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# SCALING INCLUSIVE BUSINESS MODELS

## AT THE NEXUS OF POVERTY AND ENVIRONMENT

### CASE STUDIES FROM THE PHILIPPINES

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# Foreword



Climate change, environmental degradation, poverty and social inequalities are some of the most pressing challenges of our time. People living at the base of the pyramid (BOP) are among the most

vulnerable to environmental degradation and suffer most acutely from the consequences of climate change. Achieving green and inclusive growth has thus become an urgent priority, and the private sector has a crucial role to play in tackling this challenge.

By employing what UNDP calls *inclusive business models*, companies are including poor people in their value chains – as suppliers, distributors, retailers and customers. By actively creating opportunities for people living at the BOP, businesses not only contribute to their economic well-being but to their health and social standing, and promote sustainable development in all its dimensions – economic, social and environmental.

While there are myriad examples of inclusive business models, satisfying both social and environmental criteria for inclusion often seems to be an unattainable objective. The question we seek to answer in this report is how businesses can succeed in aligning both objectives – and how they can be supported in doing so.

The agriculture sector provides critical opportunities as well as challenges for inclusive business models that address social and environmental issues. Since it is dependent on natural systems and resources, the agriculture

sector is particularly vulnerable to environmental degradation, while also being very important for the livelihoods of millions of poor people. The adoption and scaling of sustainable agriculture and agroforestry systems are key components of inclusive green growth and an important economic activity in developing countries where the majority of poor people depend on crops for their livelihoods.

This report focuses on the role of inclusive business at the nexus of poverty and environment in the Philippines. It showcases the potential of agroforestry companies' inclusive business models to achieve social impact at scale while benefiting the environment.

We hope to capture leaders' attention and emphasize the importance of supporting these models at the country level by establishing partnership ecosystems among public, private and civil-society sectors in order to scale up and amplify their impact.

As countries make efforts to achieve the Sustainable Development Goals (SDGs), scaling and expanding the positive social impacts of inclusive and green business models is critical to meet these ambitious targets. Together, we can end poverty and stop the most serious consequences of climate change.

**Marcos Athias Neto**

Director

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# Executive summary

Discussions of green growth – defined as economic progress that fosters environmentally sustainable, low-carbon and socially inclusive development<sup>1</sup> – and pro-poor (or inclusive) growth – growth coupled with equality of opportunity<sup>2</sup> – have begun to converge during the past five years. Influential development agencies such as the United Nations Development Programme (UNDP), the World Bank and the Organisation for Economic Co-operation and Development (OECD) have been adding inclusiveness and poverty-alleviation dimensions to green growth policies and strategies to create overarching ‘frameworks for sustainability’.

The global development community has embarked upon the post-2015 Sustainable Development Goals (SDGs), which build upon the Millennium Development Goals (MDGs) but emphasize more progressive outcomes such as: greater social equity and social justice; governance systems that promote transparency, participation, and innovation; and the adaptability of structures, systems, and peoples to the environment (including resilience to climate change). The new 2030 Global Development Framework integrates the environmental, social and economic aspects of sustainable development, and recognizes the significance of addressing climate change in order to lift millions out of poverty. The SDGs aim to break the vicious cycles of poverty and social insecurity, which are both causes and effects of environmental degradation and climate change. New development activities in line with the SDGs should aim to have positive impacts on both the environmental and social dimensions.

This report by the Business Call to Action (BCtA) and UNDP’s Istanbul International Center for Private Sector in Development examines inclusive business (IB) models at the nexus of poverty and the environment in order to demonstrate how to scale them up successfully. The paper focuses on three inclusive businesses in the Philippines – Kennemer Foods International (KFI), Rocky Mountain Arabica Coffee Corporation (RMAcc), and Glatfelter Gernsbach GmbH. All three companies showcase the enormous potential for inclusive businesses focused on the environment, as demonstrated by their business models, technologies and development strategies. The report illustrates the fundamental components of success for inclusive companies, farmers, local value-chain actors and the natural environment where production takes place, including:

- fair labour practices and international market prices for farm produce, which provide farmers with sustainable and secure incomes;
- capacity building, knowledge sharing, skill building and open access for farmers to quality inputs, facilities and technical assistance;
- alignment of agricultural operations with existing land-use and development plans, and use of eco-friendly agricultural practices to reduce negative environmental impacts and support the sustainability of ecosystems;

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1 Asian Development Bank (ADB), United Nations Economic and Social Commission for Asia and the Pacific, and United Nations Environment Programme (UNEP). 2012. *Green Growth, Resources and Resilience: Environmental Sustainability in Asia and the Pacific*. <https://www.adb.org/sites/default/files/publication/29567/green-growth-resources-resilience.pdf>

2 <https://blogs.adb.org/blog/inclusive-and-green-growth-why-it-so-elusive>

- innovative management and convergence schemes to streamline value chains, manage resources more efficiently and strengthen relationships among local ecosystem actors; and
- commitments to meet global quality and sustainability standards through product and process certification – not only to ensure the sustainability of value chains, but to protect the natural environment and foster fair trade and safe labour practices.

The report concludes with a set of recommendations for companies and policy makers to maximize the potential of IB models in the agroforestry sector for social and environmental impact. For companies, the report highlights the importance of: evaluating business as well as environmental ecosystems; identifying key stakeholders and cultivating partnerships (including with local governments); establishing farmer champions to demonstrate the value of sustainable agriculture and environmental protection; and fostering research on ecosystem dynamics and services within the company.

The report recommends that governments include companies with IB models in public-sector support programmes for smallholder farmers to strengthen access to markets, financing and technical assistance. In order to identify companies with IB models, setting up an IB accreditation scheme is recommended. IB accreditation is a crucial tool for governments to identify the IB partners that share common sustainable and inclusive development goals. Since government initiatives on industry convergence provide important opportunities to nurture IB alliances, the report recommends reinforcing national convergence initiatives to align resources and financing across the agricultural, agroforestry and fisheries sectors.

The research underscored the potential of inclusive agroforestry models to achieve positive social and environmental impacts, and contribute to SDG targets. This in-depth analysis of IB models and ecosystem actors highlighted systemic barriers, challenges and opportunities in the Philippines. Since the dialogue on IB and its potential impacts on the environment and the SDGs is still new, further research is required to support the scaling up of IB models.



# 1

## Research and case study methodologies

The methodologies used in the research and case study development were mainly qualitative, and included the following:

- 1) *Literature review* – International and local publications, online references, reports, and other sources provided by the companies and other partners, including company briefs, presentation materials, land use and development plans of local government units (LGUs), and copies of partner agreements.
- 2) *Key informant interviews* – Face-to-face interviews with company representatives, heads of government agencies and national and regional officers, mayors and local government officials, local traders, farmer cooperative leaders, local farmer coordinators, field technicians and selected beneficiaries.
- 3) *Field visits* during May and June 2015 to each of the companies' identified sites. These included: (i) Kennemer's operation sites in Tagum City and Davao City in Mindanao; RMACC's operation site in the municipality of Piddig, Ilocos Norte Province in Luzon; and Glatfelter's targeted abaca farms in the municipality of Maasin, Iloilo Province. The field visits included tours of facilities, nurseries and farms, and meetings with local partners and stakeholders coordinated by the companies and government partners.
- 4) *Direct observation and rapid environmental assessment* were undertaken during the field visits to record geographic, physical, natural and social conditions of study sites. Photos were taken of the sites as part of the documentation procedure.
- 5) *Focus group discussions with local stakeholders* were facilitated by the project team along with local company focal persons. Targeted stakeholders included local government officials, regional office representatives and farmers. The discussions elicited data on municipalities, activities, production rates and household incomes as well as information on personal experiences, anecdotes, reflections and insights. All these data informed the analysis of the existing local ecosystem and the environmental and social impacts of companies' IB initiatives.
- 6) *Environmental assessment* focused on information gathered from rapid environmental assessments, key informant interviews and focus group discussions. It evaluated: (i) environmental governance (policies, partnerships, and resources utilized for environmental management); (ii) tenure, access and co-management arrangements (including development, utilization, protection and management strategies in affected forests and agricultural lands); (iii) good agricultural practices (sound strategies, technologies, and approaches employed in the production cycle from land preparation to harvest); (iv) water and soil conservation (impact of agriculture on water resources and soils); (v) biodiversity (impact of existing flora and fauna species in the sites); and (vi) carbon storage (estimated carbon storage potential of above-ground biomass and organic carbon in the soil).
7. *Social assessment* was based on information gathered from farmer beneficiaries and farm workers on: (i) household income and expenses (income sources, income generated and major household expenses); (ii) access to financial and technical services; (iii) socio-economic

preferences and aspirations; and (iv) actual and perceived socio-economic changes brought by companies' operations and by farmers' engagement with companies.

- 8) *Detailed review of national programmes* (annex document) based on the

interviews and focus group discussions. National programmes were identified to determine how targeted agricultural and environmental governance plans support IB, and the barriers to establishing a more conducive and enabling environment.

# 2

## IB in Agroforestry

Inclusive business (IB) is a new approach being discussed, tested and implemented by a growing number of established and emerging companies. According to the Asian Development Bank (ADB) “IB is a private-sector core business activity that creates – at scale – innovative and systemic solutions to the relevant problems of poor and low-income people”.<sup>3</sup> These commercially viable models expand access to goods, services and livelihood opportunities for people living at the base of the pyramid (BoP) – those with less than USD 8 per day in purchasing power parity – by integrating them into companies’ value chains as customers, suppliers, distributors, retailers or shareholders. Novel IB models may blend commercial, social and environmental benefits.

The agriculture sector – especially agroforestry – provides critical opportunities and challenges for IB models. Sustainable agriculture is a key component of inclusive green growth and an important economic activity in developing countries, where the majority of rural poor depend on crops for their livelihoods. Since the early 1990s, the Government of the Philippines has sought to develop and safeguard the agriculture and agroforestry sectors through agrarian reform, agricultural modernization, rural finance, reforestation and community-based forest management. But statistics show that government assistance and programme implementation move at a very slow pace, have limited reach and lack the continuity to generate sustained impacts on farmers and upland dwellers.

This is the gap that companies in the business of agricultural value-chain development can fill through the cultivation of high-value crops

such as cacao, Arabica coffee and abaca. These companies add value to government efforts in the agricultural and agroforestry sectors, alleviating rural poverty and increasing the competitiveness of local value chains to meet both local and global demand.

Agri-business companies’ IB strategies integrate poor smallholder farmers into value chains in response to the following major supply-side trends:

- 1) **Demography:** The average age of farmers in the Philippines is 57, and according to Francis Pangilinan, former Presidential Assistant for Food Security and Agricultural Modernization, farmers are now considered to be “endangered”.<sup>4</sup>
- 2) **Urbanization:** Accelerating urbanization leads to a decline in arable land as it is converted to urban and semi-urban settlements. Urbanization is fueled by people leaving rural areas because of a lack of income opportunities.
- 3) **Climate change:** The Philippines is one of the countries most affected by climate change, which is impacting crop selection and cropping cycles, leading to major disruptions and volatility.
- 4) **Legislation:** Regulations related to land reform and the protection of indigenous peoples mean that large-scale plantation-style agricultural production is no longer feasible. Business models integrating smallholders need to be developed in order to achieve economies of scale in production.

3 <http://www.inclusivebusinesshub.org/profiles/blogs/adb-s-inclusive-business-definition-1>

4 <http://www.rappler.com/business/special-report/world-economic-forum/2014/58607-ph-farmers-endangered-species-pangilinan>

On the demand side, the research recognizes the following factors:

- 5) **Demography:** The world's increasing population needs to be fed. In the Philippines alone, annual population growth is 1.6 percent according to the World Bank.
- 6) **Urbanization:** A growing middle class is demanding more protein-rich foods such as meat, which has a high land requirement. This puts additional pressure on arable land.

In addition:

- 7) Demand for select produce such as cacao and Arabica coffee – especially in Asia – is providing a substantial import-substitution opportunity.
- 8) Demand for sustainably sourced raw materials is increasing as major consumer goods companies commit to sustainability and put pressure on suppliers to certify sustainable sourcing. For example, the company Mars Incorporated has committed to sourcing completely from certified sources by 2020.

To illustrate the case for the potential of green and inclusive business models in agriculture and agroforestry – and raise policy makers' awareness of how inclusive businesses can help to achieve the SDGs – case studies were conducted with three agro-companies in the Philippines that have IB models based on agricultural and environmental sustainability. These companies are engaged in the production, processing and marketing of high-value crops – cacao, coffee and abaca – which are gaining importance in both domestic and foreign markets. In addition, these products' value chains engage poor farmers in remote rural and upland areas.

These case studies showcase the potential of agroforestry companies' IB models to achieve social impact at scale while benefiting the

environment. An understanding of the business and environmental ecosystems was a pre-requisite for the companies to identify stakeholders and develop partnerships. The case studies demonstrate that companies can utilize IB models to profit from agriculture in Southeast Asia by securing high-quality sustainable agricultural products at competitive prices.

Donor agencies can play an important role in supporting the development and implementation of IB models. They can also disseminate lessons learned to a wider audience, contributing to systemic impact beyond the company's reach. By interacting with government and the private sector, multilateral agencies can contribute to an enabling ecosystem and facilitate the institutionalization of IB support.

Government has a crucial role in inclusive growth by forging dialogues among public agencies and converging programmes with common goals. The private sector's transformation from a supply-chain to a green and inclusive business model approach requires that government integrate companies with IB models into its programmes to achieve systemic impact at scale. Identifying companies with IB models and establishing IB accreditation schemes is a necessity.

Inclusive businesses in the agroforestry sector have significant potential to contribute towards achieving the SDGs at the country level. A partnership ecosystem comprising the private, public and civil-society sectors must be established to scale up these businesses and amplify their social impact. This report outlines measures taken by actors in the Philippines to forge such an ecosystem. As countries make efforts to achieve the SDGs, IB models should play an active role in meeting SDG targets.

The development of IB models and ecosystems is still at an early stage. More research is required to fully realize the potential of inclusive businesses to contribute to global sustainable development.

# 3 Introduction to inclusive and green growth approaches – from pro-poor policy to the SDGs in 2015

Looking back, pro-poor growth was defined as “enabling a pace and pattern of growth that enhances the ability of poor women and men to participate in, contribute to and benefit from growth”.<sup>5</sup> This definition by OECD laid the foundation for pro-poor policy approaches in 2006. In 2008, the United Nations Environment Programme (UNEP) launched the Green Economy Initiative, which focused on green growth as a policy approach to achieve sustainable development. Rio+20, the United Nations Conference on Sustainable Development in 2012, brought together previously distinct discussions on green growth and pro-poor or inclusive growth, and business model approaches started converging.

Leading up to this event, major multilateral organizations expressed their commitment to promoting the integration of green and inclusive growth in policy making, as evidenced by:

- Inclusive Green Growth: The Pathway to Sustainable Development (World Bank, 2012);
- Inclusive Green Growth: For the Future We Want (OECD, 2012);
- Triple Wins for Sustainable Development: Case Studies of Sustainable Development in Practice (UNDP, 2012); and
- A Toolkit of Policy Options to Support Inclusive Green Growth (G20 submission by the United Nations, OECD, the African Development Bank and the World Bank, 2013).

Analyzing these policy documents, it is clear that the notions of inclusiveness and poverty alleviation were added to the original green growth policy frameworks. For example, 10 out of 15 tools in the G20 toolkit refer to environmental objectives. At the Rio+20 event, questions included, “Green and Inclusive Business Models – Is it possible?”<sup>6</sup> At the same event, the Natural Capital Declaration committed financial institutions to the integration of natural capital considerations into loans, equity and insurance products, and accounting, disclosure and reporting frameworks.

Multilateral agencies such as the World Bank, OECD, UNEP and the Global Green Growth Institute joined forces to build a knowledge base on green growth, which integrated inclusive growth approaches. Today, the Donor Committee for Enterprise Development and its Green Growth Working Group “aims at mainstreaming green and inclusive growth strategies in private sector development, while advocating for the importance of private sector development when implementing green and inclusive growth strategies in other areas of development cooperation”.<sup>7</sup>

The SDGs have elevated the global development agenda to an unprecedented level, with a comprehensive and holistic set of development targets integrating environmental sustainability with social goals that are greatly expanded from the previous MDGs. With the adoption of the 2030 Agenda for Sustainable Development<sup>8</sup> during the United Nations Sustainable Development Summit in September 2015, the global development community committed to reach 17 goals and 169 tar-

5 OECD. 2006. Promoting Pro-Poor Growth.

6 OECD Danish Side event at RIO +20 in 2012.

7 <http://www.enterprise-development.org/page/ggwg>









8 <https://sustainabledevelopment.un.org/post2015/transformingourworld>

gets by 2030. IB models in the agroforestry sector can contribute to most of these goals, highlighting the importance of IB to sustainable development.

The main goals and targets connected with agroforestry IB models are listed here:<sup>9</sup>

 <p><b>1</b> NO POVERTY</p>	<p><b>SDG 1 No Poverty</b></p> <p>1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.</p>
 <p><b>2</b> ZERO HUNGER</p>	<p><b>SDG 2 Zero Hunger</b></p> <p>2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.</p> <p>2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.</p>
 <p><b>3</b> GOOD HEALTH AND WELL-BEING</p>	<p><b>SDG 3 Good Health and Well-being</b></p> <p>3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p>
 <p><b>4</b> QUALITY EDUCATION</p>	<p><b>SDG 4 Quality Education</b></p> <p>4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.</p>
 <p><b>5</b> GENDER EQUALITY</p>	<p><b>SDG 5 Gender Equality</b></p> <p>5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.</p>
 <p><b>6</b> CLEAN WATER AND SANITATION</p>	<p><b>SDG 6 Clean Water and Sanitation</b></p> <p>6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p>
 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	<p><b>SDG 8 Decent Work and Economic Growth</b></p> <p>8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.</p> <p>8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the ten-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.</p>

<sup>9</sup> <https://sustainabledevelopment.un.org/topics>

<p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p><b>SDG 9 Industry, Innovation and Infrastructure</b></p> <p>9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.</p>
<p><b>10</b> REDUCED INEQUALITIES</p> 	<p><b>SDG 10 Reduced Inequalities</b></p> <p>10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 percent of the population at a rate higher than the national average.</p>
<p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p> 	<p><b>SDG 11 Sustainable cities and Communities</b></p> <p>11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.</p>
<p><b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 	<p><b>SDG 12 Responsible Consumption and Production</b></p> <p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources.</p> <p>12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting</p>
<p><b>13</b> CLIMATE ACTION</p> 	<p><b>SDG 13 Climate Action</b></p> <p>13.2 Integrate climate change measures into national policies, strategies and planning.</p>
<p><b>15</b> LIFE ON LAND</p> 	<p><b>SDG 15 Life on Land</b></p> <p>15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p> <p>15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.</p> <p>15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.</p> <p>15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.</p>
<p><b>16</b> PEACE, JUSTICE AND STRONG INSTITUTIONS</p> 	<p><b>SDG 16 Peace, Justice and Strong Communities</b></p> <p>16.6 Develop effective, accountable and transparent institutions at all levels.</p>
<p><b>17</b> PARTNERSHIPS FOR THE GOALS</p> 	<p><b>SDG 17 Partnerships for the Goals</b></p> <p>17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the SDGs in all countries, in particular developing countries.</p> <p>17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.</p>

# 4 Inclusive environmental and business ecosystem frameworks

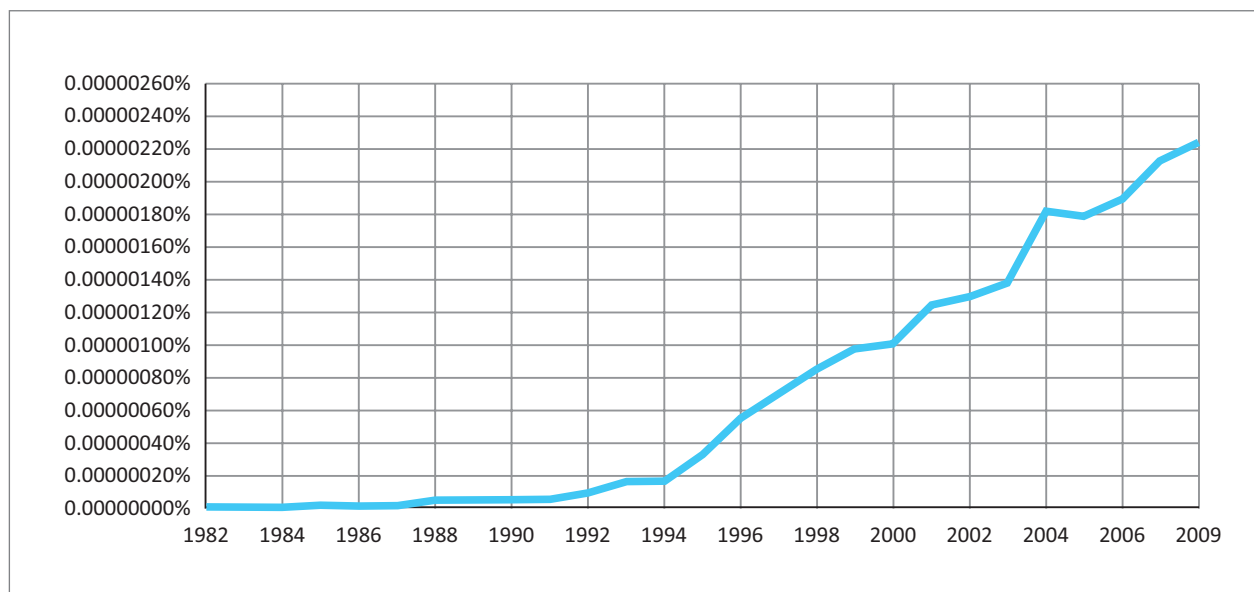
The ‘business ecosystems’ approach describes the interrelationships among businesses, competitors and value chains in a way that parallels natural ecosystems. This framework constitutes an interdependent ‘ecology’ of interactions in which the whole is greater than the sum of its parts. The term ‘ecosystem’ entered the business world through James F. Moore’s 1993 Harvard Business Review article *Predators and Prey: A New Ecology of Competition*. Since then, it has seen increasing popularity in the business literature, as evidenced by the Google n-gram for “business ecosystem”, an online search engine that charts the frequencies of certain search strings (see Figure 1 below).<sup>10</sup>

As the conceptual framework of business ecosystems was developed, sector-specific categories such as ‘IB ecosystems’ and ‘environmental business ecosystems’ evolved. When comparing both

of those approaches, it is evident that they originate from different premises:

- IB ecosystem approaches focus on mapping ecosystem actors in view of understanding a company’s dependencies and impacts on populations living at the BoP – usually positive – and then identifying and overcoming barriers to scaling up. These approaches take into consideration all stakeholders and their engagement in company decision making, value creation and profit sharing.
- Environmental business ecosystem approaches focus on assessing the dependencies and impacts – usually negative – of the firm on natural capital in view of improving its operations and ability to access ecosystem services.

Figure 1. Google n-gram of business ecosystem



10 <http://www.forbes.com/sites/victorhwang/2014/04/16/the-next-big-business-buzzword-ecosystem/>



Whereas social impact is considered to be positive and worthy of scaling up, environmental impact is viewed negatively and in terms of how it can be minimized.

Since the goal of the study is to demonstrate how to scale up IB models by leveraging a partnership ecosystem at the nexus of poverty and environment, IB ecosystem approaches are more appropriate to the task than environmental approaches.

## 4.1 IB ecosystems

Prahalad and Hart<sup>11</sup> introduced the idea that low-income markets – or the BoP – present opportunities and new market opportunities for companies. Their idea of creating value locally and generating buying power among low-income households lays the groundwork for successful and inclusive businesses. Endeava<sup>12</sup> has illustrated how to create value in low-income markets. Understanding the local market context and adapting products and services to consumers' specific needs enables companies to offer goods and services that are **acceptable, accessible, and affordable** to BoP consumers. Partnering with local public-sector agencies in information dissemination and education helps to raise BoP communities' awareness of these products and services.

Moore<sup>13</sup> defines a business ecosystem as “an economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world”. Both Moore and UNDP's Growing Inclusive Markets initiative<sup>14</sup> have identified key actors whose roles are vital

to the development of effective IB models. The **private sector** includes individuals and companies that sell, purchase from and invest in businesses. **Development organizations** design and oversee partnerships with other actors to raise consumer awareness, provide their members with access to services and information, and set environmental and social standards. Public and private **donors** provide the resources that enable producers and entrepreneurs to expand and replicate their IB models. **Research institutions** gather information, analyse data and consolidate and disseminate knowledge that benefits all actors in the business ecosystem. Finally, **governments** interact with other actors to create enabling policies for inclusive businesses to thrive (Gradl et al., 2013).<sup>15</sup> Companies can take advantage of their technology infrastructures, systems and networks of partners to engage people at the BoP in creating business opportunities.

A supportive ecosystem, as reflected in Figure 2 below, allows inclusive businesses to grow and flourish. UNDP<sup>16</sup> has defined four primary functions needed to empower inclusive businesses. “**Information** provides businesses with the awareness, knowledge, technology and know-how required to operate in low-income markets; **incentives** provide businesses with the impetus to engage with low-income communities by rewarding positive externalities and reducing the cost of doing business; **investment** provides the financial backing that enables businesses to venture into challenging low-income markets; and **implementation support** provides logistics, transaction, marketing and communication, and micro-business.”

11 Prahalad, C.K. & Hart, S. 2002. The Fortune at the Bottom of the Pyramid. *Strategy and Business Magazine*. 1 (26).

12 Haupt, S. & Kramer, A. 2012. Bringing Medicines to Low-income markets: A Guide to Creating Inclusive Business Models for Pharmaceutical Companies. Berlin: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

13 Gradl, C. & Jenkins, B. 2011. Tackling Barriers to Scale: From Inclusive Business Models to Inclusive Business Ecosystems. Cambridge, MA: Harvard Kennedy School.

14 UNDP Growing Inclusive Markets. 2010. Report Proposal on Economic, Social and Environmental Value-creation: The Role of Non-traditional Partners in Inclusive Business Models. New York: UNDP.

15 Gradl, C. et al. 2013. Inclusive Business Policies: How Governments can Engage Companies in Meeting Development Goals. Berlin: Endeava.

16 UNDP. 2013. Realizing Africa's Wealth. New York: UNDP.

**Figure 2. IB ecosystem diamond**

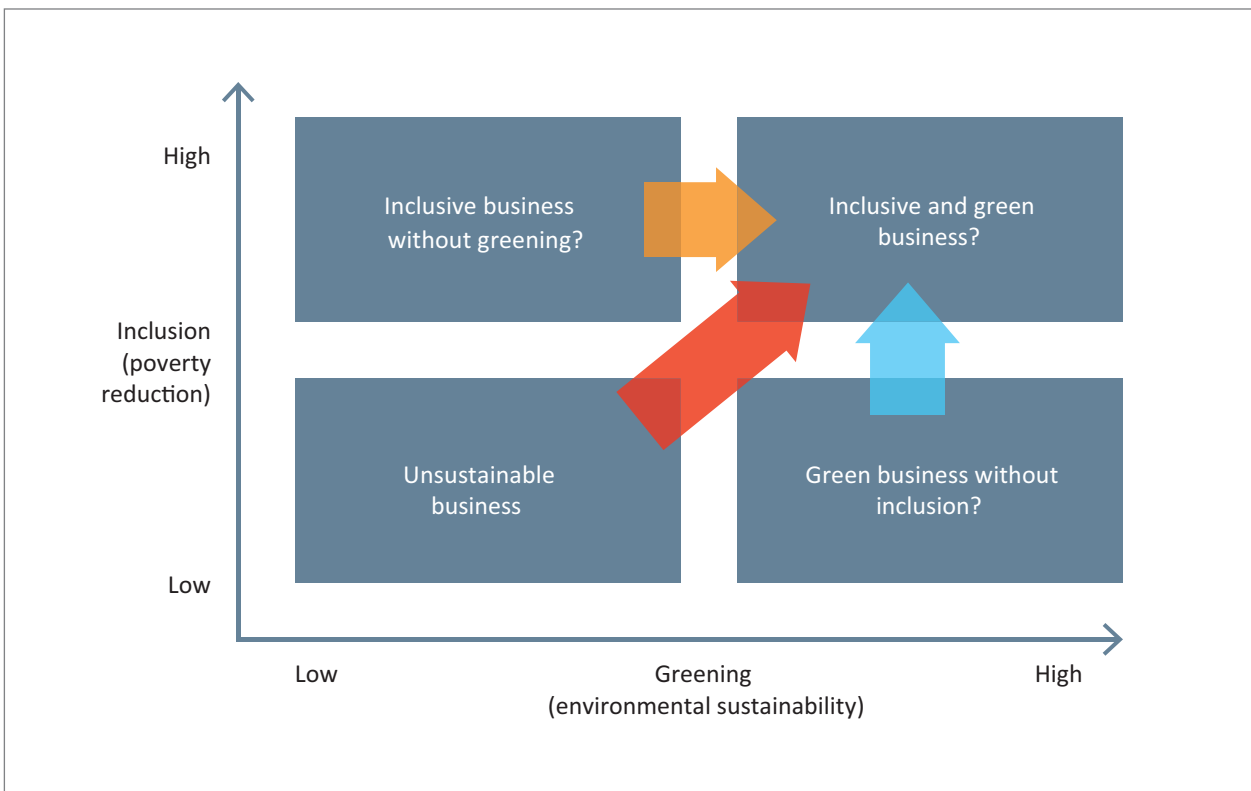


Source: UNDP, 2013

UNDP further developed the concept of IB by **emphasizing the involvement of poor people in all aspects of the supply chain** and highlighting the **value of environmental protection** to make inclusive businesses sustainable. Kramer and Herrndorf (2012)<sup>17</sup> proposed that incorporating both green and inclusive objectives into business models will reduce poverty and improve the living conditions of poor people – citing Gradl et al.’s paradigm, which integrates both inclusive and green business models, as demonstrated in Figure 3 below.

The latest development in the IB ecosystem approach emerged from the G20 Development Working Group’s G20 Inclusive Business Framework and is summarized in Figure 4 opposite.<sup>18</sup>

**Figure 3. Paradigm on green and IB models**

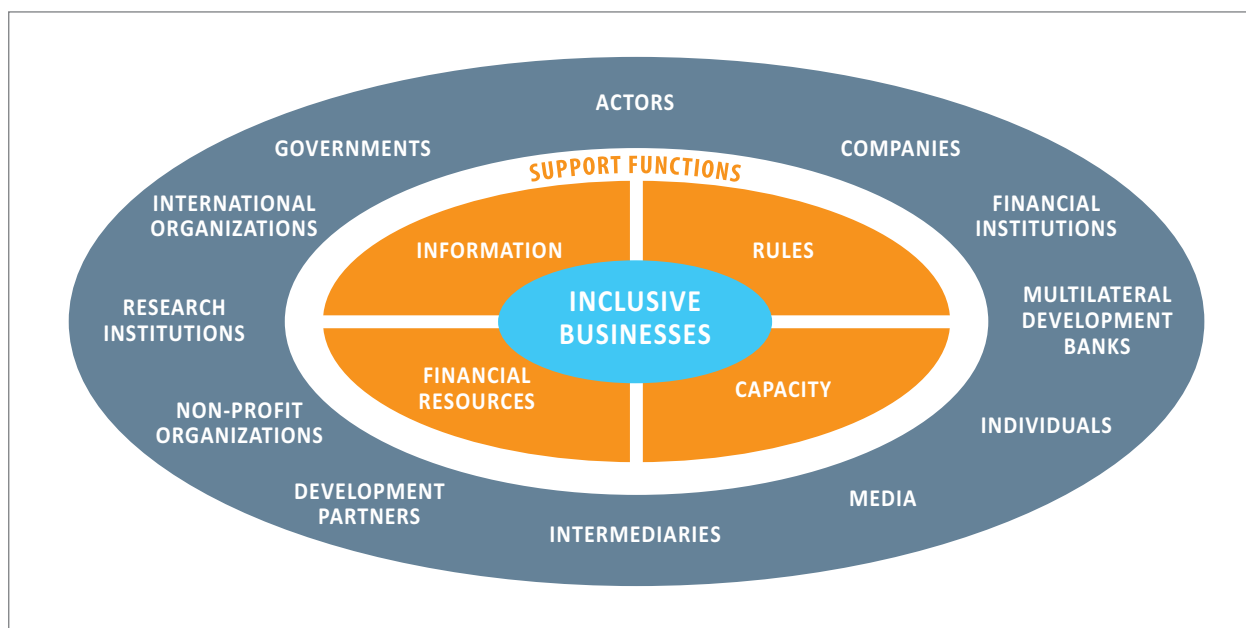


Source: Kramer and Herrndorf, 2012

17 Kramer A. & Herrndorf M. 2012. Policy Measures to Support Inclusive and Green Business Models. Bonn, Germany: Federal Ministry for Economic Cooperation and Development (BMZ).

18 G20 Development Working Group. The G20 Inclusive Business Framework.

**Figure 4. IB ecosystem**



Source: G20, 2015

This framework identifies both companies and governments as key stakeholders in the IB ecosystem and calls for: (i) conducive rules and regulations; (ii) enhanced access to financial resources and incentives; (iii) information and awareness raising; and (iv) strengthened capacity of the people at the BoP and IB models. The framework provides the basis for G20 members to promote IB in their countries, organizations and beyond.

## 4.2 Environmental business ecosystems

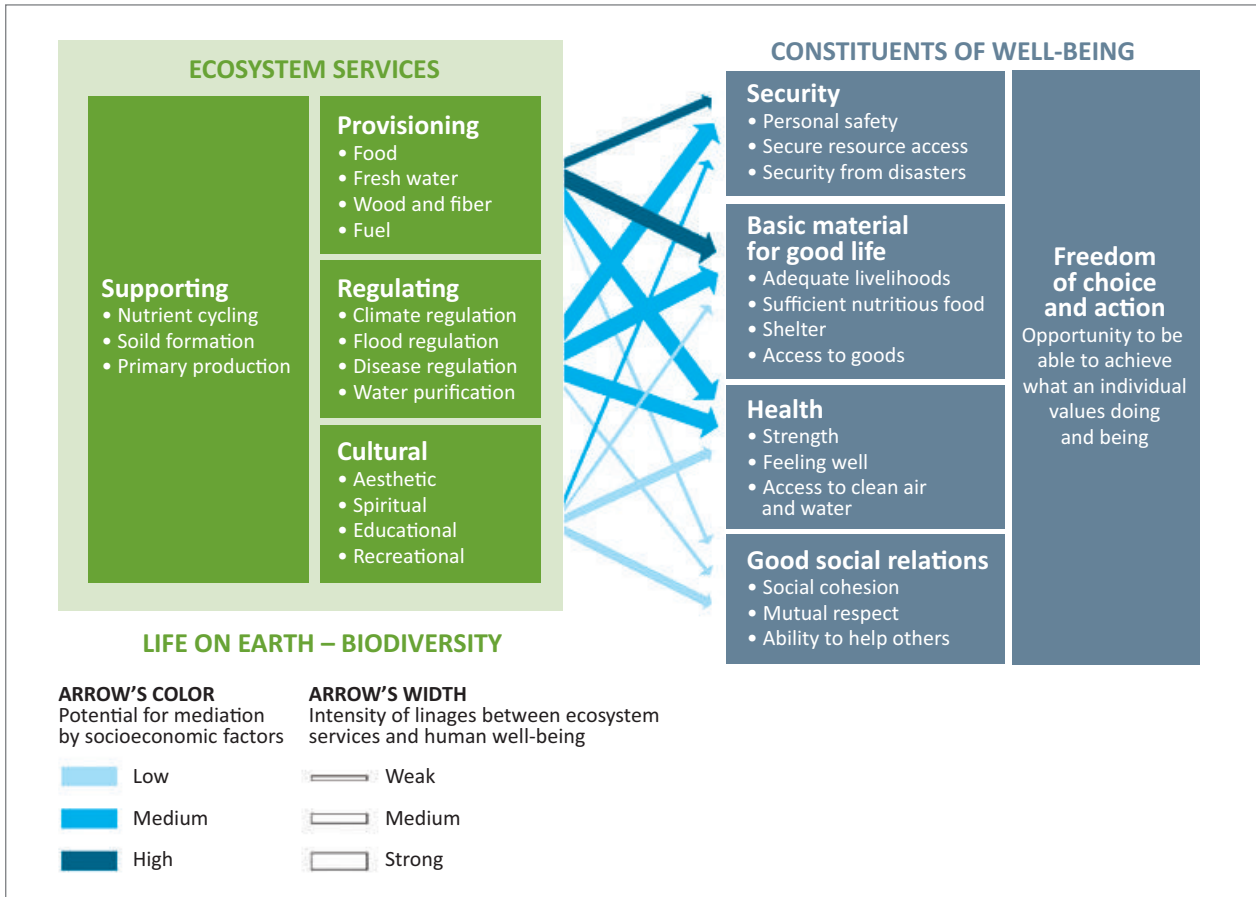
The Millennium Ecosystem Assessment,<sup>19</sup> illustrated in Figure 5 below, defined an ecosystem as a dynamic interaction of living communities and the nonliving environment. As an integral part of ecosystems, humans derive benefits and services from them. Ecosystem services for provisioning, regulation and support – along with cultural services – impact human well-being. Changes to these ecosystems affect humans’ ability to provide other services, which in turn affects human lives and the lives of other species.

The Millennium Ecosystem Assessment noted that, “market mechanisms do not always ensure the conservation of ecosystem services, either because markets do not exist for services... or, where they do exist, because policies and institutions do not enable people living within the ecosystem to benefit from services it may provide to others who are far away”. Sometimes these markets also produce undesirable ecological and social results, and contribute to inequities. The World Business Council for Sustainable Development, through the Corporate Ecosystem Services Review, revealed that companies often fail to make the link between natural ecosystem health and business profit. They are often unaware of the level of their dependency and impacts on ecosystems.<sup>20</sup> Changes in the environmental ecosystem pose risks to businesses’ operations, regulatory environments, reputations, markets and finances. However, if businesses could look at trends in ecosystem services and develop strategies for dealing with them, risks could be transformed into opportunities that help businesses to become more sustainable in the long term.

19 Millennium Ecosystem Assessment: A Conceptual Framework (2003).

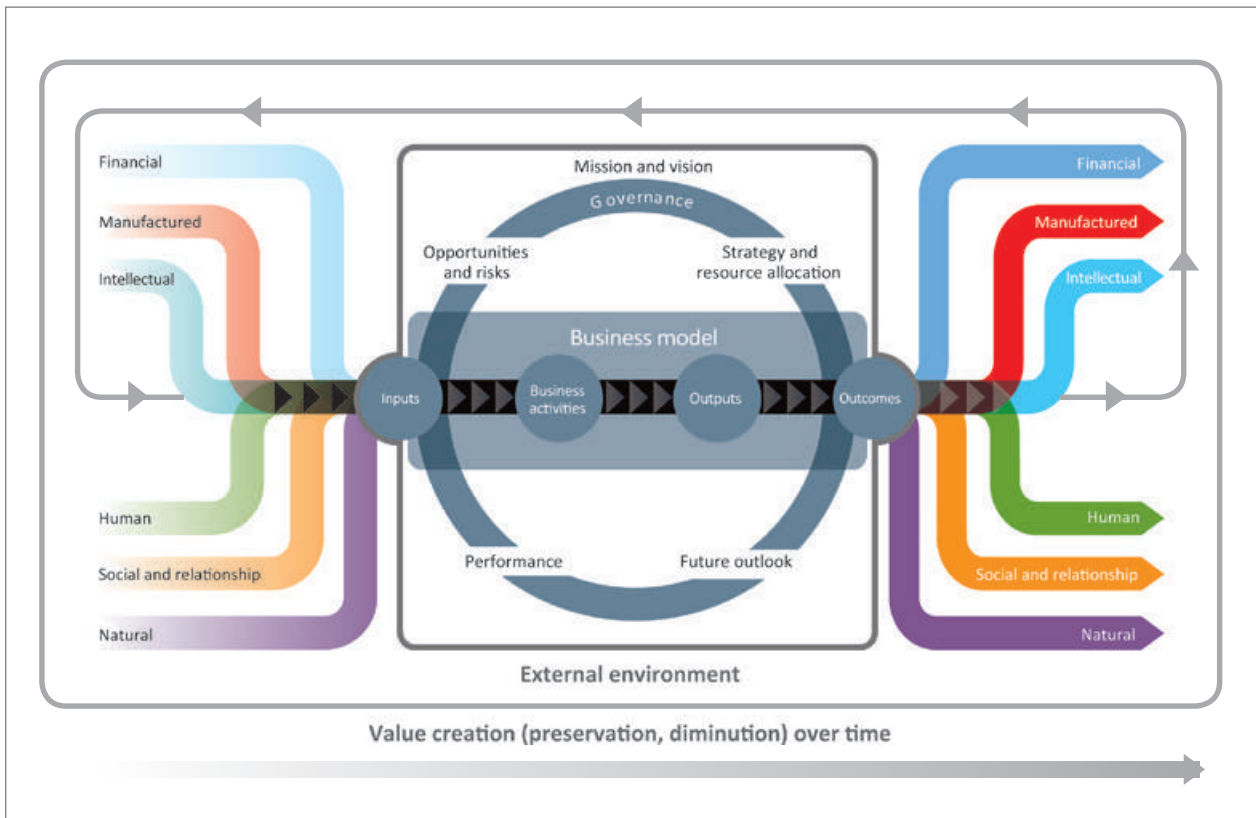
20 Hanson C. et al. 2008. Corporate Ecosystem Services Review, version 1.0. Washington, DC: World Resources Institute.

Figure 5. Ecosystem services and human well-being



Source: Millennium Ecosystem Assessment, 2003

Figure 6. Business model for use in integrated reporting



Since businesses are dependent on ecosystem services for inputs, these inputs add value to businesses. Ecosystem services or 'natural capital' comprise one of six forms of capital put forth by the International Integrated Reporting Council (IIRC), which are "increased, decreased, or transformed through the activities of the organization in that they are enhanced, consumed, modified or otherwise affected by those activities". The other forms of capital include intellectual capital, social and relationship capital, human capital, manufactured capital and financial capital.

IIRC further expounded on this framework by showing how value is drawn from and created by the six forms of capital, as reflected in Figure 6 below. "At the heart of the organization is its business model, which draws on capitals as inputs and, through business activities, converts them to outputs (products, services, by-products and waste). Both, the organization's activities and outputs lead to outcomes in terms of effects on the capitals... The capacity of the business model to adapt to changes (e.g., in the quality and availability of inputs) can impact the organization's longer-term viability...".<sup>21</sup>

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21 International Integrated Reporting Council. 2013. Business Model Background Paper for Integrated Reporting.

# 5 Integrating green and IB ecosystems

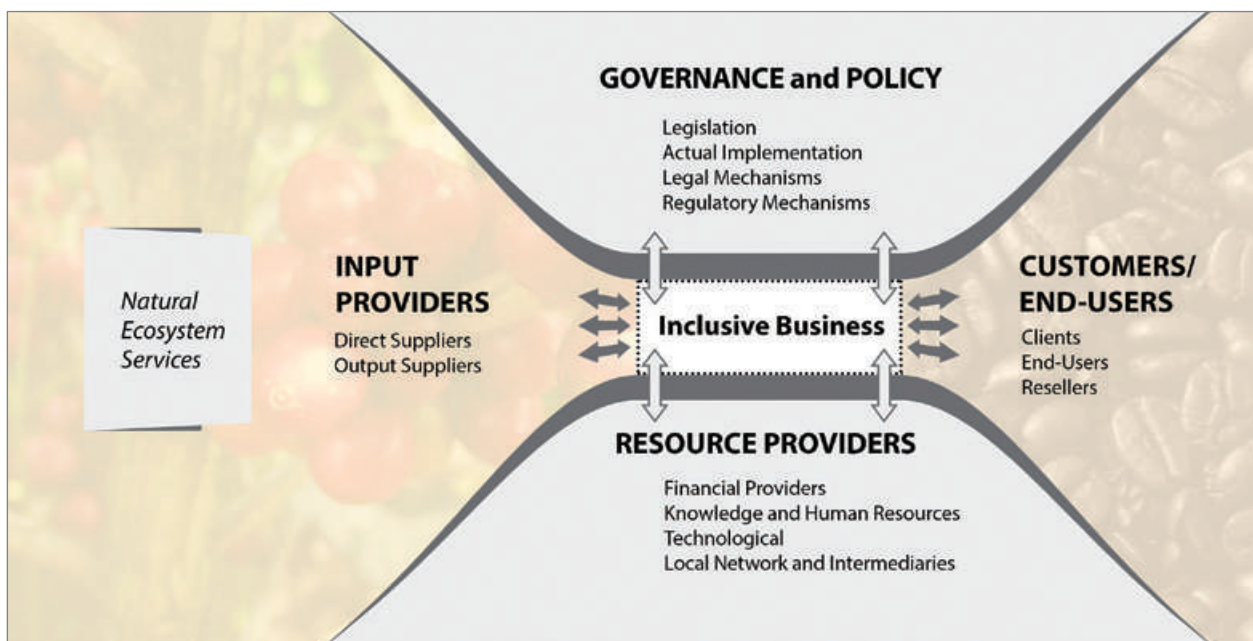
Taking the lead from the G20’s IB ecosystem model and the ecosystem services model, an ecosystem stakeholder mapping exercise for green and inclusive business was undertaken for this study. While the natural ecosystem affects all aspects of the business ecosystem, the most relevant point of connection in the agroforestry context is production – the farmer level. Therefore, the natural ecosystem model was integrated into the business ecosystem at this level. The structure of the ecosystem stakeholder mapping process follows the progression from the natural ecosystem to the farmer through the company to the customer and finally to the consumer, as Figure 7 below illustrates.

The inclusive nature of IB manifests itself primarily through a suppliers’ mode of engagement with low-income producers – in this case, poor smallholders who provide agricultural inputs and services – in a manner that it solves their

problems (i.e. a lack of income opportunities). Public-sector institutions, regulations and national and local programmes are included in the ecosystem-mapping exercise, highlighting the importance of both the environmental and business aspects of the ecosystem. Resources, including technical and financial resources, are critical to IB. Figure 7 shows the flow from the company to the final consumer via the company’s customers. This framework guided the mapping of key actors in the case studies.

The interactions among ecosystem actors flow in many directions. IB models can therefore influence the entire ecosystem, affecting upstream suppliers, downstream industries and entire societies. This simplified schema illustrates the catalytic role played by companies in making IB-relevant policies, processes and resources work for them and their primary stakeholders – farmers – while responding to client and consumer demands.

**Figure 7. Ecosystem stakeholder mapping exercise**



# 6

## Sustainable agriculture and agroforestry

Businesses' 'green' identities are linked to their impacts on natural ecosystem services at the farmer level, where they can protect, conserve and rehabilitate degraded ecosystems through inclusive and sustainable business models. For example, when companies become more efficient in their energy use and processes, their impacts on ecosystem services decrease, enabling the sustainable use of these resources. As these two concepts are integrated, the business model tackles two pervasive problems simultaneously: poverty and environmental degradation.

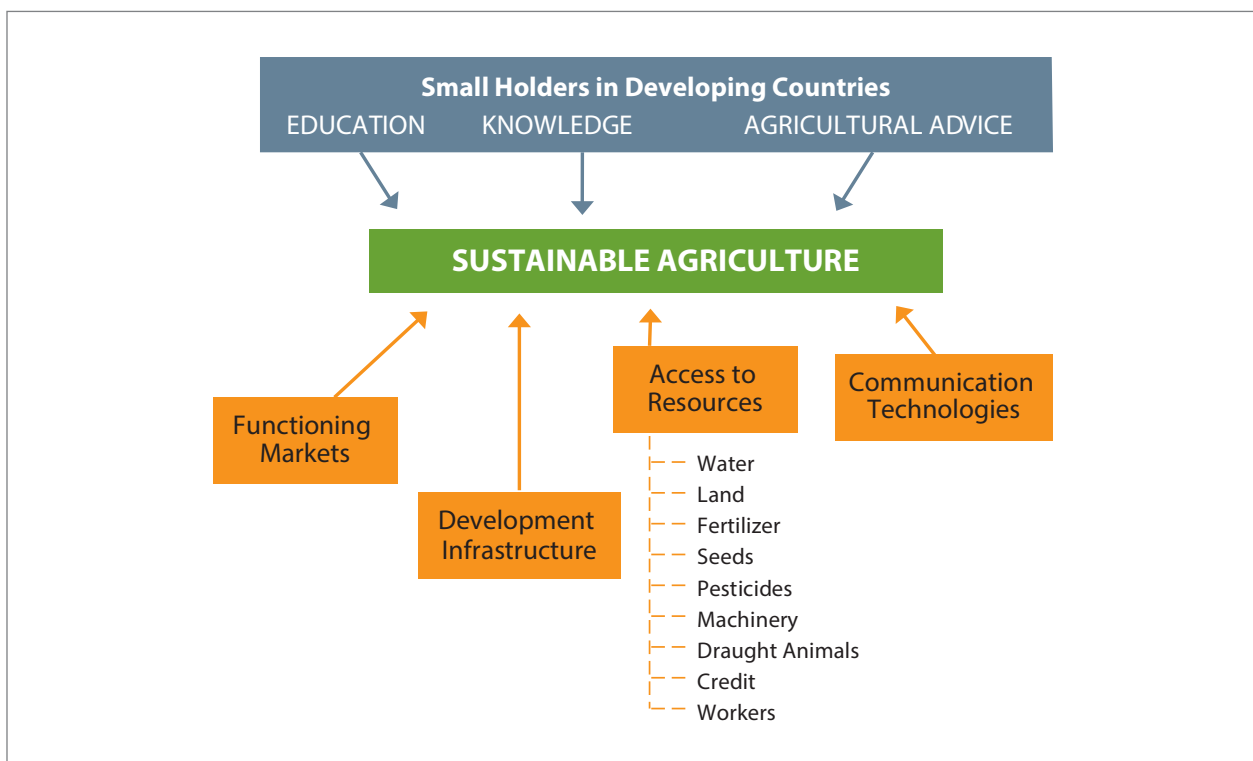
In this way, the chicken-and-egg conundrum of poverty and environmental degradation can be addressed through green and inclusive business

models. Promoting sustainable agriculture is one way of integrating green growth and IB models.<sup>22</sup>

Sustainable agricultural practices are an impetus for growth that promotes efficient natural resource use. Sustainable agriculture, as a means of inclusiveness:

- emphasizes methods and practices that improve soil productivity while minimizing damaging impacts on climate, soil, water, air, biodiversity and human health;
- minimizes the use of inputs from non-renewable sources and petroleum-based products, and replaces them with inputs from renewable sources – these inputs are

**Figure 8. Factors required for successful promotion of sustainable agriculture**



Source: GIZ, 2013

22 GIZ. 2013. What is Sustainable Agriculture?

also less damaging to human health and avoid farmers' financial dependency on non-renewable input providers;

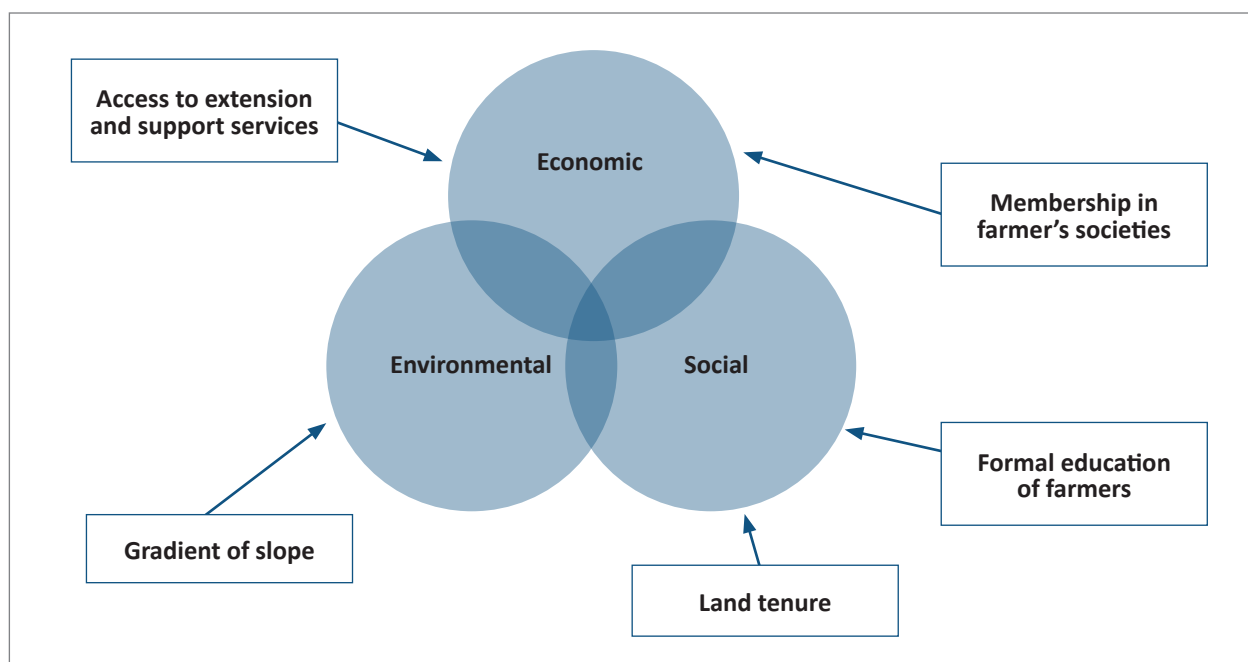
- focuses on local people and their knowledge, skills, socio-cultural values and institutional structures; and
- provides long-term employment, adequate income and fair working and living conditions for everyone involved in agricultural value chains.

For sustainable agriculture initiatives to be successful, various conditions must be met – in effect, creating an enabling business ecosystem, as reflected in Figure 8 below. Access to education, knowledge and agricultural advice are vital for smallholders in developing countries. Equally important is access to resources including water, land, fertilizer, seeds, pesticides, machinery, draught animals, credit and workers to support on-farm activities. To achieve growth in a sustainable farming initiative, there must also be adequate infrastructure and access to functioning markets. Modern communication technologies are playing an increasingly essential role by providing real-time information, especially in remote areas.

The term 'agroforestry' refers to land-use systems and technologies in which woody perennials are deliberately used in the same land management unit as agricultural crops or animals – either in the same spatial arrangement or temporal sequence. Combining agriculture and forest management, agroforestry provides a good illustration of what can be achieved with sustainable agricultural practices. Agroforestry is particularly appropriate for crop production and environmental protection in upland settings. However, achieving sustainability in forestlands requires an understanding of the social and cultural contexts – especially in upland areas.

Sustainable development within agroforestry systems requires the integration of economic, environmental and social capital, as described in the Model for Assessing the Sustainability of Agroforestry Systems (MASAS) shown in Figure 9.<sup>23</sup> MASAS was specifically developed to assess diverse land-use systems in order to gauge their potential for generating environmental, economic and social businesses.

**Figure 9. The model for assessing the sustainability of agroforestry systems**



Source: MASAS

23 GIZ. 2014. Upland Agriculture in the Philippines: Potential and Challenges.



# 7

## IB in agroforestry – the Philippines

The Philippines is experiencing a sustained period of economic growth, which reached 6.1 percent in 2014, making it the second fastest growing economy in Asia. However, this has not led to substantial reductions in unemployment, underemployment or poverty. The unemployment rate remained 6.6 percent in January 2015 – a slight reduction from 7 percent in 2012. Underemployment, which is most prevalent in rural areas, stood at 17.5 percent in January 2015.

While economic growth has translated into a relatively small reduction in poverty, which was 24.9 percent in 2013, the number of people living in poverty increased from 22.64 million in 2006 to 23.75 million in 2013. This forced the Government to change its original poverty reduction target from 16 percent to between 18 and 20 percent by 2016 according to Arsenio Balisacan, the Director General of the National Economic and Development Authority. Even this more conservative forecast entailed lifting at least 5 million people – or 1 million families – out of poverty within two years. In addition, inequality in the Philippines remains highest of all Association of Southeast Asian Nations (ASEAN) members, with a Gini coefficient of 0.448 in 2009 (the average Gini coefficient for Asia at that time was 0.37, according to ADB).<sup>24</sup>

While the Government's agenda continues to include the pursuit of 'inclusive growth', it has struggled to operationalize this vision beyond infrastructure projects and scaling up a social safety net based on conditional cash transfers. Notable improvements have been made in public-sector governance, especially the fight against

corruption. This has led to improved investment ratings by major credit agencies. However, as a result of economic restrictions, insufficient infrastructure, a high minimum wage and the high cost of power, foreign direct investment lags far behind other Southeast Asian countries.

Benjamin Diokno, leading Philippine economist and Secretary of Budget and Management, has stated that "in terms of inclusiveness, it is reasonable to conclude that the Philippines has not moved forward".<sup>25</sup> In the same article, he cites a study by Oliver Paddison concluding that "among 16 Asia-Pacific economies, the Philippines has one of the worst performances in reducing poverty, and is the poorest among its ASEAN peers".

Along with the assessment that the country's current growth pattern is not inclusive, several other studies point out that the Philippines is highly vulnerable to climate change and environmental degradation, and has already experienced notable adverse effects in recent years, including typhoon Haiyan. According to the National Climate Change Action Plan (NCCAP), "mass-scale logging has deforested three-fourths of the Philippine forests and forest decline continues at 1.9 percent annually". Scientists estimate that only between 6 and 8 percent of the country's primary forests remain.

While the NCCAP cites the old paradigm of poverty leading to environmental degradation, it is also the case that "many people in Asia are threatened with increased poverty due to the changes in the environment and climate".<sup>26</sup>

24 ADB. 2012. Asian Development Outlook 2012: Confronting Rising Inequality in Asia.

25 <http://www.tribune.net.ph/headlines/rp-s-goal-to-halve-poverty-by-2015-will-be-missed>

26 Bauer, A., Ananta, A. & Thant, M. 2013. The Environments of the Poor in South-east Asia, East Asia, and the Pacific. Tokyo: ADB Institute.

Bauer et al. (2013) make the case that “a triple-win approach is possible: simultaneously reducing poverty and inequality, raising the quality of the environment, as well as mitigating and adapting to climate change” with policies that go beyond conventional growth objectives and encourage the private sector “through market incentives to invest in businesses which protect and promote the quality of environments”.

Since 2012, ADB has made substantial efforts to develop an enabling IB environment through technical assistance to IB ventures, equity and debt funds, increased investments in IB projects, policy work with governments and knowledge exchange on IB.<sup>27</sup> These efforts are yielding results as companies, governments, business associations, impact investors and multilateral agencies are launching IB initiatives. While in 2012 the state of inclusive business was described as “nascent”, it was upgraded to “emerging” in 2014.<sup>28</sup>

Agriculture is among the prime sectors for showcasing the opportunities and challenges of inclusive green business models since “sustainable growth in agriculture is a key component of inclusive green growth. Agriculture is an important economic activity, especially in developing countries where it is the source of livelihood for the large majority of the extremely poor, drives economic development and creates green job opportunities.”<sup>29</sup>

A 2015 guide to assessing and developing pro-poor and green agricultural policies emphasized that “projects that were analysed suggest that green agricultural policies can alleviate poverty if some important issues relating to the design and implementation are properly addressed”.<sup>30</sup>

Given the substantial degradation of forests and associated biodiversity loss in the Philippines on one hand, and the emergence of promising IB models on the other, the agroforestry sector holds promise for evaluating the potential of green IB models for social and environmental impact.

## 7.1 Agroforestry

The potential of inclusive green policies and business models in the Philippines was underscored by a recent study by the German development agency GIZ, which stated that “agroforestry has a long history of cultivation in many upland areas in the Philippines. As the country faces demographic challenges that threaten its forests and the livelihood of millions of rural residents, introducing and strengthening agroforestry practices remains the best approach to eradicate poverty while protecting the environment that has suffered decades of exploitation and neglect.”<sup>31</sup>

Agroforestry began to attain prominence in the late 1970s, when the international scientific community embraced its potential in the tropics and recognized it as a practice in search of science. During the 1990s, agroforestry was recognized for its potential to solve problems related to the deterioration of family farms, increased soil erosion, surface and ground water pollution, and decreased biodiversity (Snelder and Lasco, 2008).<sup>32</sup> The Convention on Biological Diversity defines agroforestry as a form of sustainable agriculture that “employs management practices and technologies that promote positive and mitigate negative impacts of agriculture on biodiversity” (Decision V/5 2.3).

The Intergovernmental Panel on Climate Change also highlighted the role of tree farming, including

27 <http://www.adb.org/pt/node/152514>

28 <http://www.inclusivebusinesshub.org/profiles/blogs/inclusive-business-in-the-philippines-from-nascent-to-emerging>

29 A Toolkit of Policy Options to Support Inclusive Green Growth: G20 submission by the United Nations, OECD, ADB and the World Bank.

30 Lovo, S. Bezabih, M. & Singer, G. 2015. Green Agricultural Policies and Poverty Reduction. Grantham Research Institute and Global Green Growth Institute.

31 GIZ. 2014. Upland Agriculture in the Philippines – Potential and Challenges.

32 Snelder, D. & Lasco, R. 2008. Smallholder Tree Growing for Rural Development and Environmental Sciences: Lessons from Asia. *Springer Science and Business Media B.V.*

agroforestry, in mitigating climate change through carbon sequestration. The International Center for Research on Agroforestry (ICRAF) offered a more holistic definition of agroforestry as a “dynamic and ecologically based natural resources management system that, through the integration of trees on farms in the agricultural landscape, diversifies and sustains production for increased social, economic, and environmental benefits for land users at all levels”.<sup>33</sup>

Agroforestry in the Philippines has come of age: an increasing number of farmers are turning to sustainable upland farming. As a land-use management system, agroforestry offers opportunities for new markets, business investments, sustainable agriculture and land stewardship, habitat for wildlife, improved water quality and diversified farm income. However, the economic benefits of agroforestry are only realized over time: income from trees is not immediate, and cereals and grains may not provide sufficient profit while farmers convert to agroforestry. Cash crops like cabbage, cauliflower, broccoli and pepper may be needed in the interim (Catacutan et al., 2008).<sup>34</sup> Agroforestry technologies also include soil and water conservation, and vegetative and structural measures.

Continuing efforts have been made by the Government, academia and NGOs to develop agroforestry systems and technologies in the Philippine uplands. These include indigenous agroforestry systems and advanced agroforestry technologies.

### Upland agriculture

Upland environments are the most complex, diverse and risk-prone agricultural ecosystems. It is estimated that more than 25 million people live in the uplands of the Philippines. With rapid population growth, upland farmers – who are among the poorest in the country – cultivate on ever-steeper slopes and in more fragile ecosystems where soil erosion is prevalent, resulting in the loss of topsoil

fertility and crop productivity. It is estimated that between 50 and 350 tons of top soil per hectare are lost each year; soil erosion also results in crop losses. The continuous degradation of upper watersheds affects the infrastructure, lives and livelihoods of people living downstream. Clearly, there is a need for sustainable tenure and management systems in the uplands as well as for innovative solutions from the private sector to address environmental deterioration.

The Government granted tenurial stewardship for responsible management – including the protection and restoration of degraded sites – to local communities in the 1970s. During this period, the Government’s stance shifted from punitive to engaging. Tenure instruments in the uplands include the Integrated Social Forestry Program (ISFP) and the Community Based Forest Management (CBFM) Program implemented by the Department of Environment and Natural Resources (DENR). The Government has also supported private-sector solutions including making erosion-preventive nets from coconut husk waste a required technology in government and private construction – a solution developed by a Philippine social enterprise Coco Technologies.

### Community-based forest management (CBFM)

In 1995, former President Fidel Ramos issued Executive Order 263 declaring CBFM a national strategy for the sustainable development of forest resources and for promoting social empowerment and justice. CBFM integrated all programmes promoting public participation in local forest management, including ISFP, the Upland Development Program, the Forest Land Management Program, the Community Forestry Program, the Low Income Upland Communities Project, the Regional Resources Management Project, the Integrated Rainforest Management Project, the Forestry Sector Project, the Coastal Environment Program and the Recognition of Ancestral Domain Claims.

33 Agroforestry and Multipurpose Trees and Shrubs Research and Development (R&D) Team. 2003. R&D Status and Directions (2000 and Beyond): Agroforestry and Multipurpose Trees and Shrubs. Los Baños, Laguna: PCARRDDOST, 2003.

34 Catacutan, D. et al. 2008. The Policy Environment of Vegetable-Agroforestry in the Philippines and Vietnam: A Scoping Study. VAF Policy Research Report 02.

Agroforestry is the primary vehicle for CBFM since it secures food supply, reduces poverty, protects upland environments and enhances biodiversity. CBFM agreements allow communities and their organizations in forested areas to occupy and use forest lands for agroforestry, harvesting timber and non-timber products, forest protection and reforestation. These agreements have a duration of 25 years and are renewable for another 25 years. Agreement holders may develop, utilize and manage portions of forest land pursuant to a community resource management framework.<sup>35</sup>

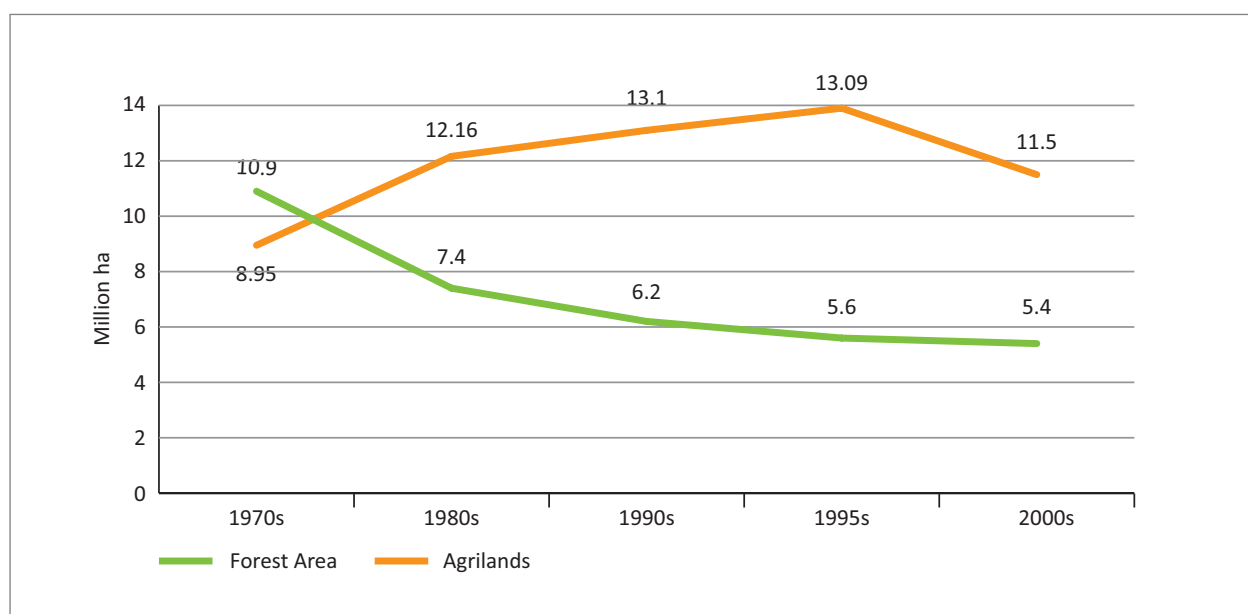
## 7.2 Sustainable agriculture

Since it is dependent on natural systems and resources, the agricultural sector is extremely vulnerable to environmental degradation. The widespread adoption of modern and industrial

agriculture has adversely impacted the quality of soils, water and forests in the Philippines, leading to erosion, pollution and biodiversity loss. The country's increasing population and indiscriminate farming practices like excessive pesticide use and slash-and-burn cultivation have wreaked havoc on the environment and contributed to a decline in agricultural productivity (Lumbo et al.).<sup>36</sup> According to the Department of Agriculture, the average size of smallholder farms has decreased from 3.6 hectares to 2.1 hectares while the number of farms has increased from 2.3 million to 4.6 million, and the total area of cultivation has increased from 8.4 million hectares to 9.9 million hectares.

The sale, barter and exchange of agricultural products do not provide much income for farmers (less than PhP 180,000 per year<sup>37</sup> – below the BoP threshold of PhP 216,000). The GIZ study on upland agriculture illustrated that the low adoption

**Figure 10. Changes in forest and agricultural lands of the Philippines, 1970–2000**



Source: Data from DENR Environmental Management Bureau, 2010; Figure from Rodinas et al., 2013

- 35 Pulhin, J. & Dizon, J. 2003. Politics of Tenure Reform in the Philippine Forest Land. In. L. Lebel, X. Jianchu & A. P. Contreras (Eds.) Institutional Dynamics and Stasis: How Crises Alter the Way Common Pool Resources are Perceived, Used and Governed. Chiang Mai University, 2006.
- 36 Lumbo, S. et al. (Undated) The Sustainable Agricultural Development Extension Program (SADEP): Enhancing Health, Education, Livelihood and Protection (HELP) of the Environment in Occidental Mindoro, Philippines. 4th Asian Rural Sociology Association International Conference: [http://arsa1996.org/pictures/pdf/ARSA\\_IV\\_PRCDGS\\_VOL2/PARTNERSHIP%20AND%20COLLABORATION%20TOWARDS%20IMPROVING%20RURAL%20LIVELIHOODS/4.%20LUMBO%20ET.AL\\_196-204.pdf](http://arsa1996.org/pictures/pdf/ARSA_IV_PRCDGS_VOL2/PARTNERSHIP%20AND%20COLLABORATION%20TOWARDS%20IMPROVING%20RURAL%20LIVELIHOODS/4.%20LUMBO%20ET.AL_196-204.pdf).
- 37 Catacutan, D. et al. 2008. The Policy Environment of Vegetable-Agroforestry in the Philippines and Vietnam: A Scoping Study. VAF Policy Research Report 02.

rate and minimal financial returns of commercial farming among communities are caused by poor silviculture management, a lack of technical support, high harvesting and transportation costs, and low product quality that does not meet buyer standards. Tenure insecurity also discourages farmers' investments in land.<sup>38</sup> Land conversions have exacerbated poverty among farmers and food insecurity in the entire country. Figure 10 below illustrates the trend of rapidly deteriorating forest land being converted to other uses in the past three decades (Rodinas et al., 2013).<sup>39</sup>

### Drive for sustainable agriculture

The Philippine Development Plan (2011–2016) includes a chapter dedicated to competitive and sustainable agriculture and fisheries,<sup>40</sup> which prioritizes: (i) improving food security and increasing rural incomes; (ii) increasing sector-wide resilience to climate change risks; and (iii) enhancing the policy environment and governance to achieve more sustainable natural resource development and use, and more inclusive rural development. Each outcome is to be achieved through the following strategies:

Increasing food security and rural incomes	Increasing climate change resilience	Improving climate change policy
<ul style="list-style-type: none"> <li>• Raise productivity and incomes of agricultural and fisheries-based households and enterprises.</li> <li>• Increase investments and employment across an efficient value chain.</li> <li>• Transform agrarian reform beneficiaries into viable entrepreneurs.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce risks and vulnerabilities through ecosystem-based management approaches, conservation efforts and sustainable environment, and natural resource-based economic endeavors (e.g. agrotourism).</li> <li>• Develop climate change-sensitive technologies; establish climate-resilient agricultural infrastructure and responsive food production systems.</li> <li>• Provide support services to strengthen capacity within the most vulnerable communities (agricultural extension services, information, education and communication campaigns, community-based warning systems).</li> <li>• Strengthen the agricultural and fisheries insurance system as a risk-sharing mechanism.</li> <li>• Include natural hazards and climate change risks in municipalities' comprehensive land use plans.</li> <li>• Continue vulnerability and adaptation assessments, especially in food-production areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Reaffirm mechanisms and objectives of the National Convergence Initiative.</li> <li>• Adopt "Managing for Development Results" as a common management strategy among rural development agencies.</li> <li>• Implement budgetary reforms to promote and support sector competitiveness.</li> <li>• Pursue public-private partnerships in infrastructure and value-chain development.</li> <li>• Review critical legislation (i.e. the Agricultural and Fisheries Modernization Act) and policies.</li> </ul>

38 Fortenbacher, D. & Alave, K. 2014. Upland Agriculture in the Philippines: Potential and Challenges. Bonn: GIZ.

39 Rodinas, J. et al. 2013. Implementing Climate Smart Agriculture. Ridge-River-Reef: The Philippine Adaptation and Mitigation Initiative for Agriculture. ASEAN-FAO-GIZ Regional Expert Forum on Climate Change: Agriculture and Food Security in ASEAN: <http://www.pdf.ph/downloads/Rural%20Development/Highlights%20of%20Meeting/23%20May%202013/attachments/03-Implementing%20Climate%20Smart%20Agriculture.pdf>.

40 <http://www.neda.gov.ph/wp-content/uploads/2013/09/CHAPTER-4.pdf>

With challenges such as climate change, poverty and food insecurity, it is imperative that the Philippine Government pursue sustainable agricultural development. There have been strong indications that the new Philippine Development Plan (2017–2022) will continue its focus on regional and rural development, including agriculture and building up socioeconomic resilience.<sup>41</sup> This can be achieved by: (i) developing strategies for sustainable production and consumption of agricultural products; and (ii) building resilience and adaptive capacity for responding to climate change (Rapera et al., 2011).<sup>42</sup> It is therefore critical to examine the links among food security, population growth, social justice and climate change. According to Rapera et al. (2011), counteracting the adverse effects of climate change on agriculture requires: (i) the widespread adoption of effective climate change adaptation measures; and (ii) measures to enhance food security and maintain optimal greenhouse gas emission levels from agriculture.

Some notable laws supporting sustainable agriculture include Republic Act 10068, known as the Organic Agriculture Act, and Republic Act 9003 or the Ecological Solid Waste Management Act. The former covers all agricultural systems that promote ecologically sound, viable and technically feasible food and fiber production. Organic agriculture relates to soil fertility management, varietal breeding and selection under chemical-free conditions. But agriculture can also contribute to environmental sustainability by sequestering greenhouse gases and capturing

carbon in the soil. The Solid Waste Management Act is essentially anchored in waste minimization.

To develop sustainable agriculture, the Government adopted an organic certification scheme that combines product certification and quality-management systems to ensure that products are produced according to organic farming principles. The Organic Certification Council emphasizes certification as a way to protect consumers, producers and traders against the use of misleading and deceptive labels. There is also a significant price premium on organic-certified products.<sup>43</sup>

But while great potential has been recognized, implementation is sorely lacking. With a large number of Filipinos dependent on agriculture, sustainable agriculture and diversified farming systems are vital to increase food security, improve family health and offer opportunities for women's participation in all aspects of food production – from planting to marketing and value addition. Farm diversification and development also provide mechanisms for equitable social and economic progress in impoverished regions.<sup>44</sup> However the adoption of sustainable agriculture practices is hampered by smallholders' lack of financial and technical capacities to make the shift. In addition, poorly funded and uncoordinated agricultural extension systems, high production and logistical costs resulting from poor infrastructure (including farm-to-market roads and post-harvest facilities), a lack of private-sector engagement and tenure insecurity all limit sustainability. Companies with green IB models can address these gaps, as the following case studies show.

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41 Keynote Message of Socioeconomic Planning Secretary, National Economic and Development Authority.

42 Rapera, C. et al. 2011. Climate Change and Sustainable Agricultural Development in the Philippines: Policy Issues and Strategic Directions. Policy Paper 3: <http://cem.uplb.edu.ph/index.php/research-extension-training/policypapers/40-policypaperseries1/76-policypaper3>.

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# 8

## Companies with green IB models

To highlight the potential of green *and* inclusive business models, in-depth case studies were undertaken on three agricultural companies in the Philippines that have IB models focused on sustainable resource use and sustainable agriculture. These companies are engaged in the production, processing and marketing of three high-value crops – cacao, coffee and abaca – which are gaining (or regaining) importance in both domestic and foreign markets. These value chains largely engage farmers in remote rural and upland areas, where poverty is most severe.

The companies – Kennemer Foods International (KFI), Rocky Mountain Arabica Coffee Company (RMACC) and Glatfelter Gernsbach GmbH – have been identified based on their potential for: (i) highly inclusive business, as demonstrated by their business models, technologies, and value-chain development strategies; (ii) long-term engagement and capacity building among their most important assets – farmers; and (iii) forging innovative partnerships and working with stakeholders (including local buyers and traders, LGUs, national government agencies, rural banks, farmers and cooperatives). It is important to note that all three companies have recently commenced operations and their long-term impacts cannot yet be measured (profiles of the three companies are provided in an annex).

### 8.1. Case Study 1: Kennemer Foods International (KFI)



KFI ([www.kennemerfoods.com](http://www.kennemerfoods.com)) is a major producer, buyer and processor of cacao beans in the Philippines. Established in 2010, as a post-harvest

center in Davao, the company has since expanded its services to support the entire cacao value chain. KFI supplies fermented cacao beans to local and international confectioneries. It also provides farmers with high-quality planting materials, training and agricultural technologies for reaching the export market.

Currently operating cacao centers in Luzon, Visayas, and Mindanao, KFI works with more than 5,000 cacao and coconut farmers. Aiming to create a ‘new normal’ in cacao production, the company’s interventions in cacao-producing regions have increased productivity – with a reported increase in farmers’ annual incomes from PhP 30,000 to PhP 150,000.

#### 8.1.1 KFI’s IB model

KFI’s business model focuses on employing global best practices in contract growing, open-market buying and farm management. These practices are supported by an integrated production and processing infrastructure – including KFI’s own nurseries, research and development (R&D) department, ‘cacao doctors’, farmer-training centers and post-harvest facilities.

The company engages farmers in eight- to ten-year growing contracts, with guaranteed purchase of produce at the prevailing international market price. KFI not only facilitates financing for its farmers (supported by the Department of Agrarian Reform, the Land Bank of the Philippines and municipal government partners), but enables them to access technology and technical assistance through its network of trained ‘cacao doctors’. The company is now gearing up for certification of its cacao produce, having participated in the Philippine Board of Investments pilot IB accreditation programme.<sup>45</sup>

45 <http://www.inclusivebusinesshub.org/page/inclusive-business-in-the-asian-development-bank-adb#IB-accreditation>

### 8.1.2 IB model assessment

- 1) The company's IB model is anchored in responsible, transparent and long-term contract growing, buying, farm development and management. KFI aims to strengthen its relationships with member farmers by providing: technical assistance; training and technology transfer; access to supporting financial products and services (such as the Cacao Loan Program); stable prices for cacao; and enhanced monitoring and evaluation of cacao production (through the cacao doctors network). Benefits to farmers include: higher incomes and purchasing power; enhanced growing knowledge and technical skills; and social support system development. In this way, the company is steadily building a local economy for cacao and addressing poverty.
- 2) *Environmental Assessment.* KFI's operations are guided by standards for good agricultural practices. The goal of achieving optimum harvests drives the company's continuous R&D and propagation of superior cacao varieties. This ensures that these varieties' genetic resources are preserved and improved over time. The rehabilitation of aging tree stocks and regulated use of agrochemicals not only produce safe cacao beans, but also safeguards the soil and groundwater around KFI sites. The maintenance of cacao stands prevents soil erosion in upland areas and contributes to air quality and climate regulation. In the future, the company plans to expand the intercropping of cacao within existing coconut plantations to improve the productivity of both crops. Multiple cropping patterns also encourage greater biodiversity and minimize pests and diseases.

The move towards cacao certification will help to set clear product standards and define responsibilities for sustainability among all actors in the cacao value chain, including the responsibility to protect and maintain the integrity of the natural environment. The company already has a number of environmental protocols and

safeguards in place. The certification process is expected to lead to more responsible, sustainable and eco-friendly cacao production practices, and more robust trade for the company and its partners.

- 3) *Social Impact.* The company's interventions are having clear social impacts – most notably increased productivity, incomes and purchasing power of member farmers and partners. In addition to technical assistance, the company's supply of quality seedlings and inputs to farmers – backed by R&D and regular monitoring and evaluation – ensure optimum productivity. KFI is promoting financial inclusion by enabling farmers to access financial products and services through the Cacao Loan Program. Farmers are becoming financially literate and ultimately more bankable; they no longer have to depend on onerous informal lenders. In addition, the company is providing employment opportunities by hiring local residents at staff nurseries, plantations, processing plants and training centers.
- 4) *Innovation.* KFI's partnerships with value-chain actors such as local buyers, LGUs, farmer cooperatives, agrarian reform beneficiary organizations and rural banks – and related assistance from institutions such as the Land Bank of the Philippines and the Department of Agrarian Reform – provide a support system for the entire local cacao industry. This contributes to the broader industry-development initiatives of the Mindanao Development Authority (MinDA), the Davao regional office of the Department of Trade and Industry (which currently heads the Cacao Industry Council of Southern Mindanao's technical working group), and Philippine Business for Social Progress (PBSP).
- 5) *Challenges:* Government projects providing free seedlings to farmers without the training, technical assistance or inputs to ensure productivity pose a risk to the sector's development since they can



lead to farmers' disappointment with cacao farming.

### 8.1.3 Cacao industry overview

Cacao (*Theobroma cacao* spp.) is a forest tree commonly found in tropical lowlands around the equator. It predominates in Central and South America, West Africa, Sri Lanka, Indonesia and the Philippines, where it is a high-value crop. It is an important source of income for smallholders in the Davao Region (Region XI), which is home to more than half of the Philippines' total cacao-growing area and more than 70 percent of cacao production. The country is currently a net importer of cacao products. An average of 50,000 mt are imported into the country each year – 90 percent in the form of unsweetened cocoa powder, chocolate and other foods containing cocoa.

In recent years, a massive campaign has been launched to revive the Philippines' cacao industry. As a result of the country's low production output, the Government now aims to intercrop 1.6 million hectares of coconut land with cacao. The National Cacao Industry Council recently reported that the Davao Region already has 19,000 hectares of cacao planted, with Davao City as the leading producer, followed by Davao Del Norte. Demand for cacao has also increased in the global market. By 2020, global production forecasts indicate a shortfall of 1 million mt.

Through the Philippine Cacao Challenge, the local industry aims to produce at least 100,000 mt of fermented cacao beans by 2020, which translates into 50-70 million trees producing 2 kg of dry beans per tree. This initiative is expected to bring an additional USD 250 million in export earnings, with approximately 100,000 farmers earning an additional PhP 120,000–150,000 per hectare.

The Southern Mindanao Regional Cacao Industry Roadmap is based on the value chain approach, and MinDA has launched the complementary Cacao Double Up Project to expand cacao production, improve productivity and consolidate support in order to produce 50,000 mt of cacao beans

by 2020 (50 percent of national production). A national cacao industry steering body has been proposed to spearhead the industry's development, with representatives from the Government and the private sector setting the strategic direction.

### 8.1.4 Study sites in Davao Region (Region XI)



#### Davao Region

The Davao Region, located in southeastern Mindanao, is composed of five provinces: Davao del Norte, Davao Oriental, Davao Occidental, Davao del Sur and Compostela Valley. The region has a total land area of 19,673 km<sup>2</sup> and was home to 4,468,563 people in 2010, making it the most populous region in Mindanao.

Davao City, the regional capital, is the country's largest city and one of the largest cities in the world in terms of land area. The region is endowed with fertile soil that is conducive to agriculture, making it the top producer of coconut, banana, cacao, coffee and durian in the Philippines. Davao City alone is home to 2,800 hectares of cacao plantation, providing incomes and livelihoods to 4,000 farmers.

In 2014, the Davao City Agriculturist Office proposed to allocate PhP 10 million for development of the local cacao industry.<sup>46</sup> The fund aims to

46 <http://archive.sunstar.com.ph/davao/local-news/2014/04/19/p10-m-proposed-develop-cacao-industry-338805>

assist in developing 310 hectares of land for cacao cultivation, procuring seedlings and organic fertilizers, and training farmers. With the increase in intercropping of cacao with other high-value crops such as banana, mango and coconut, portions of large plantations are now being converted into cacao farms.

Two of the biggest cacao traders operating in the region are KFI and Chokolade de San Isidro. KFI manages cacao nurseries in Tagum City and Davao del Norte (Magdum and Mangkilam Districts), which used to be coconut and banana plantations. At the Mangkilam facility, cacao seedlings are intercropped with coconut. Davao City's Calinan District hosts the company's buying station and processing facility. While KFI buys both wet and dry beans, the company prefers wet beans, processing them according its clients' requirements.

#### 8.1.5 Environmental assessment

- 1) *Increasing the value of agricultural land use and productivity.* KFI provides long-term technical support and ten-year buy-in arrangements for local farmers and agrarian reform beneficiaries, which has resulted in better growing practices and higher yields. KFI's presence in cacao-production areas has also mitigated the threat of agricultural land conversion.
- 2) *Facilitating the use of high-yielding local varieties.* KFI promotes the use of high-yielding local cacao varieties grown through side-grafting and bud sticks. The planting of mixed cacao varieties is purposeful: cross-pollination increases the chances of flowering, thereby increasing yield. The company also promotes the rehabilitation of cacao seedlings, which makes maintenance easier and requires fewer farm inputs.
- 3) *Promoting intercropping.* KFI promotes intercropping of cacao with other high-value crops such as coconut, coffee and banana, which facilitates soil recovery. Leguminous crops such as *kakawate* are used to 'nurse' trees in order to promote nitrogen fixing in the soil. During site

feasibility assessments, the company observes the number and kinds of trees in an area in order to determine diversity, identify plant diseases and determine how many nursing trees are needed. The shade-loving nature of cacao discourages multi-cropping with classical annuals; intercropping with existing stands or establishing new nursing trees is preferred.

- 4) *Regulation of water use.* The company sources its water from underground and also utilizes rainwater. In areas with less shade and during dry seasons, fronding of transplanted seedlings prevents fast transpiration (flow of water through the plant) and evaporation. This simple crop-management practice helps to regulate water intake.
- 5) *Regulation of chemical use.* KFI strictly regulates the use of chemicals in potting, transplanting and seedling maintenance. The application of agrochemicals is minimized to prevent negative environmental impacts. KFI has designated areas for fertilizer and pesticide testing, and workers are trained to adhere to strict safety standards – especially the use of protective gear.

#### 8.1.6 Social assessment

- 1) *Better employment opportunities for local people.* KFI's Tagum **Cacao Center has a significant labour force, 50 percent of whom are women; all workers hail from nearby districts.** Farm workers are paid the legal daily minimum wage and receive benefits such as social security, socialized housing and health insurance.
- 2) *Technical assistance and greater access to technology for farmers.* The company regularly trains farmer leaders, who are mentored by KFI's field technicians. In the company's Calinan (Davao City) cacao operations, local farmers learn farm rehabilitation methods so they can increase cacao production and earn higher incomes. These farmers – who used to remain idle while their farms were

leased by another company for banana production – are now active in cacao planting with the new technologies and technical support provided by KFI. During the past five years, hundreds of farmers in Calinan have been supported by the company – including both farmers who own their land and those with valid leases.

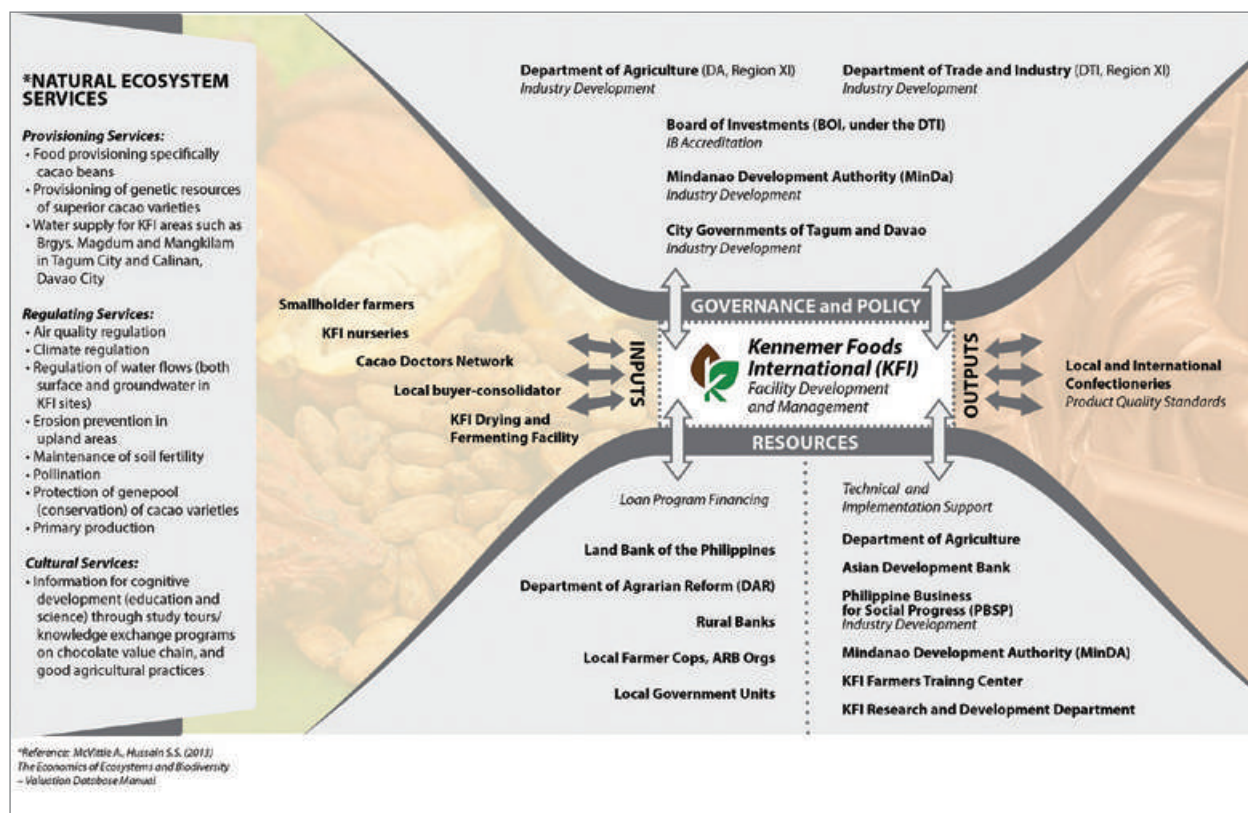
3) *Higher incomes and earning capacities for cacao farmers.* With the high-yielding cacao varieties used by KFI, farmers earn up to PhP 150,000 per hectare per year (PhP 12,500 per month). The income generated from cacao production alone is equal to the average annual income in Davao Region. With moderate input investments, farmers can earn as much as PhP 20,000 per month if they harvest cacao from more than one hectare of

land, and also earn income from other crops (such as banana) and livestock. Side selling used to be rampant, with traders luring farmers by offering higher prices. But because of KFI’s continuing efforts, this practice has declined and farmers have developed a sense of loyalty to the company.

4) *Access to financial assistance through the Cacao Loan Program and local financial service providers.* Through the Land Bank of the Philippines’ Cacao Loan Program, KFI enables rural banks, local cooperatives and LGUs to provide loans to member farmers. The company values good working relationships with local farmer cooperatives, which not only provide farmers with financial assistance but convene farmer dialogues.

### 8.1.7 KFI ecosystem stakeholder map

Figure 11. KFI’s stakeholder ecosystem mapping exercise for cacao production in Mindanao



## Key players and roles

Agency/institution/group	Roles/contributions
<b>COMPANY</b>	
<b>Kennemer Foods International (KFI)</b>	<p><i>Facility development and management</i></p> <ul style="list-style-type: none"> <li>• Develops and manages nurseries in two districts in Tagum City (5 hectares in all, with a total capacity of 2 million seedlings), and a drying and fermentation facility in Davao City;</li> <li>• Facilitates farmer clustering (20-25 per cluster) and training;</li> <li>• Engages local buyers to consolidate purchasing of cacao beans from farmers; and</li> <li>• Partners with rural banks, cooperatives, agrarian reform beneficiary organizations and LGUs as local conduits to the Cacao Loan Program.</li> </ul> <p><i>Input provision and acquisition</i></p> <ul style="list-style-type: none"> <li>• Produces and provides quality cacao seedlings and farm inputs such as fertilizers and pesticides.</li> <li>• Capacity building and technical assistance</li> <li>• Trains farmers and farmer leaders to build local networks of cacao doctors;</li> <li>• Trains and transfers technology to farmers in cacao care and maintenance, farm management, pest control, harvesting and post-processing; and</li> <li>• Facilitates site suitability assessments for LGUs and other partners.</li> </ul> <p><i>Local employment</i></p> <ul style="list-style-type: none"> <li>• <i>Employs local farmers and staff of nurseries and post-harvesting facilities.</i></li> </ul> <p><i>Market access</i></p> <ul style="list-style-type: none"> <li>• <i>Ensures the ten-year guaranteed purchase of wet (preferred) and dry cacao beans at the prevailing international market price.</i></li> </ul>
<b>PUBLIC SECTOR</b>	
<b>Department of Agriculture (Region XI)</b>	<p><i>Industry development</i></p> <ul style="list-style-type: none"> <li>• Member of the Cacao Industry Council of Southern Mindanao technical working group;</li> <li>• Utilizes the Philippine Rural Development Program framework as a model for inclusive growth in Mindanao; and</li> <li>• Provides financial, infrastructure and technical support to local farmers, farmer groups, traders, LGUs and other industry players.</li> </ul>
<b>Department of Trade and Industry (Region XI)</b>	<p><i>Industry development</i></p> <ul style="list-style-type: none"> <li>• Lead Agency for Cacao Industry Council of Southern Mindanao technical working group; and</li> <li>• Currently developing a framework for the Cacao Industry Steering Committee and the inter-agency convergence initiative for cacao industry development.</li> </ul>

(Continues)

Agency/institution/group	Roles/contributions
<b>PUBLIC SECTOR (continued)</b>	
<b>Mindanao Development Authority (MinDA)</b>	<p><i>Regional growth and development</i></p> <ul style="list-style-type: none"> <li>Formulates the integrated Mindanao development framework supporting region-wide and inter-regional peace and development programmes; and</li> <li>Promotes and facilitates public-private investment in various projects.</li> </ul> <p><i>Industry development</i></p> <ul style="list-style-type: none"> <li>Member of the Cacao Industry Council of Southern Mindanao technical working group;</li> <li>Launched the 2020 Cacao Challenge, which rallies local industry players and other stakeholders in Mindanao to enhance the local value chain and increase annual cacao production to 140,000 mt (meeting 20 percent of global demand) by 2020;</li> <li>With PBSP, launched the Mindanao Inclusive Agribusiness Program to increase productivity, enhance job opportunities and generate income from coffee, cacao, palm oil, rubber, corn and seaweeds; and</li> <li>In partnership with the Philippine Coconut Authority, launched the PhP 1.2 billion Cacao Double-Up Program, which provides cacao seedlings and farm inputs to LGUs in ten provinces throughout Mindanao.</li> </ul>
<b>Land Bank of the Philippines</b>	<p><i>Loan programme financing</i></p> <ul style="list-style-type: none"> <li>Provides access to funds from the bank's Cacao 100 Program for loans to KFI farmer beneficiaries.</li> </ul>
<b>Department of Agrarian Reform</b>	<p><i>Loan programme financing</i></p> <ul style="list-style-type: none"> <li>Sanctions partnerships with agrarian reform beneficiary organizations as local conduits to the Cacao Loan Program; and</li> <li>Provides access to government funds for loans to KFI farmer beneficiaries, especially agrarian reform beneficiaries.</li> </ul>
<b>Tagum and Davao City governments</b>	<p><i>Industry development</i></p> <ul style="list-style-type: none"> <li>Members of the Cacao Industry Council of Southern Mindanao technical working group; and</li> <li>Allocated PhP 10 million in 2014 for local cacao industry development – funding seedling and input procurement, expansion of plantations and training for farmers.</li> </ul>
<b>PRIVATE SECTOR</b>	
<b>Philippine Business for Social Progress (PBSP)</b>	<p><i>Industry development</i></p> <ul style="list-style-type: none"> <li>Launched the Mindanao Inclusive Agribusiness Program with MinDA to increase productivity, enhance job opportunities and generate income from coffee, cacao, palm oil, rubber, corn and seaweeds.</li> </ul> <p><i>Cacao Doctors Program support</i></p> <ul style="list-style-type: none"> <li>Provided funds to KFI for the training of cacao doctors</li> </ul>
<b>CIVIL SOCIETY (including academia)</b>	
<b>Rural banks, local cooperatives and agrarian reform beneficiary organizations</b>	<p><i>Loan program implementation</i></p> <ul style="list-style-type: none"> <li>Local organizations tapped by KFI to implement Cacao Loan Program (issuing and managing loans to KFI beneficiaries).</li> </ul>
<b>MULTILATERAL AGENCIES</b>	
<b>Asian Development Bank (ADB)</b>	<p><i>Inclusive business accreditation pilot</i></p> <ul style="list-style-type: none"> <li>KFI participated in pilot initiative on IB accreditation with the Board of Investment.</li> </ul>

## 8.2 Case Study 2: Rocky Mountain Arabica Coffee Company (RMACC)



RMACC ([www.rmacc.ph](http://www.rmacc.ph)) is involved in the production and distribution of high-grade Arabica coffee. Founded in 2006 by French-Canadian coffee specialist Pierre Yves Cote, the company is committed to the use of environmentally friendly technologies, the development of upland farming communities and partnerships with indigenous peoples in Northern Luzon and Mindanao. RMACC's coffee products are available in more than 200 supermarkets and 150 hotels and restaurants nationwide, and are exported to Canada, the United States and the Middle East.

Coffee beans are sourced from the company's plantations as well as those owned by smallholder farmers within the municipality of Tuba in Benguet Province, the municipality of Kiamba in Saranggani Province and Mt. Kitanglad and Miarrayon in Bukidnon Province. The company engages indigenous farming communities – including the Ibaloi and Kankana-ey in Benguet, the T'boli in Saranggani and the Talaandig in Bukidnon – in sustainable coffee farming livelihoods. It currently maintains: 13 nurseries producing 2.6 million seedlings per year; five plantations producing 750,000 kg of beans per year; three mills with a total processing capacity of 1.2 million kg per year; one grading center; one training center; and a modern roasting and packaging facility in Manila. As of 2014, the company's operations had generated over 2,000 jobs, with a reported increase in farmers' annual incomes from PhP 24,000 per year to PhP 155,000 per year.

The company aims to start a 'coffee revolution' in the Philippines by expanding its facilities to ten nurseries, ten plantations and ten mills by 2020, covering 20,000 hectares of coffee plantation,

producing 30 million kg of coffee and creating 20,000 jobs by 2023. More importantly, it seeks to change the relationship between coffee producers and buyers.

RMACC received an 'inclusive business' rating from the Philippine Board of Investments pilot IB accreditation programme.<sup>47</sup>

### 8.2.1 RMACC's IB model

RMACC provides local farmers with access to training, quality Arabica seedlings, green technologies, best practices, integrated coffee production facilities and markets. Other partners include LGUs, indigenous peoples' groups and private entities such as Sarangani Energy Corporation, Bugkalot Coffee Company and Rio Tuba Mining (in watershed reforestation, ancestral domain development and mine site rehabilitation). The company's operations are based on:

- Long-term contract-farming arrangements with farmers (up to ten years), with guaranteed purchase at the international market rate;
- Public-private partnerships at the local level, leveraging convergence initiatives;
- Providing farmers with direct access to quality seedlings and farm inputs from the company's nurseries;
- Technology transfer and training with farmer groups and LGUs;
- Support to parallel farms managed and operated by smallholder farmers, and farmer cooperative development to gain greater access to loans and capital; and
- A corporate social responsibility programme that promotes community well-being through education support (provision of school supplies to the local public school); health promotion (medical missions and provision of free medicines); emergency assistance to disaster-affected farms (provision of seedlings and inputs,

47 <http://www.inclusivebusinesshub.org/page/inclusive-business-in-the-asian-development-bank-adb#IB-accreditation>

and temporary employment of affected farmers); farmer cooperative development; and environmental protection (environmental impact assessments and environmental management planning and monitoring).

### 8.2.2 RMACC IB model assessment

- 1) *IB model.* RMACC's core business – the production of high-quality Arabica coffee – is rooted in the company's commitment to organic and sustainable farming, and upland community development. Although the company's engagement with poor farmers is currently restricted to raw-material production, it provides employment and income security to local farmers in Piddig, a municipality in Ilocos Norte Province. In the next five years, RMACC's nursery and plantation in Sitio Lammin are expected to generate many more income opportunities.

In all its operations, the company is committed to safe and eco-friendly farm practices, human resource development through continuous training, fair labour and employment practices, and gender equality. These practices are aimed at developing the local economy around organic coffee production; generating employment for local people (and higher incomes for the farmers); and protecting the environment.

- 2) *Environmental Assessment.* The company's value is tied to its work in upland environments and with indigenous communities. RMACC upholds ancestral and public domain rights, entering into long-term CBFM and development arrangements. These 25-year agreements with DENR, local governments and civil-society organizations enable the sustainable co-management of RMACC's operations in protected forest lands, ancestral and public domain areas. The company's operations in Sitio Lammin are aligned with Piddig Municipality's Comprehensive Land Use Plan and Forest Land Use Plan. An enabling

environment for industry development has been established with local ordinances supporting organic coffee production: slash-and-burn farming has been banned and enforcement is regularly monitored

The coffee industry is extremely dependent on the natural resources in upland environments. For example, maintaining pine forest stands and adding nurse trees is necessary to provide the optimum natural shade for coffee seedlings. RMACC's traditional ecosystem model of plantation development encourages the preservation of natural tree stands to provide cover for seedlings while absorbing carbon. The higher the carbon absorption potential, the greater the potential to mitigate the effects of climate change. Tree stands also minimize erosion and improve air quality. Increasing the diversity of vegetation cover in the uplands improves water retention and reduces surface run-off. In fact, the regulated use of water using drip technology and the use of organic fertilizers and pest control on RMACC's farms are expected to keep both surface and ground water cleaner along the Madariwa River.

- 3) *Social Impact.* RMACC has already demonstrated social impact by improving the lives of farmers and farm workers. These impacts include more stable incomes, higher coffee productivity, know-how and skills, greater access to credit and financing, and enhanced access to social services through a partnership with the LGU. These impacts will be scaled up once smallholders are engaged in coffee production from their own plots.
- 4) *Innovation.* The company's partnership with the local government in Piddig is a model of private-sector collaboration with government entities for developing local industry. Through this partnership, RMACC contributes to inclusive growth in the local agricultural sector, and the company's guaranteed purchase of produce at standard international rates encourages farm-

ers' productivity and adherence to quality standards by linking them to higher-value markets. The shared long-term stewardship arrangement between the LGU and farming households contributes to land tenure and income security among participating farmers.

RMACC's partnership with the Piddig LGU ensures that farmers receive vital social services in addition to stable incomes. Several government agencies and the LGU have committed to provide health, education, technical and infrastructure support. The Piddig Basi Multi-purpose Cooperative also provides financial assistance (including loans, micro-insurance and payment services), technical assistance and marketing support. Assistance from state universities enables the dissemination of valuable technical knowledge to farmers and other local value-chain players.

- 5) *Challenges.* The National Convergence Initiative was largely driven by Piddig's mayor, whose term ended in 2016. Hand-over of project management to local cooperatives or other actors will be completed in the near future. While the LGU is required to monitor the use of government contributions, government bureaucracy is causing delays in fund disbursement and project implementation. Although the company and the LGU have agreed on a work plan and timeline of activities, the initiative's progress depends upon the actions of the other agencies involved in the convergence initiative.
- 6) Managing expectations among all parties and timely implementation of activities are also challenges for the LGU and its partners. The involvement of NGOs or academic institutions is needed to build capacity and mediate between the private sector and the civil-society organizations benefiting from its investment. The

Government's role should be to establish the legal framework for local partnership, and monitor local actors' adherence to this framework. This will promote transparency and ensure that all parties honor their commitments.

### 8.2.3 Coffee industry overview

The Philippines is one of the few countries in the world that commercially produces four varieties of coffee: Arabica, Liberica, Excelsa, and Robusta. Most of the 116,000 hectares planted with these varieties comprise backyard plots or intercropped fields. The top coffee-producing regions include: South Cotabato, Cotabato, Sultan Kudarat, Sarangani and General Santos (SOCCSKSARGEN); the Cordillera Administrative Region, Davao; Cavite, Laguna, Batangas, Rizal and Quezon (CALABARZON); and the Autonomous Region in Muslim Mindanao (ARMM). According to the Philippine Coffee Board, the coffee industry employs approximately 70,000 farmers in 22 provinces.

A half century ago, the Philippines was the world's fourth largest producer of coffee. However, the number of coffee plantations and farms has declined because of changes in agricultural priorities, unsound cultivation practices and tree damage caused by typhoons. Trade data from the past two decades show a decline in local coffee production to 78,000 mt in 2013 – only 1.3 percent of global production. This has prompted an increase in imports to meet domestic demand, which is estimated at 100,000 mt per year.

A 2014 study by the International Coffee Organization on coffee consumption and in East and Southeast Asia from 1990 to 2012<sup>48</sup> ranked the Philippines third in total coffee consumption next to Indonesia and Japan, with 2.2 million bags consumed in 2012 – 1.3 kg per capita. The Philippine Institute for Development Studies<sup>49</sup> noted that 85 percent of the country's Robusta production is supplied to Nestlé Philippines for processing into Nescafé coffee products. Other major buyers include General Milling, Universal Robina Corporation and Consolidated Food. The

48 <http://www.ico.org/news/icc-112-4e-consumption-asia.pdf>

49 Ibid.



study also highlighted the continued expansion of foreign coffee outlets like Starbucks, the Coffee Bean & Tea Leaf, Seattle's Best, Gloria Jean's, UCC Vienna Coffee and J. Coffee, as well as local coffee chains like Figaro Coffee.

#### 8.2.4 Study site in Piddig, Ilocos Norte



Piddig, in Ilocos Norte Province, is home to one of RMACC's operation sites. A small municipality, Piddig's socio-economic development depends on agriculture. With agricultural land covering 4,772 hectares and 13,813 hectares of forests providing wood and other forest products,<sup>50</sup> the municipality has a total land area of 21,620 hectares, subdivided into 23 districts and home to 20,606 people.<sup>51</sup>

Official 'protection and production' forests comprise 64 percent of the municipality's land area, with agricultural lands covering 22 percent. Protection forests, located above 1,000 m in elevation and with a slope greater than 50 percent, are found in Maruaya, Dupitac and Estancia Districts. While they are officially classified as public forest lands, during a site visit it was observed that these forests are dominated by grasslands and degraded patches of forest trees.

Piddig's ten-year Comprehensive Land Use Plan identifies coffee production as a major means of

agro-forestry development. Dupitac, Estancia, Maruaya, San Antonio and Calambeg Districts have been recognized as having potential for coffee plantation development, with 1,995 hectares allocated for planting 1.7 million coffee seedlings beginning in 2015. Arabica coffee is to be planted in the highlands while Liberica, Excelsa and Robusta are to be planted in the lowlands.<sup>52</sup>

#### *Public-Private partnership for a national convergence initiative on organic coffee production*

The Piddig Organic Coffee Production Project was approved as a national convergence initiative in 2013. The brainchild of Piddig's mayor, the project complements the Government's National Greening Program. An agreement was signed by DENR and the municipal government of Piddig to open up 1,430 hectares of public forest lands for the project. Of this land, 1,130 hectares were designated for coffee plantation, 100 hectares for planting nurse trees and 200 hectares were designated for planting fuelwood. DENR allocated PhP 45.8 million for the establishment of coffee plantations and nurseries, production of quality seedlings and organic fertilizer, maintenance and protection. An additional PhP 2.3 million was allocated for project management and supervision. The funds are managed by the LGU according to a three-year plan. The LGU is responsible for ensuring that no existing trees are cut down to make way for the project.

Also in 2013, RMACC entered into an agreement with the municipal government of Piddig to access publicly owned forest uplands in Sitio Lammin, Dupitac District – a former mineral production area – for 200 hectares of coffee plantation. The arrangement included provision of: (i) quality Arabica coffee seedlings at PhP 30 per seedling to the LGU; (ii) technical assistance to the LGU and local farmers, including capacity building and technology transfer; and (iii) the company's exclusive right to purchase Arabica produce from the upland plantations co-developed with the LGU (approximately

50 Draft Comprehensive Land Use Plan for Piddig, Ilocos Norte, 2015–2025, p. 22.

51 Philippine Statistical Authority, May 2010.

52 Draft Comprehensive Land Use Plan for Piddig, Ilocos Norte, 2015–2025, p. 43.

360 hectares). The RMACC coffee complex in Sitio Lammin is expected to be completed by 2020.

These agreements among DENR, the LGU and RMACC have attracted a host of other convergence partners from the Government, private sector (including Nestlé Philippines for lowland coffee production) and academia. The addition of state colleges and universities makes the Piddig Organic Coffee Production Project the largest national convergence initiative in Northern Luzon.

### 8.2.5 Environmental assessment

- 1) *Coffee farming and production as a reforestation and forest rehabilitation strategy.* Using coffee as a reforestation species discourages tree cutting for fuelwood and provides farmers with sustainable alternative income sources, especially in upland areas. Since coffee requires shade, it is necessary to expand the existing forest cover. This places protection of forest lands at the forefront of agricultural land preservation in the municipality. Through the Organic Coffee Production Project, 1,000 families from Piddig's 23 districts will be engaged as caretakers of designated coffee plantations. The areas to be cultivated are currently grasslands and denuded forests, which will be rehabilitated by coffee farming.
- 2) *Banning slash-and-burn farming.* An ordinance was passed by the LGU banning slash-and-burn practices in both lowland and upland plantations; violators face jail time and a fine of PhP 20,000. Strict implementation has resulted in zero forest fires in the past year. RMACC has fire breaks around its nursery and plantation in Sitio Lammin to avoid large-scale fires.
- 3) *Promotion of organic fertilizer use.* A solid waste management ordinance was passed by the municipality, which includes the development of facilities for vermicast (worm castings). The Department of Social Welfare and Development is supporting
- 4) *Use of traditional plantation development models.* RMACC utilizes traditional models for plantation development. Innovative drip irrigation is used in the nurseries, which reduces water use by 50 percent. Wider spacing between trees (2 meters x 3 meters) allows the soil to regenerate nutrients and recover from intensive farming. RMACC's nursery sources its water from the nearby river and utilizes rainwater during the rainy months.
- 5) *Promoting biodiversity.* According to the Nature Conservancy,<sup>53</sup> coffee trees grown in shade provide valuable habitat for bird species and other wildlife. The wildlife found around plantation areas in Sitio Lammin includes wild pigs, *lawin*, wild chickens, deer, musang, owl, forest rats and several species of snakes. The area's biodiversity protects the crops from pests, diseases and invasive species while reducing the need for pesticides and herbicides. The Organic Coffee Production Project is expected to create a more diverse forest ecosystem. Natural tree stands are being preserved to provide cover for seedlings, and coffee plantations' activities have minimal environmental impact.
- 6) *Increased environmental awareness and management capacity among local farmers.* Traditional hunters and upland farmers have been offered jobs in coffee nurseries managed by the LGU and RMACC to dis-

53 <http://www.nature.org/greenliving/gogreen/everydayenvironmentalist/buy-sustainable-coffee.xml>

courage them from destructive and unsustainable farming. The partnership between the LGU and RMACC is also facilitating capacity building, technology transfer and environmental awareness among farmers, which will have a multiplier effect on the future management of coffee plantations and their immediate environs.

### 8.2.6 Social impact assessment

- 1) *Employment and income generation for local farmers and households.* RMACC's nursery in Sitio Lammin employs workers from the lowland areas of Piddig and the neighboring town of Carasi. The coffee project enables them to find regular minimum-wage employment from RMACC and the LGU as maintenance workers in plantations and nurseries; according to one plantation manager, they can earn up to PhP 400 per day. Women also participate in plantation activities: in the LGU's lowland nursery in Maruaya District, 60 women are engaged in soil preparation.

Once cultivation begins, beneficiary farmers will be paid for managing coffee plots. According to LGU projections, the project is expected to generate an average family income of PhP 104,000 for lowland farms and PhP 138,000 for highland farms at the current farm-gate price of PhP 80 per kg of beans. At this rate, farm incomes will surpass the per-family poverty threshold of PhP 90,000 annually in five years. The LGU estimates that the project will benefit nearly 1,000 families and create 5,000 full-time jobs and 10,000 part-time jobs.

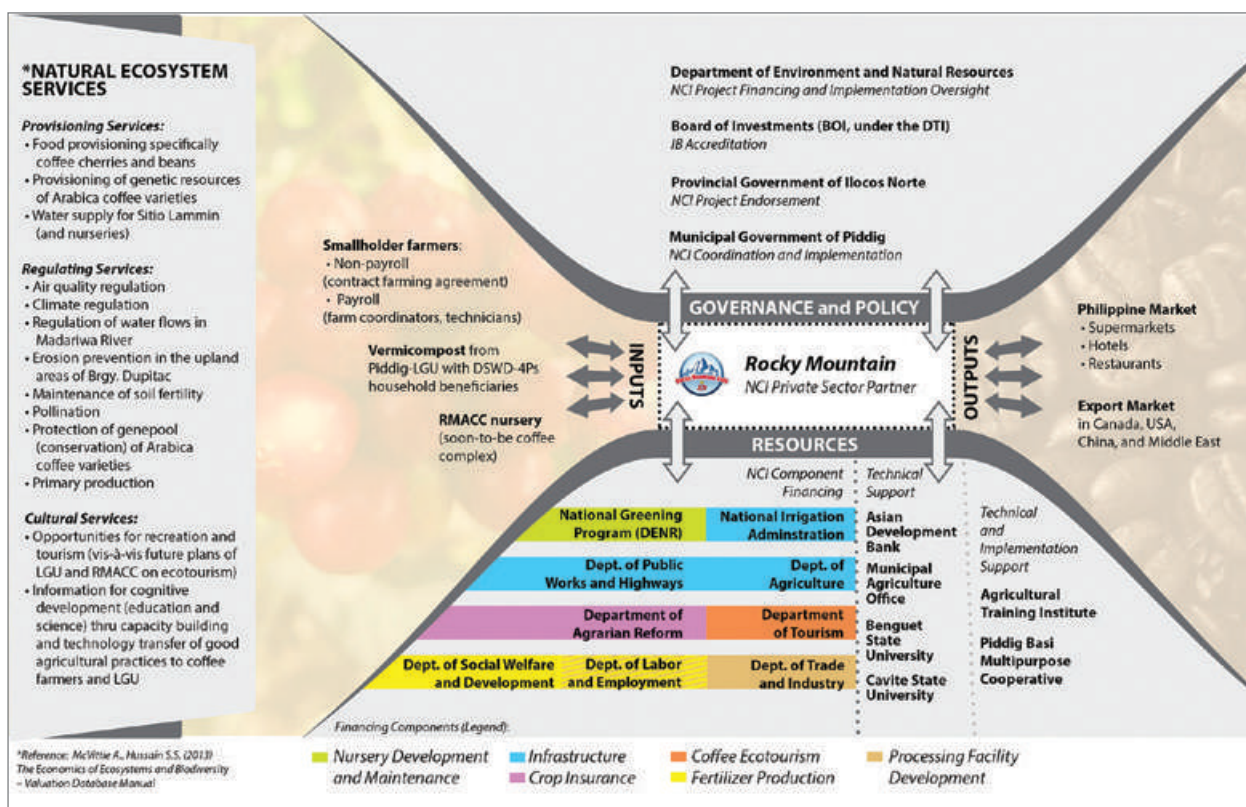
- 2) *Tenure and income security.* The LGU and farmers will sign 50-year land-tenure agreements, which will allow farmers to eventually apply for land ownership.

- 3) *Access to farming technology and technical assistance.* Project partners such as RMACC, the Department of Social Welfare and Development, the Department of Labor and Employment, the Department of Agriculture's Agricultural Training Institute, the Department of Tourism and state colleges and universities will transfer technologies and assist local farmers with new approaches to planting, seedling care, harvesting, processing and coffee eco-tourism development. The increase in local farmers' knowledge and skills, coupled with RMACC's provision of quality Arabica seedlings, will ensure the success of coffee cultivation through a high seedling survival rate, greater yields, enhanced fruit and bean quality, and higher incomes at harvest time.

- 4) *Development of a farmer cooperative.* The LGU is supporting the development of the Piddig Basi Multi-Purpose Cooperative to assist farmers who participate in the Organic Coffee Production Project. Apart from savings, credit and marketing services, the cooperative provides training in livelihood development, financial literacy and valuation. In coordination with the LGU, the cooperative is evaluating risk-mitigation measures such as: crop insurance from the Philippine Crop Insurance Corporation; agricultural guarantees from the Agricultural Guarantee Fund Pool; and comprehensive risk-management packages for high-value crops from the Land Bank of the Philippines. Members of the cooperative are eligible to access free support from Piddig Cares, the LGU's health service. The cooperative currently has 600 members from Piddig, Carasi and neighboring municipalities.

## 8.2.7 RMACC ecosystem stakeholder map

Figure 12: Ecosystem stakeholder mapping exercise of the national convergence initiative for organic coffee production in Piddig



### Key players and roles

Agency/institution/group	Roles/contributions
<b>COMPANY</b>	
<b>Rocky Mountain Arabica Coffee Company (RMACC)</b>	<p><i>National convergence initiative private-sector partner – plantation and facility development, and management</i></p> <ul style="list-style-type: none"> <li>Upland coffee complex development in Sitio Lammin (200 hectares covered; Php 2 million invested in nursery development).</li> </ul> <p><i>Input provision and acquisition</i></p> <ul style="list-style-type: none"> <li>Provides quality Arabica coffee seedlings (Php 30 per seedling, sourced from the company plantation in Tuba, Benguet) for upland plantations, including those managed by the LGU; and</li> <li>Will acquire vermicast that is locally produced by the LGU.</li> </ul> <p><i>Capacity building</i></p> <ul style="list-style-type: none"> <li>Facilitates technology transfer and capacity building among farmers and crop technicians, from plantation development to harvesting.</li> </ul> <p><i>Local employment</i></p> <ul style="list-style-type: none"> <li>Employs local farmers and skilled residents as plantation coordinators and technicians.</li> </ul> <p><i>Market access</i></p> <ul style="list-style-type: none"> <li>Ten-year guaranteed purchase of Arabica coffee produce (renewable for another ten years).</li> </ul>

(Continues)

Agency/institution/group	Roles/contributions
<b>PUBLIC SECTOR</b>	
<b>Municipal government of Piddig</b>	<p><i>National convergence initiative coordination and implementation</i></p> <ul style="list-style-type: none"> <li>Facilitates the pooling of resources and implementation of the Piddig Organic Coffee Production Project.</li> </ul> <p><i>Plantation and infrastructure development</i></p> <ul style="list-style-type: none"> <li>Develops highland (Arabica) and lowland (Liberica, Excelsa, Robusta) coffee plantations;</li> <li>Facilitates the construction of farm-to-market and on-farm roads;</li> <li>Facilitates the construction of irrigation and flood control dams; and</li> <li>Establishes coffee mills and farmer training centers.</li> </ul> <p><i>Land distribution and tenure arrangements</i></p> <ul style="list-style-type: none"> <li>Oversees distribution and management of lands designated for organic coffee production; and</li> <li>Issues 50-year tenure agreements to farming households.</li> </ul> <p><i>Input production and provision</i></p> <ul style="list-style-type: none"> <li>Provides seedlings to household beneficiaries at no cost; and</li> <li>Facilitates local production and use of vermicast.</li> </ul> <p><i>Local employment</i></p> <ul style="list-style-type: none"> <li>Employs local farmers and farming households in nursery and plantation preparation, and management.</li> </ul> <p><i>Support for social services</i></p> <ul style="list-style-type: none"> <li>Sustains social welfare programmes such as the health service Piddig Cares using a share of the revenue from coffee production (5 percent of farmers' income from harvests goes to the LGU).</li> </ul>
<b>Provincial government of Ilocos Norte</b>	<p><i>National convergence initiative project endorsement</i></p> <ul style="list-style-type: none"> <li>Project endorsement by provincial governor and board.</li> </ul>
<b>Department of Environment and Natural Resources (DENR)</b>	<p><i>National convergence initiative project financing and implementation oversight</i></p> <ul style="list-style-type: none"> <li>Granted LGU and RMACC access to idle public lands in Piddig for developing coffee plantations;</li> <li>Allocated PhP 45.8 million for nursery and plantation development, maintenance, fertilizer production and training; and</li> <li>Allocated PhP 2.3 million for project management.</li> </ul>
<b>DENR National Greening Program</b>	<p><i>Component financing: Nursery development and maintenance</i></p> <ul style="list-style-type: none"> <li>Transferred PhP 62 million to the LGU for nursery establishment, seedling production, plantation establishment and maintenance, and protection.</li> </ul>
<b>Department of Agriculture</b>	<p><i>Component financing: Infrastructure</i></p> <ul style="list-style-type: none"> <li>Transferred PhP 98 million to the LGU for a farm-to-market road to Sitio Lammin Arabica plantations; and</li> <li>Transferred PhP 50 million to the LGU for 100 km of on-farm road development.</li> </ul>
<b>Agricultural Training Institute, Department of Agriculture</b>	<p><i>Technical and implementation support</i></p> <ul style="list-style-type: none"> <li>Technical support for farmer training centers (to be established).</li> </ul>

(Continues)

Agency/institution/group	Roles/contributions
<b>PUBLIC SECTOR (continued)</b>	
<b>Department of Public Works and Highways with the National Irrigation Administration</b>	<p><i>Component financing: Infrastructure</i></p> <ul style="list-style-type: none"> <li>• Provided PhP 300 million to LGU for the Small Water Impoundment Project (irrigation and flood control).</li> </ul>
<b>Department of Social Welfare and Development</b>	<p><i>Component financing: Fertilizer production</i></p> <ul style="list-style-type: none"> <li>• Identified 700 beneficiary households from the Pantawid Pamilyang Pilipino programme in Piddig for vermicast production; and</li> <li>• Provided PhP 3.5 million to LGU for household vermicomposting support (PhP 5,000 per household).</li> </ul>
<b>Department of Labor and Employment</b>	<p><i>Component financing: Fertilizer production</i></p> <ul style="list-style-type: none"> <li>• Allocated PhP 1 million to LGU for farmer vermicomposting support (target is PhP 10,000 per recipient).</li> </ul>
<b>Department of Trade and Industry with the Department of Labor and Employment</b>	<p><i>Component financing: Processing facility development</i></p> <ul style="list-style-type: none"> <li>• Coffee processing facility (coffee mill to be established).</li> </ul>
<b>Department of Agrarian Reform</b>	<p><i>Component financing: Crop insurance</i></p> <ul style="list-style-type: none"> <li>• Provision of crop insurance to cooperative and farmers.</li> </ul>
<b>Department of Tourism</b>	<p><i>Component financing: Coffee eco-tourism</i></p> <ul style="list-style-type: none"> <li>• Coffee eco-tourism development (inception stage).</li> </ul>
<b>CIVIL SOCIETY (including academia)</b>	
<b>Piddig-Basi Multi-Purpose Cooperative</b>	<p><i>Technical and implementation support: Farmer organization and assistance</i></p> <ul style="list-style-type: none"> <li>• Mobilizes membership of coffee planters, plantation workers, farm managers and traders; and</li> <li>• Provides savings, credit and marketing services, and training on livelihood development, financial literacy and value formation.</li> </ul> <p><i>Brokering tenure arrangements</i></p> <ul style="list-style-type: none"> <li>• Facilitates consultations and land-use agreements with the LGU and farmers for the Organic Coffee Production Project.</li> </ul> <p><i>Capacity building for project management</i></p> <ul style="list-style-type: none"> <li>• Mobilizes financial and human resources for increasing capital and assets in preparation for the LGU's eventual handover of the Organic Coffee Production Project.</li> </ul>
<b>Benguet State University</b>	<p><i>Technical support</i></p> <ul style="list-style-type: none"> <li>• Provides technical assistance and support for highland Arabica coffee production.</li> </ul>
<b>Cavite State University</b>	<p><i>Technical support</i></p> <ul style="list-style-type: none"> <li>• Provides technical assistance and support for lowland coffee production (Liberica, Excelsa and Robusta).</li> </ul>
<b>MULTILATERAL AGENCIES</b>	
<b>Asian Development Bank (ADB)</b>	<p><i>IB accreditation pilot</i></p> <ul style="list-style-type: none"> <li>• RMACC participated in ADB's IB accreditation pilot initiative with the Board of Investment.</li> </ul>

## 8.3 Case Study 3: Glatfelter Gernsbach GmbH



Glatfelter ([www.glatfelter.com](http://www.glatfelter.com)) is a global manufacturer of specialty paper and fiber-based engineered materials serving more than 90 countries worldwide. The company operates 13 facilities in the Philippines, Canada, France, Germany, the United Kingdom and the United States, and has global sales offices in China, Russia and the United States. Glatfelter's three business units include the Specialty Papers Business Unit, the Advanced Airlaid Materials Business Unit and the Composite Fibers Business Unit. The company has a labour force of more than 4,000 worldwide.

With headquarters in Gernsbach, Germany, Glatfelter's Composite Fibers Business Unit is the world's largest producer and consumer of abaca pulp in the world. The company's Newtech Pulp, Inc. pulp mill is located in the Philippines in Lanao del Norte. This unit sources and uses abaca for producing specialty paper used in tea bags and coffee filters. To promote awareness and establish standards for sustainability in abaca cultivation and fiber production, Glatfelter launched the Abaca Sustainability Initiative (ASI), which introduced abaca certification and supports sustainability-certified abaca supply chains.

In 2009, the company lobbied for abaca sustainability certification at the International Fiber Conference in Manila hosted by the Food and Agriculture Organization of the United Nations (FAO). This initiative was followed by a study on the abaca supply chain and its stakeholders in 2011, which identified critical areas for improvement to promote sustainability and increase farmers' productivity and incomes. As a result, Glatfelter and the Rainforest Alliance have supported the ASI in abaca-producing regions since 2012.

A year after the pilot initiative was launched in Catanduanes, Glatfelter's Composite Fibers Business Unit partnered with the German interna-

tional cooperation agency GIZ to expand the ASI into Panay Island and certify smallholder farms on 500 hectares of abaca plantations in Aklan and Iloilo Provinces. The initiative is expected to increase participating producers' annual incomes by an average of 10 percent, with Glatfelter providing a premium for certified abaca fibers.

### 8.3.1 Glatfelter's IB model

In partnership with the German Federal Ministry for Economic Cooperation and Development (BMZ), Glatfelter is co-funding the expansion of the ASI in Panay Island in Western Visayas (Region VI). In March 2015, an agreement was signed with the Department of Agriculture, GIZ (on behalf of BMZ) and the Philippine Fiber Development Authority (PhilFIDA) for project implementation.

Glatfelter's model project, the Catanduanes Abaca Sustainability Initiative (CASI), implemented in the Bicol Region (Region V) since 2012, serves as a model for the ASI. The Panay expansion seeks to engage agricultural technicians, extension workers, civil society organizations, LGUs, local traders and abaca farmers in certifying at least 500 hectares of abaca plantation lands by the Rainforest Alliance. The aim is to: increase the productivity of abaca plantations; increase the incomes of 500 small-scale abaca growers by at least 10 percent; and enhance the quality and price of abaca produced in Panay.

### 8.3.2 Glatfelter IB model assessment

- 1) *IB model.* Through the ASI, Glatfelter and its local partners are introducing smallholder farmers to abaca certification and building sustainability-certified abaca supply chains. This high-quality sustainably sourced raw material is the basis for Glatfelter's production of high-performance tea bags. Third-party certification pushes companies to enhance their business processes – from sourcing to production – in response to growing consumer demand for products that are sustainably sourced and that promote social responsibility and environmental sustainability.

While the certification standards were primarily designed as consumer protection

measures and are driven by consumers' demand for certified products, they provide important guidelines for adopting sustainable production methods and fair labour practices among smallholder producers and suppliers. Certification also provides an opportunity for Glatfelter to pay a premium for abaca, which gives farmers incentives to continue producing the crop.

Apart from the technical, financial and administrative support the ASI provides to farmers and PhilFIDA, the project has introduced a streamlined and centralized group administration model for abaca production, trading and certification. Major stakeholders including the LGU, local traders and farmer associations are able to take on leadership roles, and farmer organizations like *Katilinban Sang Pumuluyo Nga Naga-Apitan Sang Watershed* (KAPAWA) and other value-chain players can become more active in local production and trading. This not only reinforces the company's production base and its relationship with local industry players, but empowers farmers and their organizations to work with the company and other stakeholders as equal partners. The partnership with GIZ is opening up space for policy discussion and reform to boost the abaca industry and establish national quality standards through certification.

Sustainability standards such as those set by the Sustainable Agriculture Network (SAN) go hand in hand with the group administration model, bringing additional socio-economic incentives (such as premium prices for certified fibers and better working conditions on farms) that encourage the shift to more productive and sustainable farm management. Sustainable management and environmental protection practices are critical for improving farmers' lives and building a thriving local economy around abaca production and trading. Even though the impacts of this new model on the local value chain and farmers' incomes are yet to be fully real-

ized, the company remains committed to the ASI and the certification of more smallholder abaca farms in the country.

- 2) *Environmental assessment.* The project areas in Iloilo are located in critical watersheds, which serve as the main sources of potable water for Iloilo City and the municipalities of Cabatuan, Santa Barbara and Pavia. The sustainable production of abaca in these areas contributes to the protection of this watershed as well as forest management. The project is also building the capacity of KAPAWA, which has a CBFM agreement and is the mandated steward of the Maasin watershed. In addition to building capacity for sustainable agriculture, the project is raising members' awareness of SAN standards.

In addition to improving abaca fiber quality, the project's move towards certification and training of farmers and agricultural workers will facilitate: (i) the preservation of native abaca varieties; (ii) abaca plant disease eradication and prevention; (iii) proper fertilization; (iv) soil improvement; (v) the use of more efficient fiber-extraction techniques; and (vi) intercropping of abaca with other high-value crops, which promotes biodiversity. Sustainable abaca production is also expected to increase abaca farming activity and eventually the number of abaca plantations. This will increase the watersheds' vegetative forest cover, which plays an important role in water regulation, reducing surface run-off and silting of the Tigum and Salog Rivers. With the prohibition of synthetic agrochemicals, farmers will be encouraged to utilize organic fertilizers (e.g. forest litter).

- 3) *Social impact.* The ASI is facilitating Glatfelter's direct engagement with smallholder abaca farmers and farming communities to lift their incomes by at least 10 percent. The company's engagement with major value-chain players (such as local traders, producers'



groups like KAPAWA and social-service providers like the LGU and PhilFIDA) through the group administration model reinforces the supportive ecosystem in these farming communities. The project's partnership with government entities like LGUs, PhilFIDA, state colleges and universities harnesses multi-sector support for rural infrastructure development, technical assistance and policy making. This will ultimately enable the local abaca industry to become more competitive in both domestic and global markets.

- 4) *Innovations.* The stakeholder-led group administration model for abaca production, trading and certification is enabling greater collaboration among Glatfelter and local industry players to maximize local production and trading, and develop the local abaca industry. The model is not only facilitating local business, but allowing farmers to access training and quality assurance mechanisms, and building the technical and administrative capacities of farmer associations for sustainable farming and certification. The introduction of sustainability standards such as SAN, in line with the group administration model, provides socio-economic incentives (such as premiums for certified fibers and better working conditions on farms) that encourage the shift to more productive and sustainable farm management, and environmental protection.
- 5) *Challenges:* Glatfelter's previous CASI project, which also utilized the group administration model, provided valuable lessons for this project. The LGU, local traders and farmer associations will require additional capacity to take on the group administrator role in this project.

While certification must go hand in hand with the group administration model to ensure sustainability, creating the necessary incentives for value-chain actors is critical. It is also important to raise stakeholders' awareness of the need for environmental protection in order to

achieve fully sustainable abaca production and trading in the long term.

If not properly explained, rigorous certification standards may be perceived as a disincentive rather than an incentive for farmers. Abaca production is far below its potential in Iloilo: according to local trader Enrique Pareja, market demand for abaca can reach 200 tons per month but current production barely reaches 80 tons. Coupled with factors such as climate change and competing income sources, compliance with stricter requirements may be seen as restrictive. Increasing the number of farms and intensifying planting density are recommended to address this challenge.

Abaca production is not the primary source of income for all farmers in the municipality of Maasin. According to the PhilFIDA regional office and farmers, more income can be earned from the local bamboo industry, operating local *sari-sari* stores, regular employment in local businesses and rice farming. This has contributed to a decrease in the number of farmers engaging in more labour-intensive abaca production.

Pest and disease management in farms is still a major issue; bunchy-top disease is the major contributor to low production. Farmers do not regularly monitor abaca farms, which results in the rapid spread of plant diseases. Local farmers need to be trained in disease-eradication techniques and on-farm management standards.

### 8.3.3 Abaca industry overview

Abaca (*Musa textilis*) belongs to the Musaceae family – the same family as banana. This species, which originated in the Philippines and is popularly known as Manila hemp, is one the country's biggest export commodities. The Philippines produces 50,000 tons of abaca per year, equivalent to 85 percent of the global production recorded in 2013. Cultivated on 138,369 hectares nationwide, abaca provides income to 90,000 small farmers. The area of abaca

cultivation has been increasing since 1994: in the first quarter of 2015,<sup>54</sup> the Philippine Statistics Authority estimated production at 15,660 mt of abaca fibers – 2.4 percent higher than in the first quarter of 2014. Additional harvesting was noted across Northern Mindanao, Compostela Valley, Davao, Catanduanes and Negros Oriental.

Almost all parts of the abaca plant can be processed into products including pulp and paper, cordage, rope and twine, fibercrafts, fabric, seed enzymes and oil. But despite the country's long history of abaca trade and the high global demand for abaca, the local abaca industry is not producing at its full potential;<sup>55</sup> productivity and profitability have remained low. Challenges include pest and disease infestation, inefficient fiber extraction and a limited supply of high-yielding varieties. Institutional challenges in the abaca production and distribution system are major hurdles to industry development. They include a lack of incentives and the labour-intensive nature of abaca harvesting. Methods of extraction include hand stripping, spindle stripping and decortication.

### 8.3.4 The Abaca Sustainability Initiative (ASI)



Glatfelter launched the ASI in 2012 in Catanduanes in the Bicol Region, which leads the nation in abaca fiber production, accounting for 18,000 mt per year. Together with the Rainforest Alliance, Glatfelter is promoting more sustainable abaca cultivation and production, and coordinating certification according to rigorous SAN standards. These standards<sup>56</sup> are laid out according to ten guiding principles, which are broken down into 99 criteria for good environmental, labour and agronomic practices.

The ten guiding principles for farmers and administrators are:

- 1) Social and environmental management
- 2) Ecosystem conservation
- 3) Wildlife protection
- 4) Water conservation
- 5) Fair treatment and good working conditions for workers
- 6) Occupational health and safety
- 7) Community relations
- 8) Integrated crop management
- 9) Soil management and conservation
- 10) Integrated waste management

For the existing CASI initiative, Glatfelter, as group administrator, facilitated engagement with farmers in four villages on several activities leading to certification, including: (i) establishment of farmer sub-groups for management and monitoring; (ii) farmer training on certification standards and farm preparation; (iii) internal inspection of farms prior to external audits; (iv) continuous improvement work plans, including a traceability system and designated storage area for CASI-produced fibers; (v) building field toilets to promote hygiene on farms; (vi) first-aid training for farmers; and (vii) applications for external audit by the Rainforest Alliance. Glatfelter covers the cost of these yearly external audits (approximately USD 10 per hectare). In 2012, CASI members became the first group of abaca farmers in the Philippines to be certified by the Rainforest Alliance.

#### *Expansion project in Panay*

The develoPPP Programme, facilitated by GIZ on behalf of BMZ, is supporting implementation of the ASI in the municipalities of Madalag and Libacao in Aklan Province, and Janiuay and Maasin in Iloilo Province. This initiative began in November 2014 following consultations with the Department of Agriculture, PhilFIDA, the Agricultural Training Institute, Aklan State

54 Major Non-Food and Industrial Crops Quarterly Bulletin, January–March 2015. 9(1).

55 <http://www.fft.org/library.php?func=view&style=type&id=20140717092706>

56 [http://www.san.ag/biblioteca/docs/SAN-S-1-1.2\\_Sustainable\\_Agriculture\\_Standard.pdf](http://www.san.ag/biblioteca/docs/SAN-S-1-1.2_Sustainable_Agriculture_Standard.pdf)

University, local government officials, traders and farmers. On March 18, 2015, an agreement was signed by GIZ, the Department of Agriculture and PhilFIDA. Glatfelter and BMZ have each contributed EUR 193,000 to the total project budget of EUR 386,000.

The ultimate aim of ASI is to cultivate at least 500 ha of certified abaca (averaging 1 hectare per farmer) in order to realize a 10 percent increase in farmers' incomes. PhilFIDA's regional office in Panay and the GIZ office in Jaro, Iloilo coordinate all meetings with farmers and other stakeholders. The initiative's group administrator-led trading and financing scheme is shown in Figure 13 below.

The Panay project is exploring three different models of group administration to determine the best fit: by the LGU; a local trader; and a farmer cooperative. Group administrators: (i) facilitate business for both the company and farmers; (ii) increase farmers' access to training and quality assurance mechanisms; and (iii) build the technical and administrative capacities of local value-chain actors, especially in the certification process. At the study site in the municipality of Maasin, the KAPAWA farmer federation was tapped as group administrator. Newtech Pulp Inc., Glatfelter's pulp mill in Lanao del Norte, is the receiving facility.

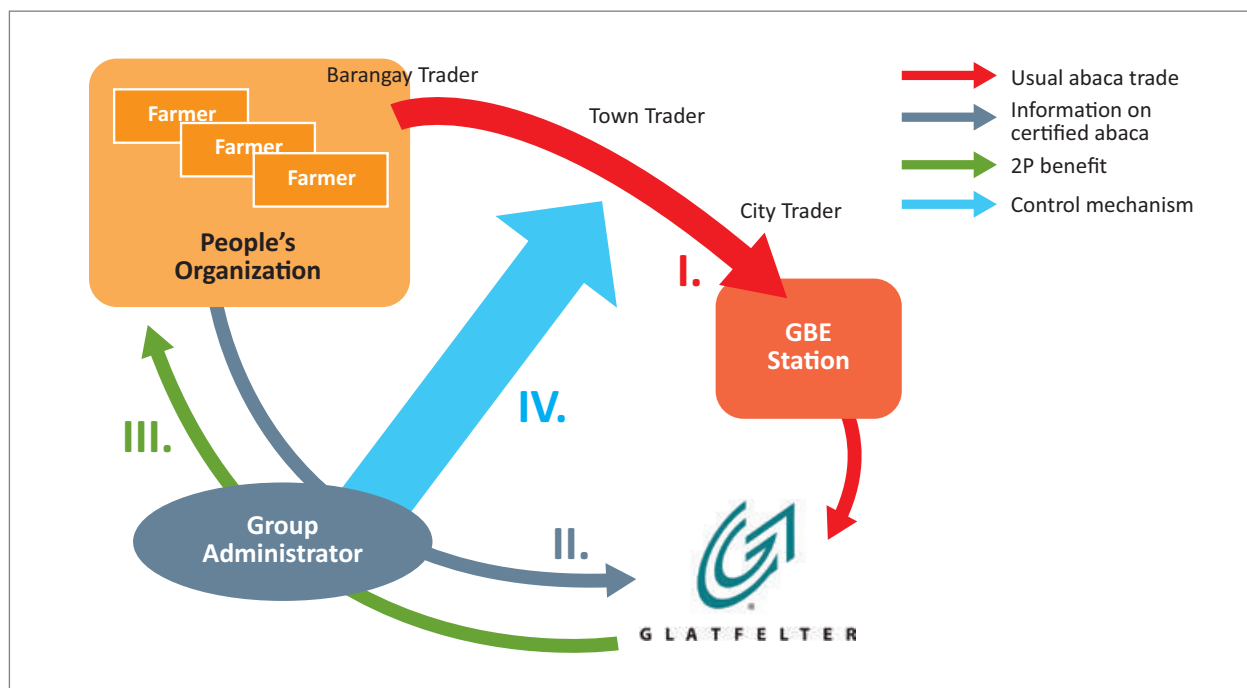
### 8.3.5 Study site in Maasin, Iloilo



The municipality of Maasin is located in the west-central part of Iloilo Province. Maasin has a total land area of 17,110 hectares, including 6,150 hectares of watershed with terrains ranging from flat to mountainous. The town is composed of 50 districts and as of 2010 was home to 35,069 people.

Residents primarily derive their incomes from agriculture. Agricultural lands comprise more than 50 percent of Iloilo's land area, followed by forest lands (43 percent), which are classified as either protected forest or production forest. The Maasin Watershed (a protected forest) is the main source of potable water for Iloilo

Figure 13. ASI Group administration scheme



Source: GIZ

City and the municipalities of Cabatuan, Santa Barbara and Pavia. The 1,910 hectare old-growth forest within the watershed provides habitat for endangered spotted deer, warty pig, horn bill and monkey. Bamboo stands are dominant in Maasin, supporting a vibrant local bamboo industry – the main source of livelihoods in the municipality. Locals produce *sawali*, *kisame*, bamboo furniture and other bamboo products.

### **Abaca industry in Maasin**

Maasin is one of four abaca-producing municipalities in Iloilo Province (the others are Janiuay, Alimodian, and Lambunao). In 2014, combined abaca production in these municipalities totalled 208,288 kg. Maasin produces 11 percent of Iloilo’s total abaca output. In 2011, the LGU recorded 64 hectares of abaca plantation, which produced approximately 22 mt per year. The average yield per hectare ranged from 2.9 mt to 3.3 mt per year.

Most of the abaca produced in Maasin comes from Dagami and Trangka Districts, which are located in timberland areas outside the Maasin Watershed Forest Reserve; the protection forests in these districts are part of the Salog Watershed. Abaca fibers are processed by farmers on site. However, because of a lack of access roads, farmers from Trangka must transport their fibers by foot to Dagami through rugged mountains, carrying 25 kg to 30 kg of abaca fiber on their backs for three hours. The fibers are then transported by motorcycle to Maasin town, where



57 Gonzal, L. 2007. Integrating Abaca in a Mixed Forest Culture: A Livelihood Option for Small Holder Tree Farmers. *Annals of Tropical Research* 29(3):15-24.

the KAPAWA farmer federation consolidates them trading in Iloilo City.

KAPAWA is a PhilFIDA-licensed trader involved in the trade of bamboo products, rice, livestock and poultry, and other agricultural products. This grassroots federation is mandated by CBFM Agreement 38416 (issued by DENR in 2002) to protect and manage the Maasin Watershed. Comprising 16 village farmer associations from Maasin, Janiuay and Alimodian municipalities, KAPAWA has 1,584 farmer members.

### **8.3.6 Environmental assessment**

- 1) *Propagation of abaca to increase forest cover and biodiversity in the Maasin watershed.* In Maasin, Abaca is considered to be a secondary source of income after bamboo. This has led to an increasing number of abaca farms being left unattended. The ASI project is designed to revitalize the local abaca industry, and the propagation of abaca is expected to increase forest cover and biodiversity in the watershed. Increased vegetation will also enhance soil quality, increase water-storage capacity, and reduce the risk of flash floods and sedimentation in rivers.

Abaca does not require intensive land preparation and can be grown using a zero-tillage system.<sup>57</sup> Through this project, GIZ and PhilFIDA are introducing crop intensification with a density of 2m x 2m or 2m x 2.5m. Within each hectare, 1,600 hills of abaca will be planted, totaling at least 5,000 plants for improved production. The Rainforest Alliance is promoting 12 indigenous trees species to serve as shade for abaca and protect the forest. GIZ and PhilFIDA are preparing farm management plans to guide all participating farmers.

- 2) *Prohibition of chemical use.* The SAN standard prohibits the use of agrochemicals, including chemical fertilizers, pesticides and insecticides; if

they are necessary, SAN requires rigorous precautionary measures. This is in line with the policies of the local government and Watershed Management Board, which ban the use of chemicals in watersheds to avoid contaminating ground and surface water.

- 3) *Institutional development of KAPAWA.* The KAPAWA farmer federation serves as this initiative's group administrator in Maasin. KAPAWA is mandated by DENR to manage the Maasin watershed and has a seat on the Maasin Watershed Forest Reserve Management Board.<sup>58</sup> The organization also plays a vital role in the abaca value chain as a consolidator, trader and umbrella organization of 16 farmers' associations in the watershed area.

The initiative's partnership strategy, which involves Glatfelter, government agencies such as the Department of Agriculture and PhilFIDA, and farmer organizations like KAPAWA, is critical for increasing local abaca production while maintaining environmental health in the targeted districts. With its members' growing awareness of the profitability of abaca production, KAPAWA could become the major supplier of abaca fibers in Iloilo Province within the next ten years as a result of this initiative.

### 8.3.7 Social impact assessment

- 1) *Abaca production as a viable source of additional income for upland farmers.* Farmers report that they can harvest 500 kg of abaca fiber – an average of 1 kg per abaca plant – from up to 625 plants on 1 hectare of land, and sell the abaca at a farm-gate price of PhP 40. This translates into an income of approximately PhP 20,000 per hectare. Since abaca can be harvested every six months, a farmer with 1 hectare can earn up to PhP 40,000 per year, or PhP 3,300 per month. This can supplement farming households' other

sources of income such as *sari-sari* stores, bamboo slat weaving and employment in local nurseries through the National Greening Program.

Many abaca farmers are also beneficiaries of the Department of Social Welfare and Development's *Pantawid Pamilyang Pilipino* Program, a conditional cash-transfer facility. Surveyed farmers anticipated that their income from abaca would increase beyond the 10 percent originally envisaged as a result of the ASI initiative and the certification of their abaca produce. The technical assistance provided by GIZ, PhilFIDA, Glatfelter and KAPAWA is also likely to increase the quality of their harvests.

- 2) *Greater access to financial services and assistance.* KAPAWA offers a savings facility for its members. Farmers are optimistic that with certification and the resulting increase in income, they will be able to save more through KAPAWA, which also lends funds to its members in the form of low-interest loans (a portion of the interest income is returned each year to members).

In addition, KAPAWA provides loan-redemption insurance for member borrowers. The 16 village associations that comprise KAPAWA's membership also have their own savings and credit operations, which KAPAWA helped to establish. For example, a majority of farmers' wives are members of *Taytay sa Kauswagan, Inc.*, which provides loans for education, micro-enterprises and other expenses. Greater income from abaca production will increase farmers' bankability and ability to secure loans from local providers.

- 3) *Municipal government infrastructure and policy support to the project.* Maasin's Mayor Mariano Malones, Jr. admitted that even though local farmers in Maasin have

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58 Rubenie Castellanes, the Chair of KAPAWA, was appointed by Department of Agriculture Secretary Paje as a member of the Maasin Watershed Forest Reserve Management Board in December 2011.

been producing abaca for a long time, a lack of government support to the fiber industry has caused production to decrease. Prior to the ASI, there was no collaboration between national government agencies and the LGU to support abaca production. The LGU has now committed to support the project through construction of farm-to-market roads, monitoring of illegal logging through its Municipal Environment and Natural Resources Office, and the *Baklay-Bukid* education programme for watershed management.

4) *Access to technical assistance from PhilFIDA and GIZ.* As the lead agency for the ASI's capacity-building component, PhilFIDA, an agency of the Department of Agriculture, supports the capacity development of abaca industry stakeholders, especially small-scale farmers and growers. The Region VI offices of PhilFIDA and GIZ are developing training modules for the project in collaboration with local universities

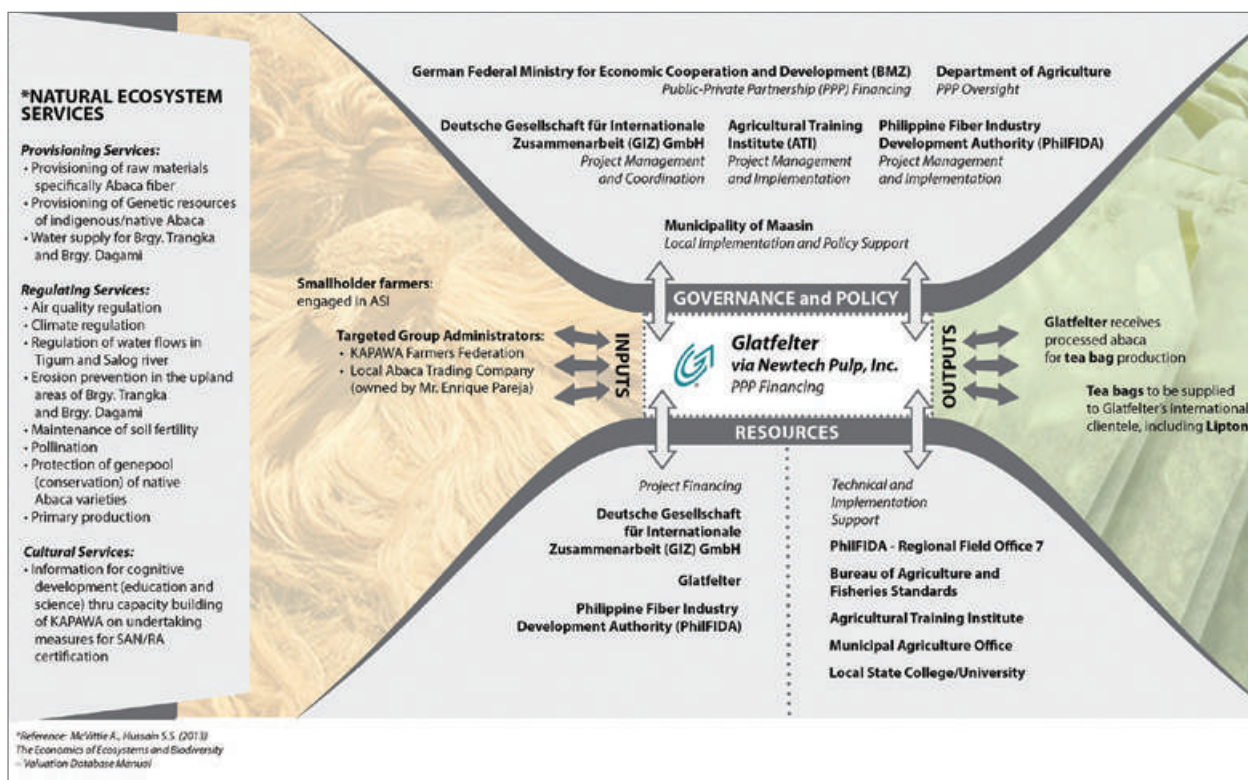
and the Agricultural Training Institute. The training is targeted to local farmers, agricultural officers and agricultural extension workers. The SAN certification standards necessitate capacity building in:

- Production technology;
- Abaca disease prevention and eradication;
- Fertilization;
- Soil improvement;
- Fiber yield improvement;
- Intercropping;
- Fiber propagation and extraction techniques; and
- Child and labourer welfare.

Training-facilitation skills will also be transferred to KAPAWA members to ensure the sustainability of capacity-building efforts. All training materials will be translated into the local language and adopted as regular PhilFIDA training modules.

### 8.3.8 Glatfelter ecosystem stakeholder map

Figure 14: Ecosystem stakeholder mapping exercise for the ASI project in Iloilo



## Key players and roles

Agency/institution/group	Role/contribution
<b>COMPANY</b>	
<b>Glatfelter</b>	<p><i>Public-private partnership financing</i></p> <ul style="list-style-type: none"> <li>• Provides EUR 193,000 in counterpart funding for ASI implementation through the BMZ develoPPP programme;</li> <li>• Shares knowledge as group administrator;</li> <li>• Provides technical support in abaca fiber quality and efficiency enhancement; and</li> <li>• Finances audit costs.</li> </ul>
<b>PUBLIC SECTOR</b>	
<b>German Federal Ministry for Economic Cooperation and Development (BMZ)</b>	<p><i>Public-private partnership financing</i></p> <ul style="list-style-type: none"> <li>• Provides EUR 193,000 in counterpart funding for implementation of the ASI through the develoPPP programme.</li> </ul>
<b>Department of Agriculture</b>	<p><i>Public-private partnership oversight</i></p> <ul style="list-style-type: none"> <li>• Oversees implementation of the ASI.</li> </ul>
<b>Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)</b>	<p><i>Project management and coordination</i></p> <ul style="list-style-type: none"> <li>• Appointed by BMZ to receive and manage funds for ASI implementation through the develoPPP programme;</li> <li>• Executes agreements with the Department of Agriculture and PhilFIDA for ASI implementation; and</li> <li>• Facilitates ASI implementation by: co-chairing the national project steering committee (chief advisor); sitting on the regional project management committee (coordinator); and participating in the regional project coordinating team (administrative and secretariat support).</li> </ul> <p><i>Fund disbursement to project partners</i></p> <ul style="list-style-type: none"> <li>• Allocates funds for project activities to the LGU, PhilFIDA, the Agricultural Training Institute and other collaborating institutions.</li> </ul> <p><i>Capacity building and technical support</i></p> <ul style="list-style-type: none"> <li>• Leads the development of training curricula with PhilFIDA and the Agricultural Training Institute;</li> <li>• Facilitates training sessions and project-related workshops (knowledge-sharing events); and</li> <li>• Provides technical experts.</li> </ul> <p><i>Basic supplies and equipment</i></p> <ul style="list-style-type: none"> <li>• Provides supplies and capital equipment (subject to review and approval).</li> </ul>

(Continues)

Agency/institution/group	Role/contribution
<b>PUBLIC SECTOR (continued)</b>	
<b>Philippine Fiber Industry Development Authority (PhilFIDA)</b>	<p><i>Project management and implementation</i></p> <ul style="list-style-type: none"> <li>• Main public implementing agency of the ASI from its Region 6 and 7 field offices;</li> <li>• Director sits on the national project steering committee;</li> <li>• Directors chair the regional project management committee;</li> <li>• Participates in the regional project coordination team (administrative and secretariat support);</li> <li>• Provides information on abaca farmers and their organizations in Panay, and assists in identifying project participants;</li> <li>• Reviews financing agreements with the LGU and collaborates with the LGU in identifying farmer participants;</li> <li>• Assigns technical experts to assist in project monitoring and evaluation;</li> <li>• Receives funds for implementing specific project components; and</li> <li>• Conducts disease eradication activities and establishes nurseries.</li> </ul> <p><i>Capacity building and technical support</i></p> <ul style="list-style-type: none"> <li>• In collaboration with the agricultural training institute, designs modules for training of trainers and group administrators; and</li> <li>• Provides experts on abaca sustainability certification and good production practices for training sessions.</li> </ul> <p><i>Advocacy and quality assurance</i></p> <ul style="list-style-type: none"> <li>• Advocates for sustainability certification of abaca; and</li> <li>• Ensures enforcement of quality standards for abaca.</li> </ul>
<b>Agricultural Training Institute</b>	<p><i>Project management and implementation</i></p> <ul style="list-style-type: none"> <li>• Director sits on the national project steering committee; and</li> <li>• Training center director sits on the regional project management committee.</li> </ul> <p><i>Capacity building and technical support</i></p> <ul style="list-style-type: none"> <li>• Provides technical experts for training material development; and</li> <li>• Conducts training and extension programmes in coordination with PhilFIDA, GIZ, LGUs and state universities and colleges.</li> </ul>
<b>Bureau of Agriculture and Fisheries Standards</b>	<p><i>Project management and implementation</i></p> <ul style="list-style-type: none"> <li>• Director sits on the national project steering committee.</li> </ul> <p><i>Technical support</i></p> <ul style="list-style-type: none"> <li>• Provides technical advice on the formulation of quality standards for the abaca value chain – from raw material production to product labeling; and</li> <li>• Participates in knowledge-sharing events.</li> </ul>
<b>Municipal government of Maasin</b>	<p><i>Local implementation and policy support</i></p> <ul style="list-style-type: none"> <li>• Supports capacity-building activities (e.g. training for farmers and agricultural extension workers), certification of abaca plantations within the municipality, policy review and programme enhancement; and</li> <li>• Designates the municipal agriculture officer as a member of the regional project management committee.</li> </ul>

(Continues)



Agency/institution/group	Role/contribution
<b>PRIVATE SECTOR</b>	
<b>Local abaca trader Enrique Pareja</b>	<p><i>Group administrator</i></p> <ul style="list-style-type: none"> <li>• Mr. Pareja’s trading house is one of the largest abaca traders in Iloilo and is accredited by PhilFIDA. He has been identified as a potential administrator of an enhanced abaca production and trading scheme.</li> <li>• The group administrator is tasked with:               <ol style="list-style-type: none"> <li>1) Overseeing preparatory activities for certification, including the development of an operations manual with PhilFIDA and GIZ, coordination of farmers, farmer training, land preparation, initial harvesting, processing and grading of produce, implementing a traceability system and fiber storage; and</li> <li>2) Potentially managing the disbursement of the proposed price premium to participating farmers (this activity is being discussed by project partners).</li> </ol> </li> </ul>
<b>Newtech Pulp Inc.</b>	<p><i>Processing facility</i></p> <ul style="list-style-type: none"> <li>• Local subsidiary of Glatfelter’s Composite Fiber Business Unit, which produces abaca pulp. Newtech exports the abaca pulp to Glatfelter’s European specialty paper mills for tea bag production.</li> </ul>
<b>CIVIL SOCIETY (including academia)</b>	
<b>Katilingban Sang Pumuluyo Nga Naga-Apitan Sang Watershed (KAPAWA)</b>	<p><i>Group administrator</i></p> <ul style="list-style-type: none"> <li>• KAPAWA is a federation of farmer-traders formed by DENR under a CBFM agreement in 2002 for rehabilitating and developing the Maasin Watershed. It is a PhilFIDA-accredited trader of abaca and other agricultural products (bamboo, rice, rattan).</li> <li>• The group administrator is tasked with:               <ol style="list-style-type: none"> <li>1) Overseeing preparatory activities for certification, including the development of an operations manual with PhilFIDA and GIZ, organization of farmers, farmer training, land preparation, initial harvesting, processing and grading of produce, implementing a traceability system and fiber storage; and</li> <li>2) Potentially managing the disbursement of the proposed price premium to participating farmers (this activity is being discussed by project partners).</li> </ol> </li> </ul>
<b>State colleges and universities</b>	<p><i>Technical support</i></p> <ul style="list-style-type: none"> <li>• May be tapped by PhilFIDA to develop training modules for the ASI.</li> </ul>

# 9 Summary

1. Discussions on green growth and pro-poor or inclusive growth have begun to converge in the past five years, with influential development agencies such as the World Bank, OECD and UNDP incorporating inclusiveness and poverty alleviation into their green growth policies and strategies. This has resulted in the creation of overarching frameworks for sustainability. In 2015, the United Nations approved the post-2015 SDGs, which build upon the MDGs, but place greater emphasis on achieving progressive outcomes such as: social equity and social justice; governance systems that promote transparency, participation and innovation; and the adaptability of structures, systems, and peoples to the environment (including resilience to climate change).

These new goals and targets integrate environmental sustainability and social development to break free from the cycle of poverty and social inequality, which are both causes and effects of environmental degradation and a changing climate. New development strategies should aim to impact both environmental and social dimensions. Inclusive businesses have a key role to play in achieving the SDGs.

2. Inclusive business (IB) is a new approach being implemented by a growing number of both established and emerging companies. IB can either be integrated into companies' existing value chains and target markets, or comprise a novel business model that blends commercial and social values into operational strategies.<sup>59</sup> IB models incorporate BoP communities as

consumers (providing essential goods and services), producers and partners (integrating poor people into company operations as suppliers, employees or implementing partners).

Novel IB models entail greater opportunities and challenges for both companies and targeted communities, and allow for greater impacts on incomes, capacity, access to formal markets and social services, and livelihood sustainability. With the majority of BoP populations living in rural areas and engaged in small-scale agriculture, enhancing agricultural livelihoods and value chains is critical for demonstrating that the IB paradigm can achieve systemic social impacts at scale.

Promoting sustainable agriculture provides a natural nexus for poverty alleviation and environmental protection. The sustainable development of agroforestry systems – especially uplands and forest lands – requires the effective management of natural capital along with intellectual, social, human, financial and manufactured capital. In these agricultural systems, IB models primarily affect the supply of raw materials from producers – smallholder farmers.

3. The agriculture sector is the main generator of employment for more than one quarter of the Philippines' working population, and is the foundation for food security in the country. Challenged by long-standing issues such as poor rural infrastructure, high production and logistics costs, underemployment as a result of seasonal working arrangements and depressed agricultural wages, agriculture's

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59 UNDP. 2014. Breaking Through: Inclusive Business and the Business Call to Action Today – Mapping Challenges, Progress and the Way Ahead.

contribution to the country's GDP is rapidly declining: nearly 40 percent of farmers live in poverty.

Since it is closely dependent on natural systems and resources, the agriculture sector is particularly vulnerable to environmental degradation. Upland environments are among the country's most complex, diverse and risk-prone agricultural ecosystems, and agroforestry development in the country has suffered the affects of climate change and other natural disasters such as flooding and landslides. A significant decline in forest cover and other natural resources has been brought about by: massive land conversions for commercial purposes; lax monitoring and enforcement of laws against logging and small-scale mining; the exploitation of natural resources within ancestral domains by LGUs and private companies; and unsustainable agricultural practices such as slash-and-burn farming.

Since the early 1990s, the Government has sought to both develop and safeguard the agriculture and agroforestry sectors through policies and programmes aimed at agrarian reform, agricultural modernization, rural finance, reforestation, and community-based forest management (CBFM). However, statistics show that government assistance moves at a slow pace, has limited reach and lacks the continuity to generate sustained impact.

In this context, there are significant opportunities for companies focused on agricultural value chain development to complement government efforts through inclusive agriculture and agroforestry. These partnerships not only have the potential to reduce rural poverty, but to increase the productivity and competitiveness of local value chains in order to meet local and global demand, and achieve systemic social impact.

4. Studies show that upland areas offer considerable opportunities for growth in cacao, coffee and abaca production. Local smallholders' yields of these three crops are still far below their potential, and demand

for cacao- and coffee-based products, and certified organic and fair-trade produce is increasing. Companies that employ IB strategies in these areas can create both commercial sustainability and social impact.

The companies Kenner Foods International (KFI) for cacao, Rocky Mountain Arabica Coffee Company (RMACC) for coffee and Glatfelter Gernsbach GmbH for abaca were chosen as case studies because of their high IB potential as demonstrated by their business models, technologies, and development strategies. All three companies are committed to investing in long-term engagement and capacity building among farmers who produce their raw materials. The companies have also forged innovative partnerships and working arrangements with landowners, traders, middlemen, LGUs, national government agencies, rural banks, farmer cooperatives and other stakeholders.

Further investigation into these companies' IB models reveals the fundamental components of success for the companies, farmers, the ecosystem, local value-chain actors and the natural environment where production takes place, including:

- 1) Fair labour practices and adherence to international market prices for enhanced farmer incomes and income security;
- 2) Intensive capacity building, knowledge, skill building and farmers' access to quality inputs, facilities, technical assistance and organizational development;
- 3) Alignment of operations with existing land-use and development plans, and use of eco-friendly agricultural practices to reduce environmental impact;
- 4) Innovative management and convergence schemes to streamline their value chains, increase the efficiency of resource management and strengthen relationships among local ecosystem actors; and

5) Commitments to meet global quality and sustainability standards through applications for product and process certification.

5. *Fair and secure contractual arrangements:* KFI and RMACC have attracted farmers away from traditional farming and trading arrangements with up to ten-year service contracts that ensure guaranteed purchase of produce at international market prices (which are significantly higher than local rates). According to the companies, their commitment to fair and secure contracts is key to building trust and company loyalty among farmers, local employees and other partners, which in turn provides greater stability for the entire value chain. Skilled farmers and local employees are paid above the regional minimum wage.

Women also enjoy equal opportunities for employment (nearly 60 percent of RMACC's workforce is comprised of women). Glatfelter does not currently enter into direct service contracts with farmers, but builds the capacities of local consolidators to implement fair labour and trading schemes in line with SAN standards. The company also offers a price premium for abaca produced according to SAN standards.

6. *Capacity building of farmers and local partners:* Apart from fair labour practices, the company-farmer relationship is strengthened by facilitating access to technical and financial assistance, research, training and other forms of support. This support can be provided by local governments, state colleges and universities, and cooperatives. Agreements with the DENR, LGUs and landowners facilitate farmers' access to land and build their capacity for stewardship. Building the capacity of ecosystem actors including extension workers, LGUs, cooperatives, rural banks, local traders and consolidators, as well as farmers is critical for earning the trust of local stakeholders, which ensures the long-term sustainability of these businesses.

7. *Alignment with existing land-use and development plans, and use of eco-friendly agri-*

*cultural techniques:* The three companies entered into land-use and development agreements with LGUs in line with government-sanctioned plans such as the Comprehensive Land Use Plan, the Forest Land Use Plan and the National Greening Program for reforestation. They work closely with the Municipal Agriculturist Office and municipal environment and natural resources officers.

Low-impact agricultural techniques used by the three companies include: (i) intercropping for crop diversification; (ii) wide tree spacing to preserve soil health; (iii) the use of surface water (i.e. river water and rainwater) instead of ground water; (iv) drip irrigation to conserve water; (v) planting of nurse or shade trees to increase forest cover and biodiversity in production areas; and (vi) minimal use of chemical fertilizers and pesticides (RMACC uses organic fertilizer and natural pesticides in its nurseries and plantations, and the Piddig LGU supports organic vermicomposting). The process of sustainability certification for KFI and Rainforest Alliance certification for Glatfelter are also promoting more sustainable production methods.

8. *Product quality and process certification:* Increasing awareness and capacities to adopt standards for quality and sustainability are key steps to increasing the market value of produce, which generates higher returns for both companies and farmers. In response to growing market demand for sustainably sourced and socially responsible products, third-party certification pushes companies to enhance their business processes all along the value chain. Certified raw materials and products fetch higher prices from buyers and consumers.

While certification standards were primarily designed as regulatory measures for protecting consumers, they also provide important guidelines for adopting more sustainable production processes and fair labour practices. However, regular application for certification by third parties can be costly and cumbersome for companies and farmers. These companies are still finding ways to

integrate certification into their operations (e.g. integrating SAN standards into operation manuals for group administrators) and devising cost-sharing schemes with farmers.

9. *Innovative co-management/stewardship and convergence initiatives:* It is noteworthy that these companies have introduced co-management and convergence strategies. For example, several nurseries and plantations are co-managed with farmers and LGUs, and local networks of mentors (e.g. cacao doctors) and consolidators (e.g. group administrators for abaca trading) act as focal points for training and trading. Regional (for cacao) and national convergence (for coffee and abaca) initiatives are facilitating public-private partnerships and resource sharing among national and local agencies. Convergence initiatives streamline value-chain processes, reduce logistics costs, increase the efficiency of resource management and strengthen the relationships among local ecosystem actors.
10. The case studies illustrate that inclusiveness is not just about scale, reach and impact: it is also about the quality and depth of engagement with the BoP (in this case, smallholder farmers). While the companies' business models mainly engage farmers as raw material suppliers, these models also build farmers' capacity for taking on greater roles such as farm administrators and technical assistants. Examples include farmer leaders trained by KFI, farmer technicians hired by RMACC and farmer associations trained by GIZ to become group administrators. In addition, farmer engagement promotes greater local acceptance of the companies and contributes to developing knowledge and skills among rural smallholders.
11. Despite the challenges of engaging poor farmers in rural upland settings with minimal infrastructure, all three companies displayed high levels of commitment to: (i) create greater income-generation opportunities; (ii) increase farmers' access to quality inputs and services; (iii) strengthen capacity and confidence in production and farm management; and (iv) strengthen relationships and support systems among local value-chain actors. The companies' continuing engagement and long-term partnerships are expected to deliver significant impacts among an increasing number of farmer beneficiaries in the next ten years.
12. For government agencies and development organizations, these initiatives add to the growing body of evidence that IB can: (i) deliver considerable returns on investment; (ii) revitalize agricultural value chains and local economies; and (iii) create positive social and environmental impacts. Convergence initiatives with provisions for private-sector engagement demonstrate government agencies' openness to enter into partnership arrangements that facilitate collective impact. The public sector is becoming aware that inclusive agribusiness companies take responsibility for their downstream supply chains – a marked change from previous attempts to push this responsibility onto the Government.
13. Inclusive agribusinesses' partnerships with national government agencies and LGUs: (i) create a more favorable regulatory environment; (ii) provide financial and technical support; (iii) facilitate additional partnerships; (iv) fill gaps in existing markets by disseminating information and building capacity among agricultural workers and consumers; and (v) develop necessary rural infrastructure. In building convergence and public-private part-

nerships, private companies collaborate with a range of local stakeholders, including financial and investment institutions, civil society and socio-economic support groups.

An enabling environment for value-chain development is laid down when LGU policies and programmes are aligned to support companies' IB initiatives. LGUs interfacing with national convergence programmes enable other government agencies to support many players in the value chain – from producers to processors, transporters, traders and farmers.

14. Existing national policies and programmes are providing critical support for inclusive agro-forestry, but local-level performance metrics, resource allocation and implementation strategies require strengthening. Large-scale initiatives such as the National Greening Program have been marred by poor implementation, limited coverage, obstructive bureaucracy, weak performance measurement and a lack of clear exit strategies.

Government procurement has been identified as a major roadblock to integrating inclusive businesses into government programmes because of the strict emphasis on least-cost purchase rather than long-term value. In addition, the Land Bank of the Philippines' financial support programmes have limited reach and are difficult to scale up. Financial institutions still find agricultural lending very risky, resulting in numerous requirements and security checks. For example, banks still require borrowers with credit guarantees to provide collateral. Such practices make it difficult for smallholder farmers to access financing.

15. The Government and donors are still focused on providing direct support to BoP beneficiaries, which is unsustainable in the long term because of resource constraints and limited capacities. Direct assistance represents a missed opportunity for economic growth at the BoP. The strategy of engaging private entities to facilitate inclusive and sustainable

business is yet to be realized at the national level. To date, the Government has no concrete programme for connecting with agricultural enterprises since its focus is still on farmers and their cooperatives.

A paradigm shift is needed in national agencies. As the case studies of KFI, RMACC and Glatfelter show, government agriculture and rural development programmes can attain greater value, impact, and sustainability if they are complemented by the private sector's technical knowledge and capacity to create sustainable livelihoods. Greater attention should be given to strengthening the competitiveness of local value chains.

16. Convergence among the Government, the private sector and civil society occurs more easily at the local level than at the national level. All three case studies illustrate the huge potential of local multi-sector partnerships. The convergence initiatives for coffee in Piddig (spearheaded by the LGU), cacao in Mindanao (led by the Department of Trade and Industry) and the ASI in Panay (led by GIZ and PhilFIDA) for abaca highlight the potential of convergence for enabling more sustainable and productive agricultural industries.
17. If local convergence is to be pursued more actively, the coordination capacity of LGUs will need to be strengthened. LGUs' current capacity for financial, technical and administrative management, and monitoring and evaluation is still limited.
18. The three initiatives presented here represent important foundations for local convergence and participation, but there is still much room for local agricultural industry development. Even with comprehensive blueprints available, national and local governments, and local industries still have to contend with long-standing issues such as the high cost of doing business in the country, a lack of access to market information and financial institutions' reluctance to invest in small and medium-sized enterprises.

# 10 Recommendations

To fully derive the potential positive social and environmental impacts of IB models in the agroforestry sector, the following company- and governance-level recommendations should be implemented.

## Company level

1. Companies with IB models in the agriculture sector need to evaluate the business as well as the environmental ecosystem. In order to cultivate partnerships and understand social and environmental impacts, it is important to identify all stakeholders and their roles. Since IB companies are often pioneers in their fields, these ecosystems are often poorly developed and other actors lack capacity. Bringing disparate partners together through a common vision of social impact is a unique opportunity as well as a challenge for these companies.
2. Smallholder farmers' dependence on natural ecosystems makes protecting natural resources fundamental for tackling poverty. Inclusive businesses need to raise stakeholders' awareness of sustainable agriculture and environmental protection by training and sharing knowledge with farmers. Building farmer champions (e.g. cacao doctors, farmer cooperatives serving as group administrators) and demonstrating the value of sustainable agriculture and environmental protection are key to shifting farmers' mindsets and building a network of local-level advocates.
3. Investments are needed in research on natural ecosystem dynamics and ecosystem services – especially their impacts on IB. The trade-offs between conservation, sustainable use and economic development need to be identified. Research in these areas along with support for farmer education can be a focus of collaboration with higher education and research institutions.
4. Investments in value chains maximize efficiency, especially at the crucial point of group administration and consolidation. Credit facilities also require strengthening to ensure farmers' access to financing. In addition, inclusive businesses can play an important role in facilitating collaboration and building trust among farmers and local traders, cooperatives, local governments and financial service providers.
5. Monitoring and evaluation systems should include indicators for assessing environmental and social impacts, and responsiveness to local farmers' needs. There should be a balance between quantitative and qualitative indicators to ensure robust and transparent assessment of inclusiveness. The LINK methodology<sup>60</sup> includes a toolkit for developing IB models and measuring their inclusiveness.
6. Sustainability standards not only ensure the sustainability of value chains, but help to protect the natural environment and foster fair trade and safe labour practices. Existing certification standards can be adapted to local contexts, but inclusive businesses' support for third-party certification (such as training, co-financing and compliance monitoring) lend greater integrity to their IB models, ensure price premiums and maximize returns for both farmers and companies.

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60 Lundy, M. et al. 2014. LINK Methodology: A Participatory Guide to Business Models that Link Smallholders to Markets. Cali, Colombia: International Center for Tropical Agriculture (CIAT).

7. Companies should continuously engage local governments and other local ecosystem players in dialogue and offer innovative products and services (e.g. seedlings and farm inputs). Regular collaboration increases companies' visibility as suppliers for public-sector development programmes and strengthens convergence with both local and national government agencies.

## Governance

8. While most rural development frameworks have provisions for private-sector involvement, few enable companies to utilize existing resources to realize the benefits of IB. Recognizing the value at the BoP requires access to technology, financing, markets and human resources. Governments should include companies with IB models in public-sector support programmes for smallholder farmers to strengthen access to markets, financing and technical assistance. Since inclusive businesses operate at scale, their integration into public-sector programmes can lead to the more rapid and efficient disbursement of funds – resulting in systemic impacts.
9. IB accreditation is a crucial tool for governments to identify the IB partners that share common sustainable and inclusive development goals. IB partnerships require enhanced government procurement policies to facilitate public-private partnering.
10. Publicly supported programmes for rural development and reforestation demonstrate government commitment to promoting value chain and enterprise development for more sustainable, inclusive and green growth. However, policies and plans do not always translate into implementation strategies, and performance indicators are often focused on the number of farmers reached, seedlings planted and projects funded. Impact at the BoP goes beyond these figures to encompass the sustainability of employment, the survival rate of trees, the number of species introduced into reforestation areas, the level of stakeholder commitment and the involvement of beneficiaries. Programme targets and performance indicators need to reflect qualitative as well as quantitative measures of impact.
11. The Government needs efficient, effective and integrated information management and monitoring systems to facilitate the accurate and transparent documentation of outcomes. This information infrastructure should make available critical information on smallholders and agrarian reform beneficiaries. Timely and accurate beneficiary information informs decision making on programme implementation, and facilitates the background checks required by lending institutions and an increasing number of donor agencies.
12. As demonstrated, innovative land tenure and stewardship arrangements integrate productivity and sustainable livelihoods into land ownership. The Government should strengthen ties with local governments and inclusive businesses to establish these arrangements and encourage greater agricultural entrepreneurship.
13. Government initiatives on industry convergence provide opportunities to nurture IB business alliances. National convergence initiatives should be reinforced to support the alignment of resources and financing across the agricultural, agroforestry and fisheries sectors. Multi-sector convergence initiatives provide excellent opportunities to introduce IB models to a broad range of stakeholders. All three case studies show the huge potential of local multi-sector partnerships. The convergence initiatives for: coffee in Piddig (spearheaded by the LGU); cacao in Mindanao (led by the Department of Trade and Industry); and abaca in Panay (managed by GIZ and Phil-FIDA) have resulted in more sustainable and productive agricultural value chains.
14. National-level convergence programmes should focus on common outcome parameters and criteria in order to overcome the 'silo' mentality common to government agencies. Based on the Government's inclusive growth



agenda, all government agencies should agree on common outcome indicators such as the number of decent income opportunities generated. Initiatives with the potential to support these outcomes, such as national reforestation programmes, should be targeted for support (in this case, ‘number of trees planted’ can still be the output indicator).

15. As the primary facilitators of convergence projects, the administrative, financial and technical capacities of local governments should be reinforced. National agencies such as the Department of Agriculture, the Department of Agrarian Reform, DENR, the National Commission on Indigenous Peoples, the Department of Interior and Local Government, and the Department of Budget and Management should have more proactive capacity-building engagement with local governments to ensure alignment with national strategies. Capacities are required for: procurement (of equipment, seedlings and inputs); implementation (e.g. securing informed consent from indigenous groups); fund allocation, monitoring and reporting; achieving planned outcomes and impacts; and achieving sustainability beyond the project period.
  16. Increased local government capacity facilitates more efficient and effective partnership arrangements with inclusive businesses, and aids the establishment of land use and forest land use plans. Building the capacity of local governments also helps to mobilize the natural, human and financial resources needed for sustainable socio-economic development and natural resource use.
  17. Inclusive businesses require debt and equity funding to increase smallholders’ crop production. Government financial institutions should provide more accessible and flexible financing arrangements for smallholder farmers, farmer cooperatives and inclusive agribusinesses.
  18. The Government’s financial oversight capacity should be strengthened to monitor the flow of credit from accredited fund wholesalers (such as the Land Bank of the Philippines) to fund retailers (including rural banks, cooperatives, NGOs and civil society organizations), and to inclusive businesses and their beneficiaries. The close monitoring of funding streams promotes efficient and effective fund administration to small farmers and agribusinesses.
  19. Financially empowering farmers at the BoP not only entails lending: services such as savings, payments and remittances are equally important. Mobile banking infrastructure should be strengthened to enable greater financial inclusion. Incentives for banks and cooperatives to provide banking services in remote areas can include special concessional rates and guarantees.
- Donors and multilateral agencies have a crucial role to play in developing an enabling ecosystem. In addition to facilitating impact investments, they can implement supporting initiatives such as IB accreditation to prioritize inclusive businesses for government support. These agencies also have an important role in contributing to IB initiatives’ impact. By integrating good agricultural practices and other IB innovations into sectoral guidelines, inclusive businesses’ productivity gains will be replicated throughout the country.

# 10 Future research

This study has underscored the potential of IB agroforestry models to achieve positive social and environmental impacts. The in-depth analysis of IB models and ecosystem actors highlighted systemic barriers, challenges and opportunities in the Philippines, and indicated that IB models can contribute to SDG targets. Since the dialogue on IB and its potential impacts on the environment and the SDGs is still new, further research is required to support the scaling up of IB models.

In-depth analysis of IB models in the context of the SDGs and the G20 IB framework should include additional case studies on IB agroforestry models, which can inform comparative analysis. IB models in other sectors such as fisheries should also be explored. Monitoring and evaluating inclusive businesses as they scale up will provide evidence of IB models' impacts. Such studies will support policy makers in establishing policy frameworks that enable inclusive and green growth through IB, and guide companies in adopting best practices and partnering with supportive ecosystem actors.

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