Transforming Markets for Conservation

Insights from the Biodiversity and Agricultural Commodities Program

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ecoagriculturepartners

BACP
Biodiversity and Agricultural Commodities Program

EcoAgriculture Partners

EcoAgriculture Partners works with a wide range of partners and collaborators – from farmers and community organizations to international businesses, policy makers, and donors – providing direct support, education, training, research, monitoring & evaulation, and policy analysis to help these groups implement and support effective ecoagriculture practices and policies. We emphasize respect for cultural diversity and self-determination in all our work.

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Executive Summary

Commodity agriculture is operating in a context of increasing risks, from the adverse effects of climate change in sourcing regions to the reputational risks of resource-intensive production, including biodiversity loss. Effective risk mitigation requires coordination of multiple actors across value chains. Certification of agricultural products through voluntary sustainability standards (VSS) has been recognized as a way to mitigate environmental and social risks through cooperative market action.

The Biodiversity and Agricultural Commodities Program (BACP) was initiated in 2007 as a grant facility investing in transformation of international palm oil, soy, and cocoa markets to reduce threats posed by agriculture to biodiversity of global significance. The agricultural landscapes that are meeting global demand for these commodities overlap significantly with biodiversity hotpots. Incentivizing agricultural producers to adopt better management practices (BMPs) can significantly limit biodiversity threats and generate co-benefits for the sustainability of production. Targeting three major groups of market actors – producers, traders and purchasers, and financial institutions – BACP aimed to improve the supply, demand, and financing of biodiversity-friendly agricultural commodities.

Sector-wide Achievements

- In the palm oil sector, BACP grantees demonstrated how strengthening land use planning and managing high conservation value (HCV) areas contributes to preserving biodiversity in production landscapes. Projects piloted tools for HCV assessment and monitoring, fortified commodity roundtable capacities, and increased policymakers' support for sustainable production.
- In the soy sector, BACP grantees field-tested multi-stakeholder and value chain processes to improve how land-use decisions and management practices influence biodiversity. Focusing on Brazil, projects mapped critical biomes, initiated certification of smallholders under the Roundtable on Responsible Soy (RTRS), and catalyzed BMP adoption on thousands of hectares.
- In the cocoa sector, BACP grantees delivered training and produced tools to build smallholders' capacity for adopting BMPs and supplying biodiversity-friendly cocoa. Projects also supported creation of a platform for agreeing on standard biodiversity indicators in the cocoa industry.

Cross-sector Insights

- **Managing High Conservation Values:** To prevent the expansion of commodity agriculture into existing natural habitat and areas of significant biodiversity, cost-efficient monitoring and assessment tools for HCV are critical.
- **Working with smallholders:** Given their large contribution to supplying global commodities, certification of smallholder farmers is central for transforming commodity markets toward more biodiversity-friendly production. Graduated, stepwise compliance supported by simple trainings and incentives has been shown to be effective.
- **Training and capacity building:** For stakeholders to remove policy barriers, reduce information gaps, support better production practices, and increase awareness of biodiversity for sustainable commodities, training and capacity building at multiple scales and across sectors are essential.
- **Impact assessment:** Evaluating the impact of sustainability standards requires an approach that encompasses the variability in farming systems and contexts and provides methodological rigor). The BACP M&E framework assessed both biodiversity and market impacts, and grantees have generated replicable methodologies in palm oil, soy, and cocoa.

Recommendations

Reaching the full potential of voluntary sustainability standards requires targeted interventions and investments that generate robust evidence of impact at multiple scales and that drive market demand while removing barriers to sustainable production. Value chain stakeholders can build on insights from BACP-funded projects in seven major ways:

1. **Focus on landscape-scale impacts.** Voluntary sustainability standards are, at present, focused on farm-scale BMPs rather than landscape-scale changes that are central to biodiversity conservation (e.g., habitat fragmentation). Key actions include adapting existing tools to assess impacts at multiple scales in commodity landscapes and building mechanisms for coordination among landscape decision makers.
2. **Increase capacity of commodity roundtables and multi-sector platforms.** Multi-stakeholder partnerships represent an important model for forging agreement among market and civil society actors (eg, defining BMPs). Key actions include uptake of robust methodologies and indicators by standard-setting bodies for linking biodiversity and social impact with market transformation, strengthening partnership models across sectors, and expanding support for commodity roundtable technical working groups.
3. **Continuously improve processes for setting and monitoring standards.** The great variety among producers, landscapes, and value chains challenges uniform application of certification standards and M&E frameworks, yet these are essential for credibility and increasing demand for certified products. Key actions include shifting standards toward compulsory requirements, harmonizing M&E across standard-setting bodies, and cross-commodity and cross-region investments to achieve more systematic impact assessment.
4. **Pursue supportive government policies.** Policy and legal barriers stymy BMP adoption. Key actions include mobilizing policy makers to reduce perverse incentives, maintaining open communication between international and national standard-setting bodies, and building capacity within regional and national governments for spatial planning, rural advisory services, and regulations.
5. **Recognize the central role of smallholders.** For certification systems to expand beyond higher-performing producers, capacity building and financing models are needed to enable smallholders to adopt BMPs. Key actions include expanding programs delivered by roundtables and governments and documenting the full suite of incentives relevant to smallholders in specific commodity landscapes (e.g. price, preferred access, tenure).
6. **Build market demand across value chains.** Market transformation relies on credibility of standards through proven impacts on sustainability, including biodiversity conservation. Key actions include improving communication about VSS impacts to consumers and mainstreaming effective HCV monitoring tools into normal business operations.
7. **Adopt new financial models.** To cover costs associated with BMP adoption, many types of producers will need access to new financial arrangements. Key actions include developing the investment case for financial institutions (i.e. to innovate new products or to incorporate sustainability concerns in their lending programs), testing which value chain actors have incentives and capacities to deliver needed financial services, and refining full-cost estimation of certification.

Increasing awareness, support, and adoption of biodiversity-friendly BMPs across agricultural commodity value chains represents an important mechanism for conserving biodiversity globally. By focusing on biodiversity as an essential dimension of sustainability, agricultural value chain actors can more comprehensively account for and manage the complex and interconnected challenges they face.

Cocoa (theobroma cacao) plant. Photo by Luisovalles on Flickr. Available via Creative Commons license 3.0.

1. Introduction

Agriculture is the largest industry and most dominant form of land management on the planet. The adoption of resource-intensive production methods and expansion onto native habitats, particularly for agricultural commodities, is exerting a substantial strain on the world's biological diversity at all levels – ecosystems, species, and gene pools. In recent years, agricultural landscapes have been recognized as both important providers and recipients of biodiversity and ecosystem services, vital to human well-being. Biological diversity underpins the supply of numerous ecosystem services and can be understood as a key indicator for both sustainable agricultural production and livelihoods.

Though these concepts are now better understood, agricultural production systems vary tremendously in scale, market power, and capacity to adopt better management practices that would improve biodiversity. In recent years, voluntary sustainability standards and initiatives have arisen as formidable market-based mechanisms for mainstreaming biodiversity in the production landscape [7]. However, the ability of these production systems to respond to the stimuli of voluntary sustainability standards depends on a range of factors.

Initiated in 2007, the Biodiversity and Agricultural Commodities Program (BACP) was designed by the International Finance Corporation (IFC) and partners as a ten-year, two-phase program and grant facility targeting three major groups of market actors – producers, traders and purchasers, and financial institutions – "to reduce, in an innovative and large-scale manner, the threats posed by agriculture to biodiversity of global significance." Working with these market actors, the BACP sought to create an enabling environment that generates incentives for greater supply, demand, and financing of biodiversity-friendly agricultural commodities, moving them from niche markets to mainstream.

Incentivizing biodiversity-friendly better management practices (BMPs) can significantly limit threats posed by agricultural production and help generate co-benefits that enhance the sustainability of production. BMPs encompass a broad range of environmental, social, and labor practices that allow companies and smallholders to optimize resource and input use efficiency, reduce waste and agro-chemical use, manage high conservation value areas, secure market access and reduce the risk of adverse relationships with local stakeholders. The adoption of BMPs by industry players, both plantations and smallholders, can be seen as one of the primary mechanisms to significantly limit biodiversity threats posed by production through a

Figure 1. Sustainable commodity production requires an understanding of the interaction between land under intensive cultivation and the areas surrounding it

reduction of impacts on ecosystems and communities; however, these BMPs continue to face manifold barriers to adoption.

This paper explores the challenges and opportunities of agricultural value chain initiatives to support biodiversity-friendly production, drawing on the five years of experience gained by BACP project implementation working through multi-stakeholder voluntary sustainability standards in soy, palm oil, and cocoa. It reviews the primary objectives of the BACP and similar value chain initiatives for improving supply, demand, financing, and the enabling environment for sustainably-produced agricultural commodities as well as emerging themes including land use planning and high conservation value (HCV) area management, working with smallholders, impact assessment, and training and capacity building. Insights from BACP components and themes are distilled to provide guidance for industry stakeholders, development practitioners, and donors who seek to improve agricultural value chain initiatives.

Cocoa awaiting pickup in Ghana.

2. Sustainability in Agricultural Value Chains

Role of voluntary sustainability standards

How do voluntary standards promote sustainability? Major changes in value chains require altering of the mix of risks, incentives and capabilities of influential market actors. Changes in the production end of value chains can result from shifts in markets (e.g., supply, demand, access) and policies (e.g., regulations, land use policy) as well deliberate interventions targeting specific market actors or institutions [4;6]. Over recent decades, a variety of voluntary sustainability certification schemes have emerged in a number of agricultural commodity value chains. These schemes are designed to increase the sustainability of agricultural production by creating shifts in consumer demand toward safer, more environmentally responsible products, while also mitigating risks faced by major distributors and retailers and incentivizing producers to change their practices in exchange for better prices or market access [6]. In essence, sustainability certification schemes attempt to internalize negative environmental or social externalities of agricultural production through voluntary market action [2].

Commonly established as non-profit organizations, sustainability certification schemes create mechanisms for standard-setting, compliance with standards, market branding, and independent verification and also establish rules regarding the set of stakeholders who participate and how audits and accreditation will be undertaken [8]. The foundation of a certification scheme is development of a rigorous standard that specifies how certified products will meet environmental or social objectives. Commonly in the form of agreed Principles and Criteria (P&C), standards provide farm-level production guidance and performance indicators that can range from generic to specific [2].

Box 1. List of RSPO Principles (2013)

1. Commitment to Transparency
2. Compliance with applicable laws and regulations
3. Commitment to long-term economic and financial viability
4. Use of appropriate best practices by growers and millers
5. Environmental responsibility and conservation of natural resources and biodiversity
6. Responsible consideration of employees, and of individuals and communities affected by growers and mills
7. Responsible development of new plantings
8. Commitment to continuous improvement in key areas of activity

Farmers who seek to sell their product under a sustainability standard will need to demonstrate compliance with specifications. Supporting information systems must be created to transfer evidence of compliance (i.e., traceability) across the value chain [2]. Certification schemes rely on effectively communicating to large numbers of consumers about the sustainability attributes of the certified product. 'Eco-labels' enable consumers to select more sustainable products, in some cases, for a higher retail price. Third-party auditing of standard compliance at all relevant points in the commodity value chain is a key feature of establishing the legitimacy of voluntary sustainability standards and thereby achieving risk reduction for participating market actors [2].

Over the last decade, a number of certification schemes have emerged through multi-stakeholder commodity roundtables, which bring together market and civil society actors to agree on sustainability standards for specific agricultural commodities [6]. With emphasis on a range of sustainability concerns

Figure 2. List of value chain actors (not exhaustive)

Box 2. Agricultural Value Chains

Agricultural commodity value chains commonly span regional or global networks and encompass the diverse set of activities, actors (see Figure 2) and infrastructure involved in commodity production, transport, processing, marketing and consumption [2].

The number and type of enterprises playing these roles varies dramatically with important implications for the types of risks and opportunities they face [2; 6, 9]. For example, regional production may be dominated by numerous smallholder farmers, who are geographically dispersed and have marginal market power, or by a few large estates, which can exert significant influence on market conditions. Distribution and retail functions may operate through complicated networks or through a few market-dominating companies, which have both significant power and reputational and operational risk [6]. To varying degrees in different value chains, local, national, and regional governments as well as civil society actors, such as NGOs, research institutes, and commodity roundtables, can significantly shape the activities of market actors [6].

but particular focus on environmental threats, these roundtables serve as platforms for defining, promoting, and updating agricultural better management practices for commodities such as palm oil, soy, sugar, and cotton [8].

How have sustainability standards entered agricultural commodity value chains over time? A number of factors have driven the growth of value chain sustainability initiatives [8]. Concerns about food safety (e.g., pesticide residues and other contaminants), humanitarian issues (e.g., child labor, animal welfare), and environmental degradation (eg, habitat destruction, over-harvesting) have become increasingly visible, especially among consumers in developed nations. This has translated into reputational risks for major agribusinesses, which in recent decades have accrued benefits from greater freedom of movement and market control internationally, but have also begun to experience operational risks in key sourcing areas where civil unrest, resource scarcity, and climatic changes threaten continuous high quality product supply [3]. Increasingly, these are seen as core business concerns, rather than simple corporate social responsibility and companies' risk management strategies are expanding to encompass primary production [2]. Aspirations that national and international policy solutions would be found for major social and environmental issues have not materialized and, at the same time, international trade agreements have grown in importance, precluding national level action on environmental protection or social justice where this can be seen to have a trade-distorting effect [1].

Figure 3. Some examples of certification labels from the Ecolabel Index

Collaboration among companies, environmental groups and global donors has helped to catalyze a transition from niche to mainstream with significant growth of certified commodities, which now represent billions of dollars in annual trade value [7; 8]. Certification schemes have proliferated – in 2011, the Ecolabel Index included more than 425 labels in 246 countries and 25 industrial sectors – and new networks (e.g., ISEAL Alliance; Sustainable Agriculture Network) have been established to increase their market legitimacy and influence [6; 8]. Hopes for establishing certification as a condition for market access have not yet been achieved, perhaps due to inadequate 'gate-keeping' functions in value chains.

Strengths and challenges of voluntary sustainability standards

What are the major strengths of sustainability certification approaches? Certification schemes provide a structured mechanism for voluntary action by the market actors whose value chain practices create social and environmental harms (7) and sus-

tainability labeling has become a widespread tool for increasing consumer awareness and demand for more sustainable products [8]. Notable strengths of VSS approaches include:

- Rules for standard-setting processes have broadened the range of market and civil society actors who participate, presumably resulting in more widely acceptable standards [7].
- Commodity roundtables and other certification platforms have facilitated shared problem-solving with regard to defining and promoting agricultural better management practices and the principle of continuous improvement has, where effectively applied, allowed new scientific and technological advances to inform development of updated standards [8].
- Many certification schemes establish technical assistance for producer groups who would otherwise not receive tools or advisory services [8].
- Independent monitoring and enforcement of certification standards has been improving based on early experience and growing acceptance of the need for transparency and legitimacy [7]. Review of evidence for the effects of certification standards suggests that, despite high variability in monitoring methods, there is a generally solid foundation for asserting improvements at farm-level in terms of change in practices and increased sustainability metrics [8].

What are the major challenges faced by sustainability certification schemes? Experience over the last two decades indicates that achieving the full potential of voluntary sustainability certification schemes and creating effective, enduring programs with broad reach across agricultural value chains will be a very complex undertaking that requires strategically targeted interventions and investments [1; 8].

- **Evidence gaps.** A number of challenges can be encountered in the standard-setting process including inadequately robust or widely accepted scientific evidence for defining better management practices that are appropriate to diverse agricultural contexts as well as downward pressure on sustainability criteria in order to access mainstream markets [7]. Finalized standards are the outcome of highly negotiated processes that accommodate a wide array of technical and financial considerations [8; 9].
- **High variability.** Promoting compliance with certification standards requires navigating highly variable production regions with idiosyncratic environmental conditions, governance systems, market players, and social and institutional arrangements, while also managing information gaps and limited ability to enforce compliance with rigorous standards [1; 4; 6; 8]. Establishing a dedicated chain of custody and traceability mechanisms from primary production to retail [2] and adapting to rival certification programs can add to the challenge.
- **Smallholder capacity.** Where smallholder farmers are a major part of a value chain's production base, certification schemes will need to build awareness, incentives, and technical and financial capacity for compliance with standards [4].
- **Impact at landscape scale.** The scientific community has uncovered important multi-scale effects in agricultural commodity landscapes that challenge the notion that changes in farm-level practices will lead to meaningful improvements in agricultural sustainability without counterpart efforts to promote heterogeneous agricultural

An orangutan in Sumatra, Indonesia. Photo by Krista Heiner.

landscapes [1]. Notably, some standard-setting processes are beginning to explore adding geospatial criteria (e.g., excluding production in High Conservation Value areas).

In order for certification to become a requirement for access to commodity markets, a mass change in consumer behavior – in some cases including willingness to pay higher prices– is needed, yet a clear understanding of how this can be achieved is lacking [8].

- **Weak consumer signals.** Consumer pressure more commonly stimulates value chains to focus on timeliness and quality rather than sustainability attributes of agricultural products [1].
- **Oversupply.** Currently, chronic oversupply has led to a situation in which more than half of standard-compliant product is not actually sold under a sustainability label and this weak potential for price premiums inhibits producers from incurring costs of compliance and reduces the possibility that certification schemes will help to alleviate poverty in commodity-producing regions [2; 7].

Verification systems are essential given that certification schemes must simultaneously boost standard compliance by producers and demand by consumers, these programs are at risk of 'over-selling' the sustainability attributes of certified products [7]. However, there are significant challenges to documenting that sustainability outcomes have occurred at farm- and landscape-scale, that these outcomes can be attributed to compliance with standards, and that these outcomes will endure over time [8], specifically:

- **Monitoring.** Variable monitoring methods among certification schemes inhibit systematic impact analysis for different commodities and regions [2; 6].
- **Social and environmental impacts.** While certification program databases commonly have high internal consistency, both in terms of monitoring methodology and the changes in production practices that are monitored, data on social impacts (e.g., living and working conditions; land tenure) and off-farm environmental outcomes tend to be less robust than data on producer participation rates and market share of certified products [8]. Weak evidence for social and environmental impacts reduces the market legitimacy of certification standards as well as the ability to learn from experience and continuously improve the standards [6].

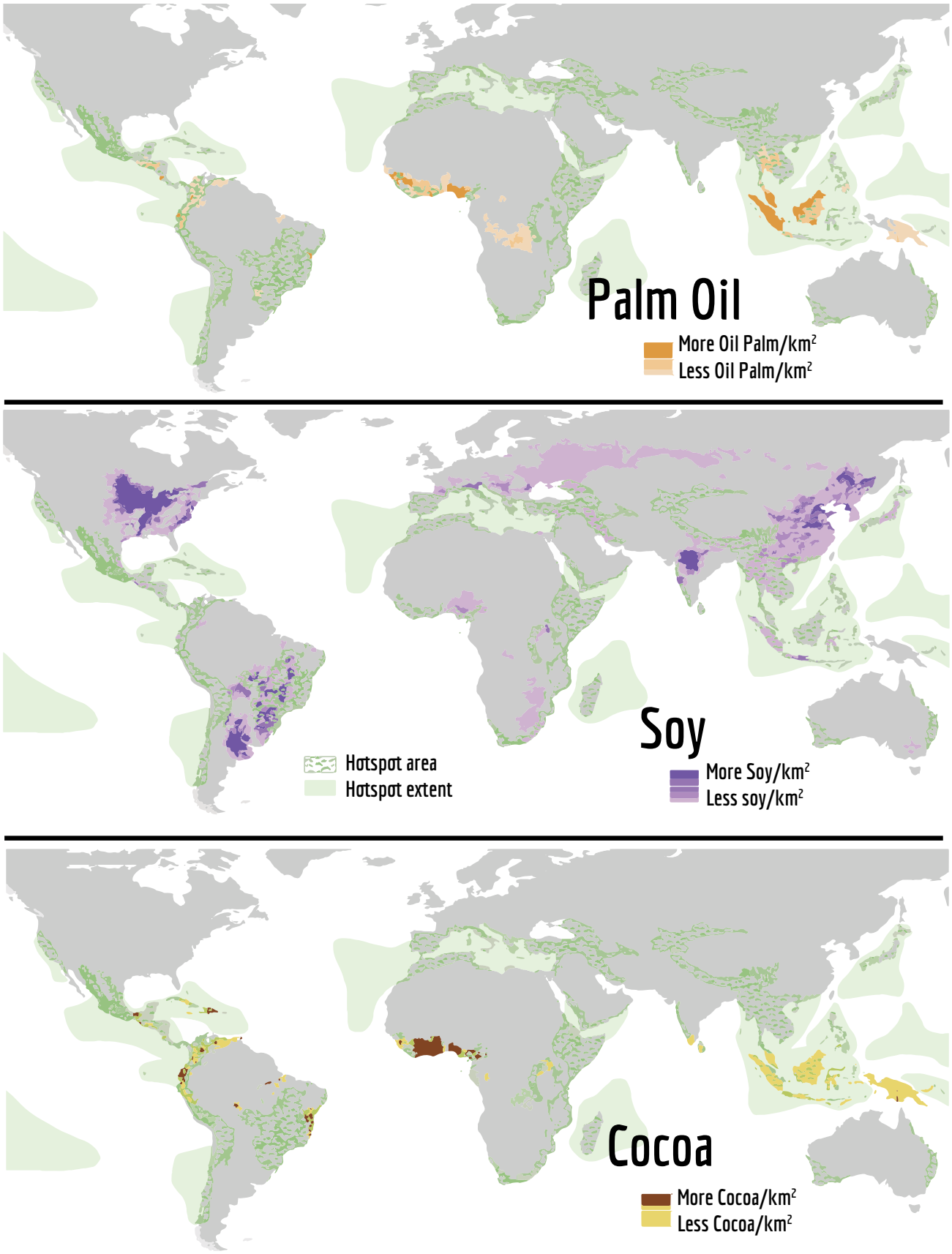
Box 3. Transforming the palm oil, soy and cocoa sectors

In palm oil, the MTS focused on Indonesia and Malaysia, the two primary producing regions globally for palm oil. It relied on close cooperation with the industry-led, multi-stakeholder Roundtable on Sustainable Palm Oil (RSPO) both to influence actors engaged in sustainability measures throughout the value chain and to integrate biodiversity protection into the Principles and Criteria (P&C) for certification under the RSPO standard. The palm oil MTS emphasized delineation of High Conservation Value (HCV) areas, protection of natural habitat, P&C definitions, policy dialogues, smallholder support, testing BMPs, and traceability mechanisms, and noted key information gaps for the potential of financial institutions and tools to support BACP goals and for the multi-scale policy environment for palm oil.

In soy, the MTS focused on Brazil, as the world's second largest producer and home to biodiversity of global significance. It relied on close cooperation with the industry-led, multi-stakeholder Roundtable on Responsible Soy (RTRS) both to influence actors engaged in sustainability measures throughout the value chain and to integrate biodiversity protection into the Principles and Criteria (P&C) for certification under the RTRS standard. The soy MTS emphasized legal frameworks, enforcement mechanisms, natural habitats, land use reporting, scaling up BMPs, RTRS compliance, value chain and soy consumer analysis, biodiversity indicators, and financial products.

In cocoa, the MTS focused on shade, agroforestry, and integrated pest management practices to protect forest habitats in Côte d'Ivoire, Ghana, Indonesia, and Brazil, which together represent 85% of global production of cocoa and also overlap with biodiversity hotpots. The MTS emphasized engagement with private sector actors committed to sustainability certification of their value chains and the World Cocoa Foundation (WCF) as a platform for industry-endorsed criteria for sustainable cocoa production. The strategy emphasized defining biodiversity-friendly production and increasing supply of biodiversity-friendly cocoa, and noted an information gap for finance needs related to biodiversity-friendly cocoa production.

Figure 4. Cocoa, palm oil, and soy production & biodiversity hotspots. The maps show the significant overlap between areas of high production in these three commodities and biodiversity of global significance



Monfreda et al. (2008), "Farming the planet: 2. Geographic distribution of crop areas, yields, physiological types, and net primary production in the year 2000, Conservation International (2011) "Biodiversity Hotspots." Maps by Louise Willemen/EcoAgriculture Partners and Cornell University.

3. Activities and Outputs of BACP

With a central objective of mainstreaming biodiversity preservation opportunities through voluntary sustainability standards, BACP was initiated in 2007 as a ten-year, two-phase grant facility designed to preserve global genetic species and ecosystem diversity within agricultural production landscapes. Production areas for some major agricultural commodities overlap with areas of globally significant biodiversity and. BACP grant-making focused on such areas in pursuit of market transformation to sustainability for the palm oil, soy, and cocoa sectors.

By working closely with industry players to transform agricultural commodity markets, BACP sought to remove barriers to adoption – such as information gaps, low replicability, risk aversion, and legal structures – of better management practices (BMPs) that can reduce the impacts of production on biodiversity. Though the primary focus of the BACP grants portfolio was on biodiversity conservation, over the course of the first phase of the program it became clear that this objective was strongly linked to a broader range of interventions associated with effective agricultural commodity standards.

Based on an analysis of internationally traded commodities and biodiversity hotspots and potential for reduction of impacts on biodiversity, palm oil, soy, and cocoa were identified as the priority commodities for BACP. Target countries included Indonesia, Ghana and Cote d'Ivoire (palm oil, cocoa), Malaysia, Liberia and Cameroon (palm oil), Brazil (soy, cocoa, palm oil and sugarcane), and Argentina (soy). Commodity roundtables for palm oil and soy, along with industry groups such as World Cocoa Foundation were major entry points for BACP to strengthen biodiversity-related industry decisions on environmental performance targets and BMP definitions and to promote continuous improvement and uptake of new practices or technologies.

Targeting three major groups of market actors – producers, traders and purchasers, and financial institutions – BACP aimed to create an enabling environment that generates incentives for greater supply, demand, and financing of biodiversity-friendly agricultural commodities. Commodity-specific Market Transformation Strategies (MTSs) guided grant-making to private sector, NGO, and other partners. Activities under each MTS were specified under four major program Components: (1) enabling environment for BMPs; (2) better production via site-specific projects; (3) increased demand for biodiversity-friendly products; and (4) supportive financial services. Monitoring and evaluation was an additional program component. Insights were gathered from across the three priority commodities for four cross-cutting themes: land use and high conservation value planning, working with smallholders, training and capacity building, and impact assessment (see Boxes 3-6). The following sections highlight the key takeaways from these component and thematic areas.

Enabling environment

A strong enabling environment is critical to the integration of cost-effective biodiversity preservation opportunities at all levels of the value chain in voluntary sustainability standards. This enabling environment includes effective international multi-stakeholder commodity dialogues and supportive government policies.

In the design phase of BACP, program managers anticipated that increasing global demand for palm oil and soy, for biofuels, and other uses, would create incentives for producers to clear native land for expansion of cultivation and to intensify production through increased use of agrochemicals. In the absence of solid biophysical information, it would be difficult to protect biodiversity-rich areas from agricultural expansion. One of the top priorities for BACP, therefore, was to improve data resources (e.g., spatial maps; biodiversity assessments) that would facilitate a national or regional consensus on delineation of High Conservation Value (HCV) areas, and to strengthen legal frameworks, enforcement mechanisms, and compliance capacity for protection of biodiversity within production systems.

For example, in Indonesia, there are currently no regulations in place to recognize HCV areas once land has been released from the publically owned 'forest estate'. Neither government authorities nor palm oil companies are legally obliged to protect these areas and, in fact, companies must develop these areas after

receiving a concession in order to prevent them from being excised by government and sold as part of another concession. Available maps were too coarse to accurately show HCV areas outside of the forest estate and in production areas. For these reasons, BACP supported several projects on landscape-level HCV assessment.

World Resources Institute's (WRI) Forests and Landscapes project in Indonesia (formerly known as Project POTICO), was supported in order to provide palm oil companies with the spatial data for suitable areas of degraded land, thereby providing alternative sites for establishing oil palm plantations and mitigating the incentive to clear rainforests. WRI created the Forest Cover Analyzer and Suitability Mapper toolsets to enable users to assess forest cover change, environmental risks, and potentially suitable sites for sustainable palm oil production in Kalimantan and Papua, Indonesia. Concurrently, the POTICO team developed a legal "how-to" guide targeted to stakeholders willing to work towards the eventual goal of swapping concessions in high conservation value forests with degraded land. Through addressing multiple entry points concurrently, these two streams of work have built a foundation for companies and regional and national governments to protect HCV areas, however successful land swaps have not yet been implemented.

Flora and Fauna International (FFI) worked in West Kalimantan, Indonesia to introduce companies and district-level government officials to the RSPO certification and HCV assessment processes. By working with these stakeholders in providing technical expertise and training in spatial analysis to their spatial planning processes, FFI was able to identify HCV forest and degraded areas fit for palm oil cultivation in three critical districts in West Kalimantan. FFI, in coordination with producer PT Cipta Usaha Sejati Ltd (PT CUS) and other partners, was also able to lobby local, district, and national level government in revising the spatial planning for the Ketapang and Kapuas Hulu Districts in order to ensure designation of HCV areas. FFI found that in providing technical training to private and public sector officials in data collection and spatial analysis, they developed a more robust understanding and appreciation of the importance of conservation. Through FFI recommendations, over 200,000 ha of HCV land were approved in the government spatial planning revision process. Based on training by FFI, three private sector partners have committed to conserving and appropriately managing approximately 27,000 ha of HCV forest adjacent to palm oil concessions and the Gurung Palung National Park. This project has generated both the data and buy-in needed by stakeholders in order to monitor and enforce High Conservation Value areas both within production systems and at a district or landscape scale.

Remnant habitats within the fragmented landscapes dominated by soy, other crops, and pasture in Brazil provide a safe haven for native species and important corridors for species migration. BACP sponsored activities identified how particular landscapes and natural corridors contribute to the maintenance of biodiversity and prioritized areas for conservation and BMP implementation.

The Instituto de Pesquisa Ambiental da Amazonia (IPAM) conducted two major studies, with the help of one of Brazil's largest soy producers, Grupo Amaggi, on land use impacts of soy production on terrestrial and aquatic biodiversity in the headwaters of the Xingu River basin in northeastern Brazil. In the Xingu headwaters there is currently 60% forest cover. IPAM began by carrying out a biodiversity survey in private forest lands to identify species which inhabit the area, evaluate the current status of the wildlife population, and develop a demographic model to predict the viability of these populations in the future. They chose to focus on medium- to large-sized mammals as they are useful biodiversity indicators with popular appeal. Out of this research, IPAM produced land use maps showing habitat characterization, potential habitat, agricultural suitability, biodiversity potential and conservation risk as well as future regional scenarios and a mammal footprint pocket field guide. These studies suggested that indicator species that inhabit the region have the potential to remain viable if regional landscape patterns and composition do not change. In order to achieve this, project leaders concluded that there would need to be robust agreement at a regional level among committed stakeholders, as a decision to clear land on even one property could disrupt the carrying capacity of the land for biodiversity.

Additionally, IPAM produced recommendations for on-farm practices that could improve and protect habitat for a variety of species as well as implement

a large-scale biodiversity monitoring initiative on farms participating in the Registry of Social-Environmental Responsibility. This included the development of a pesticide database for smallholders and companies that are trying to reduce their environmental footprint and properly handle pesticides. Results from concurrent surveys by project partners at the Universidade de São Paulo showed that intensification of soybean production has led to a strong increase in the overall toxicity for freshwater organisms, even where producers use pesticides that are considered less harmful to human and ecosystem health. These studies imply an even greater need for protection of riparian areas. With the inclusion of IPAM on the Executive Board of RTRS, there is a pathway to take this data on biodiversity within soy production systems and disseminate the results of the work with decision makers in the sector.

BACP grantees such as WRI, FFI, and IPAM took concrete steps to increase the amount and accessibility of information for regional and national consensus building around protecting biodiversity-rich areas at risk from agricultural expansion.

These steps were complemented by efforts to direct agriculture to more appropriate sites (e.g., degraded lands) by providing necessary spatial data and by development of technical resources (e.g., context-specific field and how-to guides), training programs (e.g., in spatial planning), and systems for ongoing data-gathering (e.g., monitoring by registry participants).

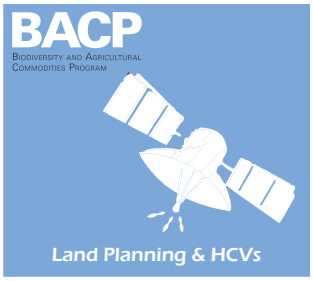
Better production

Biodiversity-friendly production practices lack standard definitions, and their benefits are not widely understood by industry stakeholders. These practices may be related to land use (e.g. set-asides that result in the creation of wildlife corridors) to reduce expansion, to input use (e.g. agrochemical usage) in order to intensify production.

The central assumptions underpinning BACP were that the main biodiversity impacts of palm oil and soy production relate to production practices, especially those due to expansion into natural habitat. Though some studies had been done on biodiversity in cocoa agroforests, data had not yet been systematically

Figure 5. These HCV areas would be much more effective at conserving biodiversity if they were connected to critical river habitat and other HCV areas with habitat corridors. A protected buffer on either side of the river would provide this critical space and a variety of other benefits.

Box 4. **Managing High Conservation Values: Lessons from ZSL and Wilmar**



In order to prevent the expansion of commodity agriculture into existing natural habitat and to ensure that areas of significant biodiversity are preserved, appropriate management of areas with high conservation values is essential. The projects that looked at HCV areas within the BACP portfolio were concentrated in areas of high biodiversity; the tropical forests of Indonesia, Parà and Matto Grosso provinces of Brazil, and the lowland Guinean forest. In 2007, many of these areas had not had landscape-scale HCV assessments. In the palm oil sector in Indonesia, recent devolution of spatial planning processes had given district governments requirements they weren't fully capable of implementing. In the cocoa sector, many smallholders were unclear about farm size and the varieties of tree species within their plots. In the soy sector, a lack of quality HCV data gathering by producers and government has made monitoring the new forest law and HCV requirements extremely difficult.

Furthermore, in many areas for which spatial information is available, these data are inaccessible to practitioners and the plantation managers and producers who have access likely do not have the requisite technical assistance or capacity to undertake spatial planning and biodiversity conservation. Many frontrunner companies who have managed to map concessions lack the capacity to monitor and manage HCV areas once they are mapped.

The Zoological Society of London (ZSL) created the HCV Threat Monitoring System as a low-cost, user-friendly tool to address some of the challenges faced by the private sector in monitoring and managing HCV areas that fall under their concessions. They partnered with major palm oil companies Wilmar International and Société Internationale de Plantations et de Finance (SIPEF) to design, field test, and implement monitoring protocols, including Threat Assessment and Biodiversity Monitoring Using Camera Traps, in two plantation sites in Kalimantan and Sumatra that together contain 5,500 hectares of HCV area.

The protocol methods are relatively simple to implement, enabling plantation sustainability and patrol teams to collect high quality data with limited budgets and technical capacity. The HCV monitoring protocol and accompanying software program, facilitates storage, analysis, and reporting of the data. By building on Wilmar's commitment to reduce impacts on biodiversity, the project positioned itself to develop practical and appropriate tools, and effectively promote sustainability.

ZSL has since been working to replicate this system with companies interested in implementing the protocol and adaptive management practices in their concessions, as it can be adapted to almost any production landscape context and is designed to fit current company structures and reporting. Currently, ZSL is partnering with companies to increase uptake of this protocol in Indonesia, Malaysia, and West Africa. ZSL is also looking to broaden the scope of monitoring to include the more complicated HCVs 5 and 6, which focus on community needs and cultural values, develop training courses for HCV assessors and auditors and "training of trainers' for companies to utilize across concessions, and develop standardized reporting frameworks with retailers and suppliers, among other activities. This work is complemented by ZSL's online Sustainable Palm oil Platform , containing a host of resources for producers.

Instituto Centro de Vida (ICV) created an innovative collaborative monitoring tool, which after pilot testing will be used to propose a strengthened definition of the biodiversity criteria in RTRS certification schemes. This tool utilizes free online platforms to enable multi-user access to information about priority areas for conservation in Matto Grosso's Cerrado savannah. The platform is focused on remote data collection using mobile phones of HCV areas.

criteria for sustainable cocoa production. The strategy emphasized defining biodiversity-friendly production and increasing supply of biodiversity-friendly cocoa, and noted an information gap for finance needs related to biodiversity-friendly cocoa production.

Carbon-rich peat swamp in West Kalimantan, Indonesia.

collected by the private sector at scale. Low awareness of BMPs among traditional farmers can be supported through outreach, toolkits, and trainings focused on improving understanding about the financial costs and benefits of BMP adoption. Therefore, BACP sought to: 1) define biodiversity-friendly practices, and 2) develop, test, and scale up adoption of practices through HCV assessment, smallholder support, and biodiversity training.

Through BACP, international cocoa trader Armajaro partnered with the research organization Bioversity International and spatial data collector GeoTraceability to better define biodiversity-friendly practices on cocoa farms. This partnership led to the development of a rapid biodiversity assessment methodology, subsequent analysis of over 10,000 farms in Ghana, and a comprehensive report on biodiversity on cocoa plantations. This analysis improved understanding of the condition of cocoa farms relative to indicators such as number and composition of non-cocoa trees on farm, shade levels and landscape diversity and provided data at the scale needed to truly understand the effects of biodiversity-friendly practices. Moving forward, Armajaro can monitor and evaluate the effects of certification and cocoa production on biodiversity in order to better understand the effectiveness of BMPs.

To scale up BMPs in the soy sector, Aliança da Terra (AT) was awarded a grant to expand its voluntary Registry on Social-Environmental Responsibility (RSR) to 199 rural properties. The RSR provides farmers with a baseline assessment of their performance against key sustainability criteria, which are then used to identify priority areas for annual improvement. AT focuses on more easily attainable "pre-certification" criteria, which are less rigorous than the RTRS standard, but also provides assistance to producers that choose to move towards compliance with RTRS certification. Using this model, AT members produce over 120,000 tons of RTRS certified soy, with 2.1 million tons of soybeans closer to international certification. As a result of BACP support of AT's RSR registry, five of these properties covering 96,586 hectares have gone on to

Box 5. Working with Smallholders: Lessons from Solidaridad

Given their large contribution to supplying global commodities, the certification of smallholder farmers is particularly important in work to transform commodity markets toward more biodiversity-friendly production. Globally, smallholders represent over 90% of cocoa, 30% of palm oil, and 16% of soy production. With a significant portion of this production taking place in biodiversity-rich areas of tropical developing nations (lowland Guinean forests of West Africa, lowland rainforests of Indonesia and Malaysia, Cerrado woodland-savannah and Amazon biomes of Brazil), inclusion of smallholders in sustainable value chains has the potential to contribute to improved land use, poverty reduction, and associated benefits for biodiversity.

Solidaridad's work with smallholders in the soy sector in the Parana state of Brazil began in 2008. The municipality of Capanema is enclosed to the west by the Argentinean border and to the north by the Iguaçu Falls National Park. Due to its location, smallholders face challenges and opportunities in balancing the social, environmental, and economic concerns associated with producing a profitable soy crop in a sensitive, high-biodiversity area (the Atlantic Rainforest). Solidaridad's worked to increase smallholders' compliance with the RTRS standard (a first in the Brazilian context) in order to generate an incentive for sustainable land management.

In partnership with local trader/crusher of organic soy Gebana, Solidaridad generated a "smallholder self-assessment toolkit, which enables farmers to quickly identify areas for improved social and environmental management. Economic, social, and environmental sections ask users to assess their farm's sustainability as one of four levels and pose straightforward (i.e., yes or no) questions. The set of responses is converted into farm-specific recommendations. Data collected from each toolkit is subsequently aggregated by Solidaridad for collective benchmarking. Thus, after completing the self-assessment stage, Solidaridad was able to identify the gaps in knowledge of the farmers and tailor trainings accordingly.

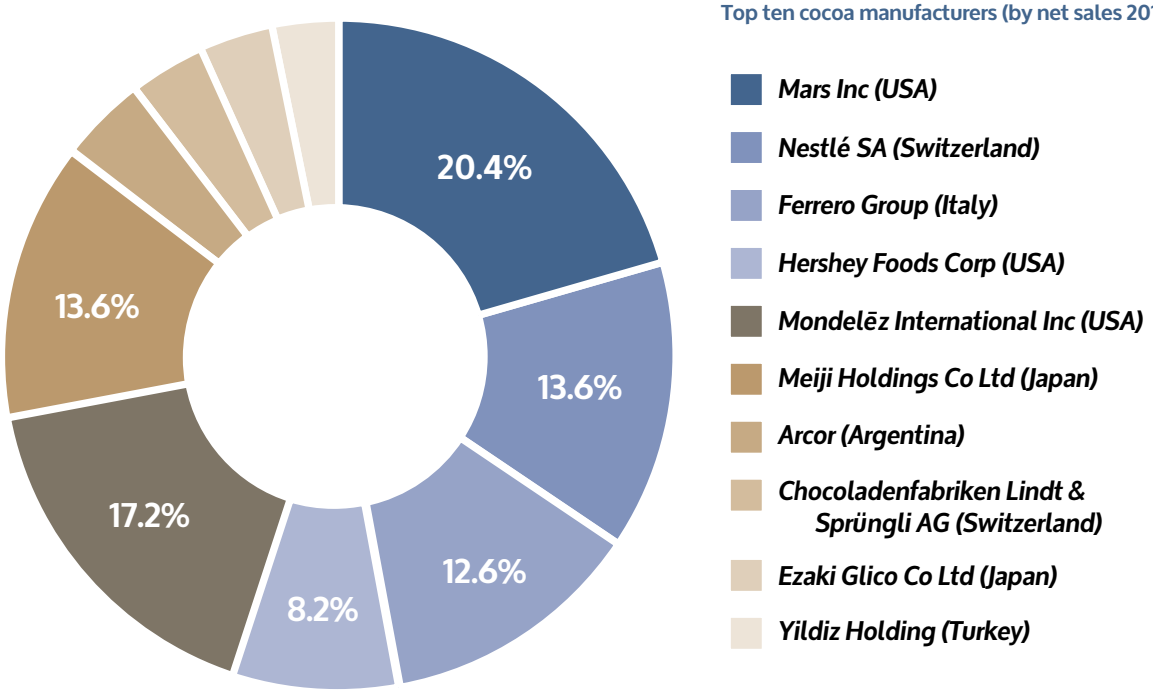
This tool is being replicated not just among other soy producers they work with, but across sectors. Solidaridad's Rural Horizon program is seeking to apply this set of tools with sugar cane producers in Brazil, Colombia, Paraguay, and Bolivia, and cotton producers in Brazil. The toolkit has already been applied as a gap assessment tool by larger companies (e.g. Raizen) in Brazil to identify risk and assess the performance of outgrowers (e.g. contract farmers) within their value chains in relation to major certification standards (eg Bonsucro).

Solidaridad's overall strategy was to use graduated compliance with criteria, moving stepwise annually towards full compliance with the RTRS standards, to avoid overwhelming smallholder farmers with an unreasonable burden in the inception year. Partnering with Gebana and eventually larger high-end international retailers provided a differentiated market with a price premium for the goods which producers were generating from the beginning of their participation. Solidaridad's work benefited over 1,000 producers in an area critical for biodiversity, with the eventual certification of 163 producers.

achieve RTRS certification. In total, RSR registered farms represent 35% of RTRS certified soy globally. The registry's environmental criteria now include biodiversity, due to the scoping efforts made possible through partnership with another BACP grantee, IPAM, and as a result, biodiversity data are now being collected on many of the RSR plantations. As the scale of data collection increases, understanding of the impacts of BMPs will improve.

In the palm oil sector, PanEco Foundation, in partnership with local NGO Yayasan Ecosistem Lestari, analyzed the profitability for smallholders through a pilot project in Aceh province of cultivation on degraded lands. PanEco's pilot project worked with smallholder farmers, providing technical assistance, setting up a credit union that helped enrolled farmers to manage recurring costs, and moved many towards organic certification. PanEco's report on Developing Palm-oil Production on Degraded Land analyzes the profitability of cultivating palm oil on degraded lands. The cost-revenue analysis recognizes a break-even point of seven years for the average smallholder, with an initial capital outlay of USD $3,140 per hectare. This pilot project represents an innovative way of looking at both smallholder and production on degraded lands. Many smallholders from the pilot are organic certified, and there

Figure 6. Companies highlighted in blue have committed to 100% certified sustainable production by 2020, showing the potential high demand for sustainable product in the cocoa sector



is discussion to build a special micro-milling plant. PanEco has also identified a few potential buyers for an eventually segregated product. Through remote sensing and on-the-ground investigation, PanEco has identified this model as scalable throughout the Aceh province, where 200,000 hectares may be suitable for such use. However doing so would require replicating the level of support that PanEco received, through partnering with local community associations, producer groups, district governments, and a grant facility like BACP.

BACP projects improved the foundation for scaling up adoption of biodiversity-friendly practices in the palm oil, soy, and cocoa sectors. A rapid assessment method enabled data-gathering at scale, which generated knowledge about key biodiversity indicators and BMPs. A producer registry provided a mechanism for establishing baselines and continuous improvement as well as a broad range of entry points for producers to adopt BMPs and for biodiversity criteria to be included in more sustainable soy production. Smallholder palm oil production on degraded lands was promoted by delivering technical and financial support while evaluating financial viability and exploring ways to improve market access.

Increased demand for biodiversity-friendly products

Building demand for sustainably produced commodities – from traders, off-takers, processors, and other purchasers – relies on the credibility of voluntary sustainability standards, which requires effective inclusion of biodiversity criteria.

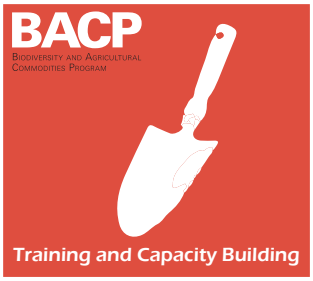
When BACP was initiated, one of the key issues faced by the commodity roundtables was the lack of understanding of how to implement biodiversity related standards. BACP, therefore, sought to build the capacity of the roundtables and standards bodies (and their multi-stakeholder bases) through supporting implementers who were researching, demonstrating, and documenting data sources for measuring biodiversity values. This was critical to ensure institutional commitments to biodiversity-friendly production were met, and that the credibility of certification standards was maintained.

The RSPO Secretariat received support from BACP to implement the biodiversity conservation agenda. RSPO created the Biodiversity Technical Committee (BTC) in 2008, whose main purpose was to ensure that that the P&C adequately address biodiversity conservation in and around plantation landscapes. The criteria are, in theory, applicable at

a global level, and seek to incorporate biodiversity considerations into relevant national implementation. The Secretariat concurrently hired a biodiversity coordinator through BACP support, and the BTC eventually evolved into the Biodiversity and High Conservation Values Working Group (BHCV WG), and has spawned the Compensation Task Force (focused on excluding primary forest from concessions), and Indonesia HCV Task Force. The BHCV WG has provided recommendations to the 2013 revision of the P&C that led to the inclusion of mandatory HCV assessments that includes both on farm and relevant wider landscape-level considerations (such as wildlife corridors). Participation in the BHCV WG by BACP supported NGOs such as ZSL (see Box 3), WRI, and FFI has been instrumental for providing critical technical evidence to support biodiversity criteria (through presentation of tools, reports, and lessons from field work in meetings) and has provided bilateral support to private sector partners in improving their assessment and monitoring capacity.

Rainforest Alliance (RA) in Indonesia added value to an existing model of cocoa certification by strengthening on-farm biodiversity criteria in its auditing and enforcement process. As the project was located in Sulawesi, Indonesia, on the border of a National Park, generating an understanding of the importance of protection of biodiversity with local and regional government, smallholders, and private sector partners was critical. RA used two significant tools for in-depth analysis of smallholder production systems in order to assess and plan for implementation of BMPs: its "Household Economy Approach"

Box 6. Training and Capacity Building: Lessons from Proforest



Training and capacity building is essential in order for stakeholders to remove policy barriers, reduce information gaps, support better production practices, and increase awareness of the importance of biodiversity for sustainable commodity production. As BACP was launched, knowledge among key stakeholders (district government, producers, etc.) of the importance of biodiversity and the implementation of biodiversity-friendly practices was still at an early stage.

BACP sought to refine the definition of biodiversity-friendly cocoa production, to build the evidence base for biodiversity-friendly soy production practices, and to increase awareness of the HCV concept to palm oil producers. Projects targeted a wide range of audiences, subjects, outcomes, and outputs. Virtually all trainings and workshops were part of a feedback loop resulting in (or serving as a dissemination mechanism for) toolkits, guides, and manuals, which were provided to encourage stakeholders to move towards biodiversity-friendly production, or the removal of barriers to such production.

Proforest's RSPO Roadshow in West and Central Africa and Brazil focused on production areas where the potential for palm oil expansion is high. Tailored to specific country settings, Proforest and partners initiated technical trainings for HCV assessors, lead auditors, and oil palm companies on the RSPO certification standard, free prior and informed consent (FPIC), high conservation values, and smallholder certification. Proforest produced a series of decision support tools (e.g. HCV toolkits, guidance on HCV management for smallholders, etc.) and information materials such as briefing notes that have been widely disseminated.

As a result of the RSPO Roadshow, over 470 key stakeholders have been trained, and awareness of and engagement with the principles of sustainable production and the RSPO has been built through attendees. These processes are continuing in most of the countries as local ownership in organizing the Roadshow events has ensured that there are qualified individuals or organizations with the relevant technical expertise to support this process and the industry. Such awareness is critical in generating the enabling conditions necessary for companies to be able to successfully pursue VSS, and helps create long-term sustainability of standards compliance through support of policy and key decision makers.

Conservation Alliance has trained over 2,000 cocoa farmers in the Bia Conservation Area of Ghana on BMPs, RA certification, and GAP analysis (comparison of actual vs. potential agricultural performance). Their work has led to potential partnerships with international buyers and local processors interested in sustainable cocoa.

(HEA) and "Natural Ecosystem Assessment" (NEA). The HEA methodology quantifies household assets, income streams, crop production, and food consumption to understand the drivers of poverty and vulnerability. These data clarify the opportunities and risks associated with cocoa intensification and provide sensitive indicators of changing livelihoods. The NEA surveys on-farm vegetation and the surrounding land use context to provide a sensitive set of fine-scale proxy indicators of a landscape's biodiversity value. This provides a framework by which RA can assist producers in incorporating BMPs and biodiversity conservation at the site level.

WCF developed CocoaMap, a global platform designed for sharing a set of common sustainability indicators including for biodiversity. World Cocoa Foundation (WCF), a multi-stakeholder platform in the cocoa sector, realized that though the sector has many standards, the data from very few have been aligned and aggregated to give a comprehensive view of impacts. The key performance indicators (KPIs) shared on CocoaMap were developed through an iterative, multi-stakeholder process that includes WCF member companies, national governments, international organizations, certification groups, development agencies, and others. The platform contains a set of standardized biodiversity-related KPIs that 12 major companies (e.g., Armajaro, ADM, Barry Callebaut, Cargill, Hershey, Mondelez, Mars, Nestle, Blommer, Ferrero, Ecom, and Olam) have committed to using. CocoaMap uses consensus-driven decision-making processes, which, while more time consuming than bilateral B2B processes would be, are important for engaging stakeholders throughout the value chain and building broad industry support for sustainability criteria. If launched successfully, CocoaMap will be a big step towards pre-competitive data sharing on high-level performance indicators.

BACP grant-making has bolstered the biodiversity conservation capacities of sustainability standard-setting bodies – particularly capacity for research and performance measurement – to ensure that the supply of certified soy, cocoa, and palm oil reflects biodiversity criteria. With assistance from BACP, the RSPO established effective internal mechanisms to better understand and

A gebana technician works with a smallholder soy producer in Brazil. Photo courtesy of gebana.

overcome the challenges related to implementing biodiversity protection and conservation in palm oil landscapes. Similar BACP investments in the soy roundtable helped to overcome barriers to the implementation of biodiversity criteria. In response to significant commitments from the demand side in the cocoa sector, BACP supported efforts to remove barriers to sustainable production of cocoa (including developing assessment and planning tools appropriate for smallholders), while promoting an industry accepted standard definition of biodiversity-friendly practices. These advances enable more sustainable production, leverage investment and on-the-ground change, and increase focus on key biodiversity impacts and, subsequently, should solidify the credibility of VSS, market demand, and commitment across value chains and among external stakeholders (producers, NGOs, investors, buyers, governments, and researchers).

Box 7. Impact Assessment

Over the last five years, agricultural sustainability standards have moved from niche to mainstream for key tropical commodities including cocoa, tea, and palm oil, with very rapid growth in trading volume for certified products. However, there has been little rigorous evaluation, especially for conservation impacts [5]. This requires an approach that is both broad (encompassing the variability across farming systems and contexts) and deep (providing methodological rigor). BACP sought to document the impact on biodiversity associated with producers' participation in agricultural certification systems through two pathways:

1. At a program level, BACP developed an overall M&E plan designed to assess both biodiversity and market impacts and the linkages between these in various production landscapes through project-level implementation (see Annex I). Under this plan, BACP assessed the adoption and replication of BMPs by value chain actors, the impact of these BMPs on biodiversity and communities within the targeted landscapes and commodities, and the extent to which targeted commodity markets were transformed through uptake by roundtable and third-party standards.
2. At the individual project level, BACP invested in developing new tools and systems to evaluate conservation impacts of sustainable production in the palm oil, soy, and cocoa sectors, at scales ranging from site to region. Successful development and promotion of credible, cost-effective M&E methods, that are practical for private sector actors and their biodiversity conservation partners to utilize on a widespread basis, varied across the targeted sectors.

BACP supported three types of projects focused on improving impact assessment for BMPs associated with certification standards within targeted commodity landscapes, including those designed to:

1. Increase adoption of BMPs, monitor impacts of practices on biodiversity, and evaluate larger-scale, longer-term impacts on species and habitat. In Brazil, field assessment of mammal species by IPAM was combined with remote sensing evaluations of land cover change to assess the future viability of keystone species in soybean-producing landscapes.
2. Achieve biodiversity impacts within specific agricultural production areas and confirm impacts across a broader landscape using relatively simple assessment methods. Rainforest Alliance developed a suite of field methods to evaluate certification outcomes for natural ecosystems, livelihoods, and farmer practices at the field level, and used these methods are used in concert to assess multiple dimensions of sustainability embedded in community-led processes and through implementation of the SAN Standard.
3. Achieve biodiversity impacts within specific agricultural production areas and confirm impacts across a broader landscape through rigorous evaluation that enables understanding of cross-scale interactions. In 2013, RSPO revised the P&C to improve effectiveness, remain up-to-date, and to increase focus on outcomes. A new RSPO unit, which will develop an M&E framework to comply with ISEAL membership, significantly strengthens impact assessment capabilities of the RSPO standard.

Supportive financial services

In order for producers to successfully implement BMPs, they need support by financial institutions, which in turn need evidence of the economic benefits of biodiversity-friendly production methods and practices. Financial services providers can integrate biodiversity concerns into their investment screening or develop financial instruments designed to help level the playing field for biodiversity-friendly practices.

At its inception, BACP sought to expand the role of financial institutions in reducing negative impacts of palm oil and soy on biodiversity , specifically, screening and reward practices that local financial intermediaries could use to ensure they were funding sustainable production. However, it was determined that further research was needed regarding the specific financial requirements associated with adoption of biodiversity-friendly practices. So, rather than engaging directly with FIs, BACP-funded projects focused mainly on testing and developing financial incentives for producers to continue to engage in BMPs by covering initial capital expenditures and recurring costs associated with such practices.

Solidaridad partnered with GebanaBrasil, a local affiliate of the international processor/trader/manufacturer of organic goods, to agree on dedicated purchase of grain produced by the farmers they were working with to become certified through the RTRS (see Box 5). The support of international private sector buyers Keurslagers, FrieslandCampina and Arla Foods ensured that producers that met the criteria required received a seven euro/ton price premium as well. These dedicated purchase agreements and price premiums were identified by Solidaridad as critical to the success of the certification process, as this financing covered the initial capital expenditures necessary for conversion to better management practices.

Aliança da Terra's (AT) Carbon Monitoring and Accounting System (CMAS) linked the carbon offset market and United Nations' REDD+ framework with soy production. 1.5 million hectares of AT's registered producers are located in the Amazon biome of Brazil. AT recognized that over 50% of this is forested land and has potential to access carbon markets. The CMAS was developed for inclusion in their Registry of Social and Environmental Responsibility (RSR) to quantify and estimate market values for ecosystem services on a property level basis, specifically carbon sequestration associated with BMPs adoption. However, AT had difficulty identifying companies interested in purchasing carbon offsets generated on RSR properties. There are many examples of institutions working with producers to tap into funding through carbon markets and REDD+, however the low vigor of carbon markets globally is a major obstacle to success.

FFI worked with smallholders in oil palm landscapes in West Kalimantan, Indonesia to facilitate financial incentives through REDD+ and the voluntary carbon market for management of HCV areas in oil palm landscapes. They worked with stakeholders to generate institutional bodies in targeted villages to represent communities and facilitate a process for them to gain approval from the Ministry of Forestry and Governor to manage their forests. FFI carried out High Conservation Value area (HCV) training with the communities to ensure that the areas prioritized for REDD+ support maximize environmental (i.e., carbon) and social benefits, conducted a forestry inventory with communities, and facilitated development of community forest patrols. Most recently, FFI has guided communities in using accumulated information to develop management and monitoring plans for HCV areas as well as to develop Project Idea Notes (PIN) and Project Design Documents (PDD) for REDD+. FFI facilitated the purchase of carbon credits through the Voluntary Carbon Standard (VCS) and Plan Vivo. Plan Vivo is well-suited to the scale and needs of community-based forestry with lower transaction costs and more easily used methods. These activities have the potential to provide the necessary financial incentives that entire districts, not just producers, need in order to manage lands sustainably and potentially reduce costs to companies who are trying to monitor and enforce HCV areas bordering their plantations. When officially approved by the governor, this can serve as a model in Indonesia for transferring REDD+ financing to local stakeholders.

BACP supported work that tested the potential for financial arrangements to incentivize and sustain BMPs through global markets and value chain partnerships. BACP grantees increased knowledge among local producers, district governments, and international stakeholders about how to utilize carbon markets and the Norway-funded REDD partnership in Indonesia to generate financial incentives for producers within value chains. FFI and AT, working in the palm oil and soy sectors, created frameworks by which other industry actors could benefit as global carbon markets mature. Solidaridad laid out potential financial arrangements between producers, NGOs, processors, traders, and buyers to move smallholder producers closer to certification. These steps by value chain actors showcase how finance can be leveraged to incentivize management of HCVs both at site level and at larger scales.

Drying cacao. Photo courtesy of Bread for the World. Creative Commons 3.0 license.

4. Progress and Insights from BACP

In the first phase of BACP grant-making in support of biodiversity conservation in agricultural value chains, projects pushed back frontiers in knowledge and action to accelerate supply and demand for sustainability certified commodities. Projects that documented the connections between adoption of BMPs and improvements in biodiversity, ecosystem services, and livelihoods helped to improve the foundation for greater acceptance among value chain stakeholders and mainstreaming of biodiversity in sustainability criteria.

The majority of project outcomes were in building awareness, capacity, and commitment and in developing tools and spatial mapping to raise the generally low level of knowledge about biodiversity conservation among many stakeholders and institutions. BACP funding had important multiplier effects for grantee institutions, which translated their projects into larger ventures such as dynamic online forest monitoring through WRI's Global Forest Watch and automated farmer self-assessment available through Solidaridad's Rural Horizons program, as well as for IFC itself where the importance of sustainability standards is now well-established.

Palm kernels await processing at a mill in Indonesia..

Progress toward market transformation

Rigorous development of the three commodity-specific Market Transformation Strategies was important for understanding viable entry points (e.g., improving P&C definitions through the commodity roundtables; filling gaps in knowledge and tools) and for focusing grant-making in regions where the potential for VSS to have impact was high (i.e., palm oil in Indonesia and Malaysia; soy in Brazil; cocoa in Côte d'Ivoire, Ghana, Indonesia, and Brazil).

In the palm oil sector, BACP projects have demonstrated how strengthening land use planning and managing HCVs can contribute to preserving biodiversity in production landscapes. Grantees focused primarily on Indonesia, the world's largest producer of palm oil, in order to maximize potential impact.

WRI (Forest Cover Analyzer) and ZSL (HCV Threat Monitoring Protocol) have created and piloted tools for HCV assessment and monitoring. Their efforts, along with the training and capacity building efforts of FFI in West Kalimantan and PanEco in Aceh, have directly resulted in an increase of 160,000 hectares in land managed sustainably in palm oil landscapes in Indonesia and protection of over 80,000 hectares of HCV land.

Multi-stakeholder initiatives such as RSPO have become more effective platforms for disseminating tools, giving guidance on better practices, and linking actors across the value chain for maximum uptake. The endorsement by the RSPO of the tools created by Proforest, ZSL, and WRI has increased the exposure of value chain actors to innovative ways of managing HCV areas. The 2013 revision of the P&C and subsequent annual roundtable conference incorporated BACP grantee recommendations on mandatory HCV documentation, assessments, monitoring, and transparency on concession boundaries, among others.

A better understanding has been gained of how to boost awareness among policy makers of the importance of managing HCVs in emerging markets. Proforest's RSPO Roadshow in Brazil, Gabon, Ghana, and Liberia has also informed regional programs such as the Sustainable West Africa Palm Program (SWAPP), Smallholder Acceleration and REDD+

Box 8. Applying Knowledge and Tools in Agricultural Landscapes

Experience gained through the first phase of BACP demonstrates that a range of interventions can improve uptake and compliance with VSS and facilitate better impact assessment. BACP-funded projects generated knowledge and tools that can be adapted, scaled up and replicated within and beyond the countries where the projects were implemented. Replicating processes proven successful through BACP projects can help move the sustainability agenda forward, though it is important to note that some processes may be more transferable than others depending on context. Some examples of project outputs that can be applied in other geographies include:

- Solidaridad's smallholder self-assessment toolkit enables farmers to quickly identify areas for improved social and environmental management and is being replicated not just among other soy producers they work with, but across sectors. Solidaridad is seeking to apply this tool with sugar cane producers in Brazil, Colombia, Paraguay, and Bolivia, and cotton producers and cattle ranchers in Brazil.
- Armajaro's Rapid Biodiversity Assessment provides a platform for collecting critical data quickly, with an online platform through GeoTraceability that can allow real-time analysis and reporting. Armajaro is considering expanding the scope of their data collection both geographically and with their other commodities.
- ZSL's HCV Threat Monitoring Protocol provides a cost-effective methodology for assessment and monitoring of high conservation values. Already used by major palm oil companies Wilmar International and SIPEF, this protocol is under consideration from many other companies globally.
- WRI's Forest Cover Analyzer and Suitability Mapper, piloted in West Kalimantan, is now being replicated in other provinces throughout Indonesia and will be available for policymakers and companies to use in identification of suitable degraded lands and HCV areas.
- IPAM's biodiversity monitoring research and pesticides database provides key information for soy producers, and the analysis has already been used by AT's RSR in creating biodiversity indicators to monitor and assess.
- WCF's CocoaMap has the potential to provide a global platform for industry agreed upon biodiversity and sustainability criteria in the cocoa sector.

Program (SHARP) and The Natural Resource Practitioners' Network as well as national processes such as the RSPO National Interpretation in Cote D'Ivoire, Liberia, Gabon and Nigeria, the HCV macro-scale prioritization in Gabon, and planned follow-up work on field-testing of the HCV toolkit for Liberia.

In the soy sector, BACP projects have conducted research and field-testing for multi-stakeholder and value chain processes to improve how land-use decisions and management practices influence biodiversity. BACP grantees focused on Brazil, one of the primary producers of soy globally.

The RTRS generated over 160 maps of critical biomes in Brazil that stakeholders can use to mitigate expansion of soy onto areas of high conservation value. Though the maps have yet to be approved by the Executive Board of RTRS, the multi-stakeholder process to develop the maps was a first for the sector.

Primary research conducted by IPAM determined the need for multi-stakeholder coordination in order to maintain the integrity of biodiversity and ecosystems in soy production landscapes. IPAM found that indicator species that inhabit one of the key regions for expansion of soy (Matto Grosso) have the potential to remain viable if regional landscape patterns and composition do not dramatically change. Since the work of any one actor can alter this viability, IPAM concluded that agreement at a regional level among stakeholders via a multi-stakeholder platform for decision making on land use is critical for biodiversity preservation in these soy production landscapes.

Research by IPAM and Solidaridad in BMPs, pesticides usage, innovative no-till practices, and assessing impacts of production practices on biodiversity and smallholder livelihoods has been taken up by front-runner companies like Gebana and other sustainability standards such as Alancia da Terra's RSR, which has led to a shift towards sustainable land management practices for over 830,000 hectares of land in BACP soy projects and the certification of the first smallholder soy producers.

In the cocoa sector, BACP grantees have delivered training and produced tools to build the capacity of smallholder producers for adopting BMPs and

increasing the supply of biodiversity-friendly cocoa. BACP grantees defined, field-tested, and began to scale up biodiversity-friendly practices in the cocoa sector. Grantees mapped over 20,000 hectares of smallholder farms and conducted 411 workshops with over 14,000 participants. These trainings and workshops resulted in new assessment methodologies for Rainforest Alliance, including their Household Economy Analysis and Natural Ecosystem Assessment (see page 15) which increase RA's capacity to assess on-farm impacts of BMPs, as well as a "Producer Library" and "Training of Trainers" manual for Fairtrade ANZ, which can expand their capacity in the Asia Pacific region, and close to 40 other assessments, manuals, and reports that can facilitate an increase in supply of sustainable cocoa.

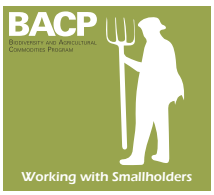
BACP grantees contributed towards progression of standard, industry-wide, accepted biodiversity indicators. World Cocoa Foundation's CocoaMap platform, endorsed by 12 major cocoa producing companies, is one step towards this. Armajaro's development of a rapid biodiversity assessment methodology and associated framework provides a scalable module for incorporating standardized sets of information in the sector.

Insights for value chain sustainability

When BACP was first created in 2006, "win-win" changes to production methods in the agricultural commodities sector had great difficulty gaining ground. Grantees extracted critical insights over the course of BACP:

Training and capacity building. Building strong technical assistance programs requires good baseline assessments of biodiversity and socioeconomic context in order to design and resource activities that directly deliver on conservation and livelihoods goals. Baseline assessments deliver the dual benefit of engaging with local stakeholders and securing their buy-in, while also providing critically important data for future assessments. RA's Household Economy Analysis and Natural Ecosystem Approach, Proforest's HCV toolkits, and Solidaridad's smallholder self-assessment tools are just a few examples from the BACP portfolio. Grantees discovered the necessity of tailoring data-gathering to local realities such as RA which developed innovative methods after discovering low accuracy and strategic bias in initial smallholder surveys. On-site training courses are a good medium through which to deliver technical assistance such as HCV monitoring systems and BMPs. Multiple grantees utilized this field-based methodology to achieve results. Furthermore, the benefits derived from the process associated with moving towards certification can be sufficient motivation for producers to adopt some BMPs if they see changes in yield quantity, stability, and (for smallholders) subsequent livelihoods benefits.

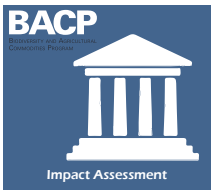
Managing high conservation value areas. Much of the BACP portfolio's land planning and HCV management work involved initial introduction of stakeholders to HCV assessment and monitoring. In these projects, this was the first time that HCV areas had been included in spatial plans. Therefore the potential for scaling and replication is significant. Now that pilot projects have shown to be successful with ZSL and Wilmar, FFI and PT CUS, the next step towards mainstreaming biodiversity is for corporations to incorporate effective HCV monitoring tools into their normal operations. For institutions working to improve land planning, highly technical outputs need to be translated for non-technical stakeholders in order to generate buy-in, and adequate time for feedback needs to be allotted into the planning process. As evidenced by the RTRS mapping process, multi-stakeholder efforts with goals for consensus on spatial planning require a pre-defined strategy for engagement based on stakeholder analysis. They also require input early and often from all stakeholders.



Engaging smallholders at scale. Based on the BACP experience, smallholder projects overall were successful when there were multiple partners across the value chain, a pre-established price premium or other incentive for adoption, and where community awareness and locally adapted trainings were established early on. Armajaro found that targeting "lead farmers" who were more willing to take risks was a successful model in increasing local adoption. Partners' commitment to long-term (3-5 years) technical assistance and to enabling communities access to credit and land tenure were also vital. Successful projects generally had the right mix of partnering

institutions, incentives to farmers, and training protocols. Based on the experience of Solidaridad, simple self-evaluation and gap analysis toolkits have been proven successful and replicable in other sectors as first steps towards certification.

Furthermore, evidence from Solidaridad suggests there are numerous positive externalities associated with the process of obtaining certification for smallholders; including improved production techniques, reduced toxicity of agrochemicals used, new market opportunities, and a better understanding of different soy production systems. Successful smallholder projects require the right mix of gradual improvements paired with partnerships with downstream actors such as processors and buyers to provide the incentives for transitioning to more sustainable production practices.



Assessing impact. To collect data at the field level in the context of agricultural value chains (i.e., absent dedicated research funding) requires having very simple tools. These must be developed in full view of the specific capacities and limitations of companies and field staff. For example, ZSL developed the HCV monitoring tool with palm oil company Wilmar in several concessions over the course of three years. Furthermore, such evaluation systems and metrics should be designed to meet corporate needs, in a way that can help influence management decisions. Focusing on key operational and reputational risks of interest to companies, such as water, climate change, and communities is critical. Tools such as WRI's Forest Cover Analyzer are designed to measure such risks to concessions. However, monitoring and evaluation cannot be effective if it is conducted idiosyncratically by every company. Grantees identified the need for official harmonized methodologies coming from the standard setting bodies, which may even include recommendations or requirements to use specific tools.

Collaboration among standards bodies on how to approach issues of shared relevance will be critical in maintaining long-term sustainability (e.g., delineation and governance of High Conservation Value areas). BACP served as a co-facilitator of collaboration in phase one through projects with Proforest, ZSL, RTRS, and ICV principally; however, further collaboration is needed in support of assessment methodologies for common issues such as the HCV concept within standards in varying geographies.

A young oil palm plantation in Aceh, Indonesia.

5. Conclusions and Recommendations

Achieving biodiversity impacts through voluntary sustainability standards

Increasing awareness, support, and adoption of biodiversity-friendly BMPs across agricultural commodity value chains represents an important mechanism for conserving biodiversity globally. Shifts in production methods can reduce agricultural expansion into native habitats and threats to species that inhabit commodity landscapes, while generating co-benefits for value chain stakeholders. BACP grantees have shown that biodiversity is central to the sustainable commodity agenda and that tools, trainings, and capacity building efforts are integral to improving long-term performance and sustainability of tropical commodities. By focusing on biodiversity as an essential dimension of sustainability, value chain actors can more comprehensively account for and manage the complex and interconnected challenges facing agricultural value chains.

Voluntary sustainability standards are one of many approaches that can be used to improve conservation outcomes in production landscapes and they will likely be most successful when implemented in coordination with actions by government (eg, agricultural policies, information systems) and NGOs (eg, producer support; environmental conservation) [1; 6]. Certification systems are well-suited to rewarding implementation and maintenance of better management practices by higher-performing producers and, where investments in capacity building, financing, and market incentives are successfully established, a broader segment of producer communities may also choose to comply with sustainability standards [8]. In order for low-performing producers to shift their practices, complementary government action may be required.

Where large market actors are committed to improving sustainability in their value chains, they have the capacity to mobilize resources and technical assistance, as well as establish supply chain expectations, that can enable and incentivize producers and traders to comply with standards [8]. Where government and civil society are weak or unenthusiastic about social and environmental sustainability, commodity certification may face greater challenges in gaining a foothold in producer communities. However, certification may also be an important entry point for a sustainability 'business case' and for tangible guidance and incentives for better management practices [8].

A smallholder cocoa farmer training in Ghana.

Voluntary sustainability standards are intended to insert consumers' desires for safer, more environmentally responsible products, as well as distributors and retailers' desires to reduce reputational and operational risks, into value chains and to reward producers who contribute to these objectives. When standards are broadly perceived as legitimate proxies for increased sustainability, they can shift value chains toward full-cost accounting and long-term investment in social and environmental improvements [7]. Greatest impact by voluntary sustainability standards can be expected where they can be applied to a large proportion of total commodity production, where target consumers can generate a significant market signal, and where there are demonstrable producer benefits and sustainability impacts associated with compliance [6]. This type of market maturity, together with confidence that certified commodities reflect biodiversity and other sustainability criteria, should translate into market signals to producers and other value chain actors.

Recommendations

Reaching the full potential of voluntary sustainability standards requires targeted interventions and investments that generate robust evidence of impact at multiple scales and that drive market demand while removing barriers to sustainable production. The BACP experience demonstrates that market transformation will require a broad range of interventions and investments from actors across the

value chain. Reaching the full potential of voluntary sustainability standards will depend on generating robust evidence of impact at multiple scales and driving market demand while removing barriers to sustainable production. To capitalize on what can be considered an inflection point in the trajectory of biodiversity mainstreaming, value chain stakeholders can build on insights that emerge from the portfolio of BACP-funded projects in seven major ways.

1 Focus on landscape-scale impacts. Voluntary sustainability standards are, at present, focused on farm-scale BMPs rather than the landscape-scale changes that are central to biodiversity conservation (e.g., reducing habitat fragmentation). Multiple institutions have found that islands of sustainability in seas of unsustainable practice cannot address critical issues in commodity landscapes (i.e., weak evidence that farm-scale approaches on their own lead to meaningful improvements in biodiversity). High levels of compliance with standards within a region may translate into landscape-scale biodiversity benefits, but certification monitoring systems are not set up to track impacts at this level (or over time), nor do standard-setting bodies have effective mechanisms for engaging with land users who are not directly involved in commodity value chains. Coordinated action at scale and "results-based" impact assessment that includes both farm- and landscape-scale indicators will be an important component of initiatives designed to scale up VSS. Key actions include:

- Incorporate and adapt existing tools (see Box 8) to monitor and assess impacts at multiple scales in commodity landscapes as part of mitigation of key operational risks (e.g. deforestation) in value chains.
- Build mechanisms for coordination among landscape decision makers (e.g. spatial planning) to resolve conflicts and manage for multiple land uses. To successfully preserve biodiversity in HCV areas and reduce habitat fragmentation in commodity landscapes, coordination among land use decision makers (e.g. neighboring concession holders, regional government) is essential.

2 Increase capacity of commodity roundtables and multi-sector platforms. Multi-stakeholder initiatives represent an important model for forging agreement among market and civil society actors on defining BMPs and continuous improvement of voluntary standards. Involvement of NGOs appears to be integral for mainstreaming biodiversity and overall sustainability goals. These platforms have both strengths and challenges as mechanisms for promoting biodiversity conservation in agricultural value chains. For example, although there was major support from several BACP grantees throughout its P&C revision process, the RSPO has yet to include explicit requirements and guidance for HCV management plans. By building on the BACP-supported expansion of biodiversity conservation capacity within the roundtables (e.g. effective internal mechanisms for research and performance measurement), companies can integrate roundtable-sponsored tools into their normal operations. Furthermore, by fostering cooperation and technical capacity within and across sectors, frontrunner companies can accelerate market transformation. Key actions include:

- Develop and strengthen partnerships across sectors. Models will vary, however public-private-civic partnership is central to advancing biodiversity conservation through value chain approaches. Both private and civil society led programs in BACP achieved measureable results with potential for replication (see Figure 7).
- Expand support for the technical working groups of commodity roundtables to ensure there is a robust forum for resolving divergent sustainability strategies. There is evidence from BACP that bodies such as the RSPO Biodiversity and High Conservation Values Working Group effectively promoted dialogue and technical competence among value chain actors.
- Incorporate insights from the M&E framework developed for BACP (see Annex I), which offers a reference for roundtables and other institutions seeking to better link biodiversity and social impacts with market transformation. The indicators can be used to assess near-term progress by focusing on "upstream" conditions, capacities, and structures that can lead to meeting longer-term conservation goals. Similarly, impact assessment tools developed by grantees in palm oil, soy, and cocoa offer methodologies for assessing biodiversity and social impacts at field to national scales.

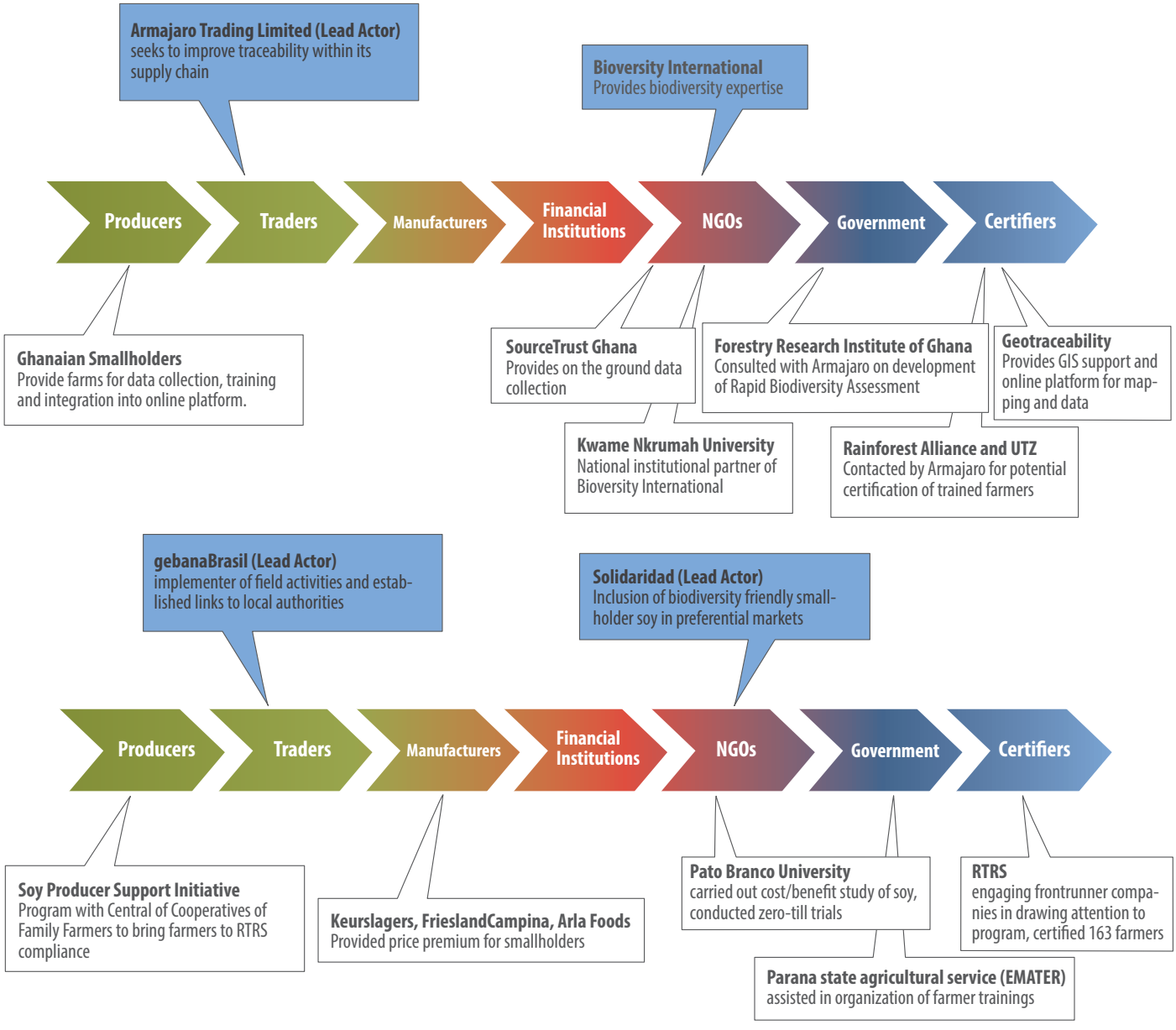
3 Continuously improve processes for setting and monitoring standards. The great variety among agricultural commodity producers, production systems, landscapes, and

value chains challenges the uniform application of certification standards and consistent M&E frameworks, yet these are both important for the credibility that can lead to increased demand for certified agricultural products. The proliferation of sustainability certification schemes has been accompanied by an array of monitoring approaches and information systems that need to be better harmonized if systematic impact analysis and continuous improvement of standards is to be accomplished. Multi-stakeholder platforms are important foundations for industry-wide standardization of BMPs, dissemination of tools, measuring impact on sector sustainability, and linking actors across the value chains for the uptake of tools and BMPs.

However, certification standards and P&Cs are the outcomes of heavily negotiated processes in which the power and incentives of different stakeholders and considerations of cost and feasibility can slow down or work against agreement on rigorous standards that can effectively contribute to biodiversity conservation. Key actions include:

- Encourage a graduated shift from voluntary to compulsory requirements for standards in order to mitigate reputational risks and ensure standardized implementation for compliance.
- Harmonize monitoring and evaluation across standard-setting bodies (e.g. as under the ISEAL Impacts Code) and facilitate pre-competitive data

Figure 7. BACP grantees Armajaro Trading Limited and Solidaridad sought out partners from across the network of value chain actors in order to move the sustainability agenda forward



sharing among companies. [new bullet] Expand investments by international institutions and donors in knowledge and monitoring systems to enable more systematic impact assessment of VSS across commodities and regions.

- Expand investments by global donors in knowledge and monitoring systems to achieve more systematic impact assessment across commodities and regions.

4 Pursue supportive government policies. Policy and legal barriers stymy the adoption of biodiversity-friendly BMPs, and thus far, voluntary sustainability standards have not significantly reduced these barriers. The lack of legal innovation and enforcement related to habitat conversion continues to be a major roadblock, as the rapid clearing of natural habitat is typically spurred by market signals. Government-specified areas of agricultural expansion that take biodiversity conservation into account are often insufficiently defined and un-enforced. Laws regarding permanent set-asides (e.g. requirements on Brazilian plantations) are commonly weak, contradictory, or not enforced. Governments can complement voluntary sustainability standards by setting and enforcing minimum expectations for conservation in their agricultural sectors, including national standards for companies to do business in these sectors. Governments can complement voluntary sustainability standards by setting and enforcing minimum expectations for conservation in their agricultural sectors, including national standards for companies to do business in these sectors.

The magnitude of VSS potential for increasing agricultural sustainability will depend on the level of coordination with government actors. While certification schemes are not explicitly designed to coordinate with other governance systems, there is evidence that they have influenced the development of corporate protocols and government regulation, although less is known about penetration of certification in emerging markets and adoption among small and medium-sized enterprises [8]. Advances within certification schemes (e.g. increasingly robust sustainability criteria; development of implementation tools) have potential to influence the development of corporate protocols and government regulation. Key actions include:

- Mobilize policy makers to reduce perverse incentives that inhibit widespread adoption of BMPs and participation in certification. For example, new knowledge and tools enable improvement of the legal environment for land swaps for degraded lands in the palm oil sector in Indonesia.
- Maintain open lines of communication between international and national standard-setting bodies to align priorities, capture opportunities for pre-certification activities, and share experiences.
- Build capacity within regional and national governments for spatial planning, rural extension services, and tenure and resource regulations to foster incentives for sustainable production.

5 Recognize the central role of smallholders. Smallholder participation is critical to scaling up VSS and transforming markets, yet these agricultural producers are highly diverse and operate within complex social contexts. Interventions tailored to the realities of smallholders are essential. For voluntary sustainability standards, it is important to ensure that all certified production systems meet minimum requirements. However, smallholders may not have requisite knowledge and tools for VSS compliance so stepwise approaches may be appropriate. For certification systems to facilitate BMP adoption and VSS compliance beyond higher-performing producers in order to engage smallholders at scale, incentives need to be aligned. Key actions include:

- Expand investment in capacity building and financing models that can enable smallholders to adopt BMPs. This may require ongoing public sector programs. (Increasingly, standard-setting bodies are providing training and capacity building for smallholders, e.g., RSPO Smallholders Task Force.) It will also require research on when VSS is not an ideal solution for smallholders, and alternative solutions (e.g. organic) are more competitive.
- Create and expand on knowledge of the full suite of incentives required by smallholders in specific commodity landscapes (price, preferred access, tenure, etc.). Successful smallholder projects require incremental and systematic long-term improvements and the relevant mix of incentives (price premium, preferred market access) and partnerships (with processors, buyers, etc.) is critical to successfully incorporating these producers in the value chain. Furthermore, smallholders are less likely to understand or be motivated by "avoided costs", therefore when possible the business case has to reflect increased profits to be viable.

- For agricultural commodity landscapes in countries that lack supportive government or civil society, improve understanding of how certification systems can effectively mobilize 'first movers' to stimulate awareness and adoption of BMPs and VSS among commodity producers (e.g. through technical tools and training, context-specific research on BMP impacts, leveraging donor support for early adopters).

Build market demand across value chains. Market demand for sustainable commodities is a requirement in order for value chains to receive and transmit signals (e.g., through price premiums, quality standards) to producers that incentivize them to adopt biodiversity-friendly BMPs. VSS have been put forward as tools for market transformation, however weak demand has meant that a significant proportion of certified commodities are not sold under eco-labels and non-certified products generally have few market barriers. In addition, growing consumption of commodities such as palm oil and soy in developing countries where sustainability concerns are less prominent has put a further strain on demand for certified products.

With low or no price premiums for many standard-compliant products (in the absence of special interventions), producer incentives for BMP adoption may be weak when commodity prices are sufficiently high to meet producers' income needs . Value chain and market transformation relies on credibility of standards through proven impacts on social and environmental sustainability and associated financial incentives for value chain actors. While credible standards and robust verification of compliance are necessary, these are not sufficient conditions for increasing market demand. Key actions include:

- Distribute market pressure for VSS compliance and certification across all levels of supply chains. Retailers, who engage most directly with consumers, experience most of this pressure, but they can do more to shift expectations for the full range of market actors (e.g. Investing in traceability mechanisms; mainstreaming HCV monitoring tools into normal business operations).
- Improve and harmonize communication about the impacts of VSS both to the consumer end of commodity supply chains and across certification schemes and commodity sectors.
- Establish public procurement policies that require certified products thus exerting significant market leverage and boosting demand.

Adopt new financial models. Some BMPs require substantial investments, which are usually not bankable through the local financial institutions due to their innovative nature, the small size of production operations, or the producer's lack of collateral. These innovations may eventually lead to lower operating costs, but the capital cost of conversion can be a barrier. For example, for cocoa, replanting on the same land is a costly and technically difficult process because of the toll that it takes on soil health and water resources. Without access to finance, there may be considerable incentives to expand production cheaply through simply clearing forest for new plantations.

To cover costs associated with BMP adoption, many types of producers will need access to new financial arrangements. For example, reducing the upfront costs or delaying the repayment of loans could create incentives for producers to develop systems of rehabilitating degraded lands for production as opposed to clearing native habitat. Without financial support in the form of initial and recurring capital, it will be very difficult for producers, especially smallholders, to maintain BMPs until either price premiums are high enough or preferential access to sector improvement services that increase productivity and profitability is provided. Key actions include:

- Develop and present the investment case for financial institutions to innovate new products focused on sustainable production or to incorporate sustainability concerns in their lending programs (e.g., to introduce screening criteria into their portfolios). Follow the lead of financial institutions such as HSBC, which now requires RSPO, FSC, and PEFC compliance at all supply chain levels and provides a discounted finance product for RSPO-certified palm oil.
- Identify and test which value chain actors and financial institutions have the right mix of incentives and capacities to deliver financial services to producers seeking certification.
- Develop full-cost estimates of VSS certification (including needs for initial and recurring capital) based on adapting quantification methods used for other commodities and landscapes.

Soybeans awaiting processing at a plant in China.

Priority Actions

Industry stakeholders and development practitioners who seek to use value chain approaches to promote biodiversity-friendly production in tropical commodity landscapes can improve and increase the impact of multi-stakeholder voluntary sustainability standards.

Incentives	Potential Actions
Producers	
• Reducing long-term operational and reputational risk from degrading environmental conditions and potential social conflicts • Gaining preferred market access and any associated price premiums from certification	• Large scale producers can work with NGOs, research organizations, and universities to utilize newly established cost-effective spatial mapping and HCV monitoring and enforcement criteria. • Smallholders can be aggregated through cooperatives and trained on self-assessment. Graduated stepwise approaches towards better management practices have proven to be an effective method by which to bring smallholders up to a minimum threshold.
Traders	
• Diversification of markets and increased responsiveness to price signals • Meeting public procurement requirements from government partners, preferred market access to large multinationals asking for products (eg longer-term contracts)	• Can effectively partner with (and influence) producers in order to differentiate their product as biodiversity-friendly, and work with standards bodies to generate a market for these products. • Incorporating effective HCV monitoring tools into normal operations, especially true of smallholder dominated sectors like cocoa as Armajaro Trading has shown.
Food manufacturers and retailers	
• Reducing reputational risks and enhancing brand from an increasingly environmentally and socially conscious international consumer • Reducing operational risks due to long term concerns over consistency and quality of supply from key sourcing regions	• Mobilize resources and technical assistance, as well as establish procurement policies, that can enable and incentivize traders and producers to comply with standards. • These institutions hold the key for ensuring demand is kept up for certified products that may not be as visible downstream, such as soy and palm oil. In order to ensure that traders and producers have the financial incentives to continue to produce sustainable commodities, consumers must be made aware of the costs and benefits of their choices (eg, food safety, environmental and humanitarian concerns). • Integrate social and environmental risk mitigation into core business planning and protocols.

Incentives	Potential Actions
Financial Institutions	
• Sustainable commodities are increasingly seen as proxies for acceptable practice for lending criteria by private and multilateral banks	• Financiers can help generate the initial capital outlays for the transition to BMPs, provide financial instruments to incentivize producers to cultivate on degraded lands rather than clearing native habitat, and provide the screens that environmentally minded investors can use to incentivize BMPs.
Non-governmental organizations	
• To deliver positive long term economic, social, and environmental change through markets • To be an advocate for public goods and mitigate negative externalities from commodity production	• Civil society plays the role of researcher, partner, convener, and lobbyist for all actors along the value chain. Evidence from BACP makes clear that in almost all partnership models used to adopt BMPs, local and/or international NGOs were involved.
Government Agencies	
• National and international civil society pressure to take action • Responding to International environmental agreements (e.g. GHG emissions reductions) & multilateral donor funding (e.g. Global Environment Facility) requirements	• Government agencies are the lead actors in reducing and removing perverse incentives and other barriers to BMPs that encourage unsustainable production. • Procurement policies can reflect the value of VSS. • Governments can further build capacity of extension services and marketing boards in key commodities.
Commodity Roundtables	
• To increase credibility (and consequently demand) in the eyes of consumers	• Multi-stakeholder initiatives provide the platform in which all industry stakeholders can convene for collective decision making to define industry best practices. • These initiatives hold market power in sustainable commodities and through growing their membership base and volumes of certified product can transform entire value chains.

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Annex 1 - Monitoring and Evaluation of Value Chain Approaches

BACP set out to support large-scale mainstreaming of biodiversity-friendly practices within production landscapes rather than pursue both production and biodiversity conservation objectives separately. Accordingly, the BACP monitoring and evaluation (M&E) plan was designed to assess both biodiversity and market impacts and the linkages between these in various production landscapes for the targeted commodities. More specifically, the M&E plan was designed to assess the following:

1. Reduction of threats to biodiversity
2. Evidence of change in land management practices
3. Evidence of market transformation
4. Improved livelihoods

To monitor the impacts on biodiversity in production landscapes that covered large land areas on multiple continents, it was necessary to develop proxy measures, or variables that would stand in for more difficult or expensive measurements. A set of 35 standard indicators, reflecting both IFC and GEF interests , were used to document and assess BACP outputs, outcomes, and impacts.

Outcome indicators were used to assess whether BACP was successful in achieving component outcomes (i.e.. enabling environment, better production, increased demand, and supportive financial services). Impact indicators were used to measure the overall goal of reducing threats to biodiversity of global significance.

Projects were selected based on potential biodiversity impact, relevance to the commodity market transformation strategies in the targeted countries and other GEF relevant criteria. Proposal M&E frameworks (using indicators from the BACP framework), offered objective analysis of a project's potential contribution to these factors and points for further negotiation in project design.

With a robust M&E framework and dedicated, independent M&E Unit, the BACP provided a strategic role in building capacity and providing guidance for grantees from the application phase through implementation. During implementation BACP provided regular feedback to projects based upon actual project performance relative to plans and critical assumptions. This allowed grantees to adjust project activities to achieve planned results. It also allowed BACP to guide grantees by suggesting adjustments or more strategic changes of project direction to ensure that all projects contributed effectively to the overall goal of the BACP. For example, with the objective of reducing threats to global biodiversity, projects were required to link proposed procedural changes (output), to implemented changes in land management by producers or companies (outcome) to the preservation of high conservation values (impact) with the appropriate verification tools, including MOUs and spatial analysis. With a central focus on VSS, the majority of projects included an objective to increase the number of certified producers/companies and volume of certified product, contributing to market transformation. Data collection and verification was conducted through written quarterly reports, Skype calls and field visits.

Simultaneously, BACP sought to synthesize learning from grantees and convene stakeholders to advance systems for measuring the conservation benefits of agricultural sustainability standards in tropical landscapes. Side-events were organized at commodity roundtables and other relevant international forums for purposes of communicating results and facilitating the replication and scaling of outputs. Events also offered a chance to present aggregated project M&E results to grantees to demonstrate how their individual projects were contributing to commodity market transformation strategies (e.g., bridging key information gaps, overcome policy barriers and creating industry tools for adoption).

Through the first phase of BACP, the M&E Unit identified ten indicators intended to be representative of all four program components and to be used to assess near-term progress by focusing on "upstream" conditions, capacities, and structures that can lead to meeting longer-term conservation goals. Among these indicators are steps that can be taken by VSS

to improve sustainability principles and criteria and remove barriers to their use. The M&E framework developed for BACP offers an available tool for commodity roundtables and other institutions such as IFC (specifically Performance Standard 6) and GEF seeking to better link biodiversity and social impacts with market transformation.

Description of Key Proxy Indicators Identified by BACP Program

Outputs

1. Procedures, policies, regulations, or standards proposed for improvement, addition, or elimination (no.)
2. Participants in workshops, training events, seminars, and conferences (no.)

Outcomes and Impacts

3. Procedures, policies or regulations that were improved, added or eliminated (no.)
    - Policy-related barriers to the adoption of biodiversity=friendly management practices in the targeted commodity sectors and countries are removed or in an obvious process of being removed
4. Entities that implemented recommended changes (no.)
    - Alternative production methods are implemented that have a proven positive impact on biodiversity and significant potential for development and replication, both at the farm and landscape level
5. Area of land that is managed sustainably (ha)
    - Change in land management practices
6. Peer-reviewed documents and publications assessing the impact of land use practices, BMPs or P&C on biodiversity,
   and documenting good practices in how to monitor them (no.)
    - The positive impact on biodiversity of the use of verification or certification systems is proven
7. Standards that were added or improved to incorporate biodiversity concerns (no.)
    - Buyers and other value-chain participants of the targeted commodities integrate biodiversity criteria in the value-chain - Evidence of market transformation
8. Trade volume of certified or verified commodity products (tons)
    - Buyers and other value-chain participants of the targeted commodities integrate biodiversity criteria in the value-chain - Evidence of market transformation
9. New business models or new financial products or services developed (no)
    - Biodiversity-friendly business models and financial products and services are available to the actors in the targeted commodities and countries - Evidence of market transformation
10. Field- or farm-level M&E procedures, systems, or models developed (no.)
    - The positive impact on biodiversity of the use of verification or certification systems is proven

Annex 2 - BACP Grantees

Grantee	Years	Project Title(s)
Palm Oil Grantees		
Flora and Fauna International (FFI)	2009 - 2011 2011 - 2012	Supporting sustainable palm oil production through public-private partnerships for landscape-based HCV assessment Development of carbon-finance mechanisms for high conservation value forests and peatlands in oil palm-dominated landscapes of Kalimantan
PanEco Foundation	2009 - 2011	Pilot study to undertake palm-oil cultivation according to RSPO-guidelines on fallow land.
Proforest	2012 - 2013	RSPO Africa Roadshow Programme
Roundtable on Sustainable Palm Oil (RSPO)	2011 - 2013	Development and implementation of credible RSPO Standards for sustainable palm oil
World Resources Institute (WRI)	2011 - 2013	Preserving biodiversity through responsible development of new oil palm plantations
Zoological Society of London (ZSL)	2009 - 2010 2011 - 2013	Increasing the effectiveness of biodiversity related RSPO Principles and Criteria. Developing the capability and competency of the RSPO stakeholders to mitigate impacts on biodiversity.
Soy Grantees		
Aliança da Terra (AT)	2011 - 2013	Producers for Biodiversity
Instituto Centro de Vida (ICV)	2010 - 2011	Mapping HCV areas in Matto Grosso state.
Instituto de Pesquisa Ambiental da Amazônia (IPAM)	2010 - 2012	Evaluating the impacts of soybean production on Amazonian biodiversity: Foundations for better management practices
Round Table on Responsible Soy (RTRS)	2012 - 2013	Broad scale maps and HCV guidance for soy expansion: multi-stakeholder process
Fundación Solidaridad Latinoamericana (Solidaridad)	2011 - 2013	Inclusion of biodiversity-friendly smallholder soy in preferential markets
Cocoa Grantees		
Armajaro Trading Ltd.	2011 - 2013	Biodiversity and Cocoa Farming: Ghana Case
Conservation Alliance (CA)	2012 - 2013	Mainstreaming Biodiversity Conservation into Cocoa Production Landscapes in Southwest Ghana

Grantee	Years	Project Title(s)
Cocoa Grantees, continued		
Fairtrade Australia New Zealand (FANZ)	2012 - 2013	Promoting Biodiversity-Friendly Production of Cocoa in Papua New Guinea through Fairtrade Certification
Rainforest Alliance	2012 - 2013	Applying Sustainable Cocoa Practices through Agroforestry in Community Forest Areas as a Tool for Achieving Biodiversity Conservation Outcomes
World Cocoa Foundation (WCF)	2013	Cocoa Measurement and Progress

Annex 3 - Acronyms and Abbreviations

Acronym	Full Name
BHCV WG	Biodiversity and High Conservation Values Working Group
BMPs	Better Management Practices
BTC	Biodiversity Technical Committee of the RSPO (Now BHCVWG)
CA	Conservation Alliance
Fairtrade ANZ	Fairtrade Australia New Zealand
FFI	Flora and Fauna International
GEF	Global Environment Facility
HCV	High Conservation Value
ICV	Instituto Centro de Vida
IFC	International Finance Corporation
IPAM	Instituto de Pesquisa Ambiental da Amazonia
IPM	Implementation Procedures Manual
MTS	Market Transformation Strategy
NGO	Non-Governmental Organization
OPs	Operational Programs
P&C	Principles and Criteria for the responsible production of palm oil and soy; produced by the Roundtable for Sustainable Palm Oil and Roundtable on Responsible Soy, respectively.
POTICO	Palm Oil, Timber, Carbon Offsets (World Resources Institute project name)
PT CUS	PT Cipta Usaha Sejati Ltd
R&D	Research and Development
RA	Rainforest Alliance
REDD+	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
RSPO	Roundtable on Sustainable Palm Oil
RTRS	Round Table on Responsible Soy
VSS	Voluntary Sustainability Standards
WCF	World Cocoa Foundation
Wilmar	Wilmar International
WRI	World Resources Institute
WWF	World Wildlife Federation
ZSL	Zoological Society of London

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