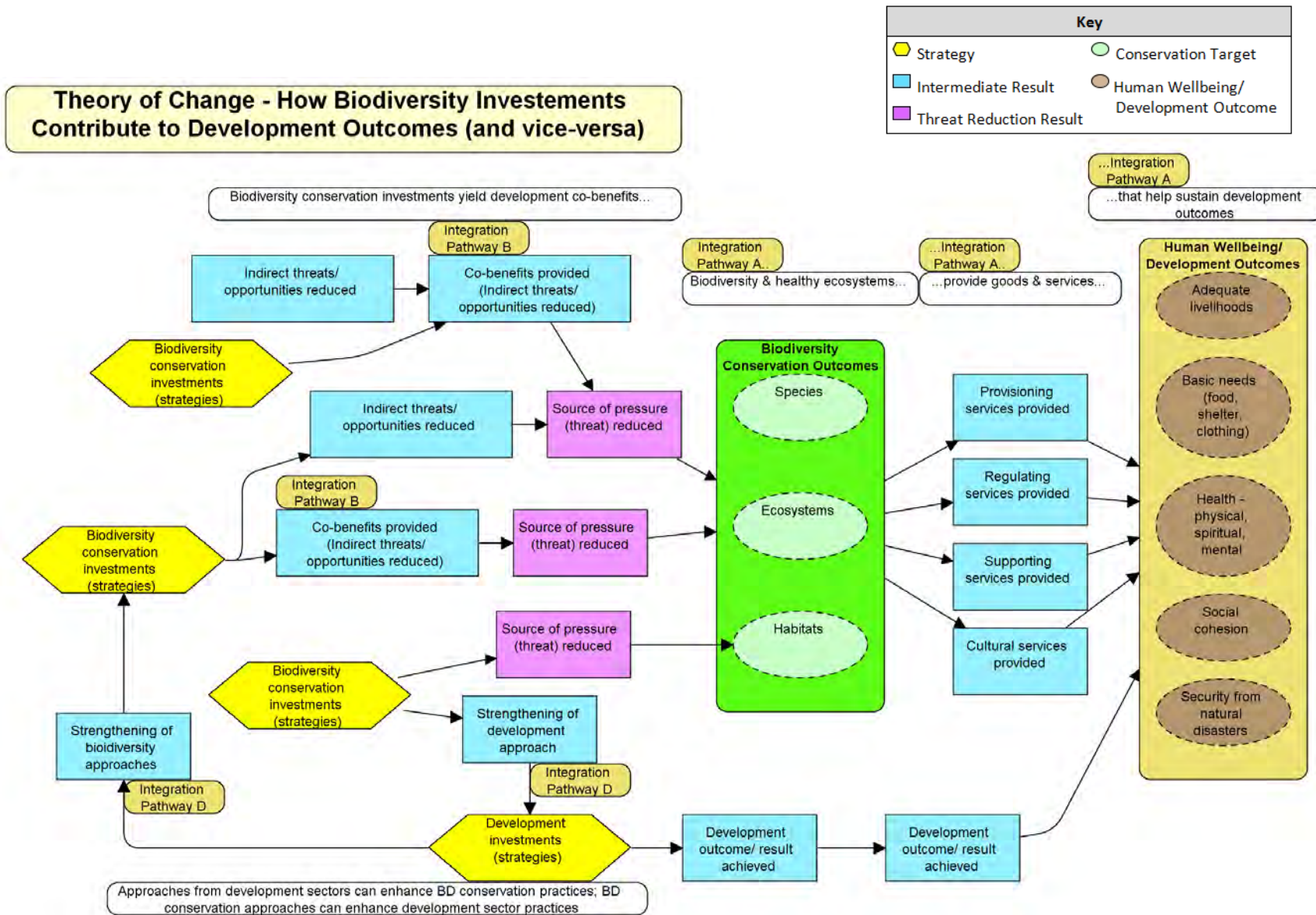


Figure 8. USAID Integration Pathways Mapped to a Results Chain (Theory of Change) under CMPs Framework

5. CONCLUDING THOUGHTS

Clearly, we live in a world where nature and humans are constantly interacting. Humans help to safeguard biodiversity, they depend on resources for their livelihoods and wellbeing, and they put pressure on resources through unsustainable use or when they neglect their stewardship role. Given this situation, those working on biodiversity conservation must recognize and understand how humans use, relate to, and benefit from biodiversity if the conservation community wants to be successful with its conservation actions. Taking the next step to integration with one or more sectors can be good conservation practice under many situations. The critical point for USAID (and any conservation group interested in integration) is to understand when it makes sense to integrate and when it does not. Another key point is to be clear about biodiversity end goals and understand how integration can help conservation efforts achieve more or do better conservation than they could with a purely sectoral approach.

APPENDIX A. EXAMPLES OF INTEGRATION APPROACHES TAKEN BY BILATERAL GOVERNMENT AGENCIES

THE JAPANESE INTERNATIONAL COOPERATION AGENCY (JICA)

JICA is an independent administrative institution implementing the bilateral components of Japan's Official Development Assistance (ODA). JICA tends to apply the term "integration" to three modes of assistance —technical cooperation, ODA loans, and grant aid. Although JICA does not have a formal integration policy, it applies the following four considerations to biodiversity conservation assistance: (1) human security, (2) a comprehensive approach focusing on conservation and local communities, (3) sustainability and self-reliance, and (4) consistency with international frameworks. JICA developed a cooperation policy in 2008 to guide its conservation activities, with the goal of "achieving poverty alleviation through biodiversity conservation."¹³⁵ The scope of this policy includes generating co-benefits for biodiversity, climate change mitigation, and adaptation.

The JICA perspective is that environmental conservation should focus on both the environment and local communities. JICA practices a comprehensive approach to conservation programming cutting across multiple sectors, such as agriculture, fisheries, local handicrafts, and literacy education, while incorporating local contexts. JICA accounts for environmental risks as costs in social development programs. Some examples of JICA's integrated conservation work include a participatory forest management program in the Belete-Gera Forest in Ethiopia that aims to alleviate poverty and an integrated watershed management program in the Laclo and Comoro River Basins of Timor-Leste.¹³⁶

THE U.K. DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

DFID focuses development aid efforts on achieving the Millennium Development Goals (MDGs). DFID has a historical legacy of integrating the environment into development considerations through its well-known Sustainable Livelihoods Framework, developed in 1999. It appears that DFID no longer actively promotes this framework, but at the time, it was considered an important framework for thinking about integration. The framework defines sustainable livelihoods as a balance of (1) human capital, (2) social capital, (3) natural capital, (4) physical capital, and (5) financial capital (Figure 9). If any one of these elements is out of balance, then livelihoods are not sustainable. This framework, however, is unequivocally centered on people. The purpose of the framework is to help stakeholders of different perspectives engage in structured, coherent conversations on the variety of factors that affect livelihoods, and create a common understanding of relative importance and interactions among those factors.

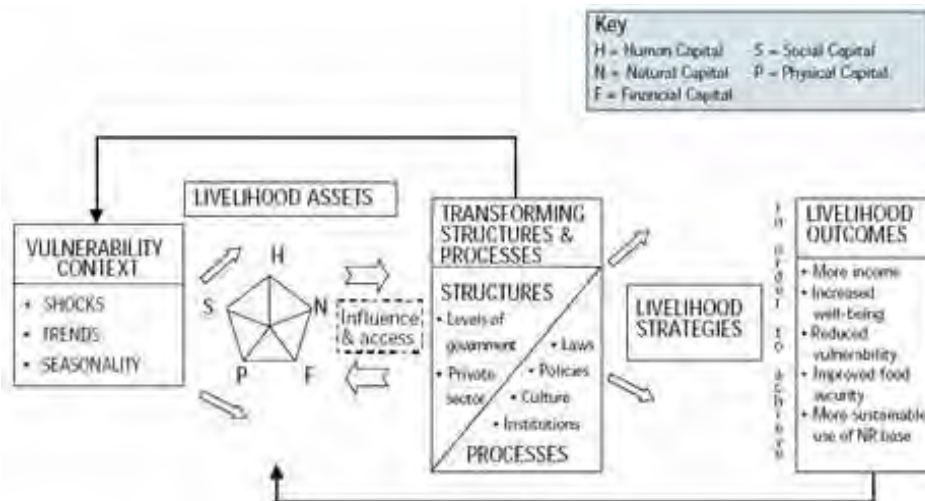


Figure 9. DFID's Sustainable Livelihoods Framework

DFID frames climate change and environmental degradation as risks that threaten to reverse global progress in poverty reduction and the UK's investments in development. In a 2012 DFID report, the UK government pledged to ensure that all of their work is compatible with environmental sustainability and to support specific natural resource protection programs. The report states that, "In short, we will act on the evidence that shows that economic growth, poverty reduction and protecting the environment must go hand in hand if our world and all the people who live in it are to prosper."¹³⁷

DFID's 2012 approach to environmental protection involves four themes: (1) recognizing the value of natural resources, (2) supporting innovation and the smart use of new technology, (3) unleashing the positive potential of the private sector, and (4) using knowledge and evidence to inform policies and approaches. For the first, valuing resources, the UK government has supported the TEEB initiative and the World Bank's WAVES program. Additionally, the UK has supported the United Nations Poverty and Environment Initiative, which helps governments integrate environment-development considerations into planning and policymaking.

At national scales, DFID strives to support the environmental objectives of partner governments by engaging them in discussions on environment and climate issues in relation to DFID aid programs. DFID also collaborates with NGOs, think tanks, trade unions, faith-based groups, and communities to address these issues. DFID currently practices environmental mainstreaming by raising two questions at each phase of policy and program development: "What are the environmental issues associated with this intention, positive and negative?" and "What will you do to minimize the negative and accentuate the positive?" To facilitate this question-and-answer process, DFID created a guidance document that provides information on the positive and negative considerations typically associated with sectoral and governance interventions, including checklists with template responses.

DFID, along with Irish Aid, has also demonstrated support for mainstreaming the environment into development by supporting the IIED User Guide Project in 2007, which aimed to develop tools, methods, and tactics for integrating environment in development policies, plans, and decision making based on country surveys with partner organizations. The UK also supports many REDD+ programs and the Forest Investment Program with the aim of protecting livelihoods and the environment. Similarly, the UK supports the Darwin Initiative, which implements projects that are designed to manage biodiversity in a way that creates benefits for impoverished populations. The UK supports a variety of other environment-development initiatives centered on themes of water and food security, human health, and disaster risk reduction.¹³⁸

CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA)

CIDA has identified environmental sustainability as a mandatory crosscutting theme for international development. Under CIDA's Environmental Sustainability Policy (1992), environment must be integrated into all initiatives. As part of the policy, CIDA committed to developing an Agency Implementation Strategy for Environmental Sustainability that requires the following:

- Each CIDA branch develop objectives and priorities for environmental sustainability
- CIDA bilateral programs analyze country environmental contexts and develop program environmental strategies
- CIDA prepare guidelines and analytical tools for environmental programming and assessment
- CIDA develop additional environmental and sector expertise both within and outside the Agency, and engage and develop local environmental expertise

CIDA has developed several resources to support the implementation of its Environmental Sustainability Policy such as the Environmental Handbook of Community Development Initiatives, which provides guidance on CIDA environmental requirements and procedures along with a set of environmental tools. Each initiative is required to report on the degree to which environmental mainstreaming is occurring, and must provide a rationale if there is no evidence of mainstreaming. This tracking system is especially important because CIDA is legally obligated to ensure that the environment remains a central component of their development work under the Canadian Environmental Assessment Act and the 1999 Cabinet Directive of Strategic Environmental Assessment.¹³⁹

THE DUTCH MINISTRY OF FOREIGN AFFAIRS

The Dutch Ministry of Foreign Affairs focuses on business and trade prospects and creating private and public partnerships. Natural resources seem to be incorporated mainly as an asset to national wealth and security. Integration with the environmental sector appears to be minimal, with the exception of addressing water resource management and sanitation issues, climate change, and agricultural production as development objectives. The Netherlands is a champion of climate-smart agriculture – highly productive agriculture that is resilient to climate change and emits less carbon dioxide – and has organized two international conferences on the subject. Environmental programs focus on human-oriented outcomes in addition to conservation-oriented outcomes. The Netherlands Environmental Assessment Agency has produced a strong review of integrating environmental goods and services into development assistance policy.¹⁴⁰

THE NORWEGIAN MINISTRY OF FOREIGN AFFAIRS (NORAD)

NORAD acknowledges the importance of environmental sustainability and cooperation to reducing global poverty and promoting peace, reconciliation, and security. In recognition of the threats that climate change and biodiversity loss pose to the world, the Norwegian government has elevated climate change and the environment to the forefront of their development policy. The Norwegian government strives to play a leading role in making the environment an integral component of all development cooperation. One of NORAD's integrated programs is the Enhancing Livelihood Sustainability through Raising Community Capacity for Coastal Management (RaCCCoM) in Lamu Archipelago. Another example is the Oil for Development Program, which takes a coordinated assistance approach in which resource management, revenue management, and environmental management are equally considered, while principles of good governance are promoted across these themes. NORAD supports a host of in-country activities, such as a low carbon development strategy in Guyana through the implementation of a country-level REDD pilot program. The program reports results that cut across sectors, including reduction of deforestation and degradation, national financial gains, local livelihood improvements, cross-sectoral cooperation, and changes in policies, capacity, and systems; however, the low price of carbon has proven to be a challenge to the success of this program. NORAD's most famous attempt at integration may well be its US\$1 billion pledge if the Indonesian government halts deforestation in selected areas, part of a highly controversial bilateral REDD effort. Integration was implicit in this effort by its attempt to link and manage corruption and governance, exploding expansion of industrial plantations (e.g., palm oil), biodiversity and ecosystem services, and carbon storage.¹⁴¹

APPENDIX B: KEY INFORMANTS CONSULTED

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- Kent Redford, Principal, Archipelago Consulting
- Sandesh Singh Hamal, Deputy Chief of Party, Hariyo Ban Project, CARE Nepal

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