

SUPPORTING GREEN AND INCLUSIVE BUSINESSES

A PATHWAY TO CLIMATE-RESILIENT, SUSTAINABLE,
AND JUST ECONOMIES IN ASEAN



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EXECUTIVE SUMMARY

The impacts of climate change, and the vulnerability of communities to climate change, vary greatly, but in general, climate change is intensifying existing insecurities particularly among those at the base of the socio economic pyramid more so among those living on or below the poverty line. Current realities and future forecasts are grimmer for those living in low-income countries, and countries in the ASEAN are among the countries most at risk from climate change.

While there are massive public and private sector as well as development cooperation investments in climate change mitigation and adaptation, very few of those investments are designed to deliberately create win-win outcomes between environment and climate on the one hand, and social impact for poor and low-income people at the base of the pyramid (BoP) on the other. More deliberate and strategic public and private sector actions towards just and green economic transitions, particularly in highly vulnerable countries in the ASEAN region, are more critical now than ever to mitigate not only climate change impacts but also the reversal of decades of poverty alleviation gains. “Leave no one behind”, at this time of worsening climate conditions and global pandemic recovery, becomes an imperative.

There is a growing number of enterprises—*green and inclusive businesses (GIBs)*—that are primarily investing in BoP-centered adaptation and environmental solutions like off-grid solar cooking and lighting systems, slum cleaning and circular economy, sustainable or regenerative agriculture, resource-based commodity production supply chains, climate-adaptive housing for the poor, slum upgrading that create more space for environmental improvements, water saving and sanitation technologies and systems, and low-carbon last-mile transport and delivery models, to name a few. Supportive policies and programs for and more investments in GIBs are necessary to scale up and replicate these types of business models, uplift more lives at the BoP, and grow industries that are more environmentally conscious and people-centered.

ASEAN governments can ramp up GIB support through an integration of climate change and environmental sustainability efforts in inclusive business frameworks and support programs. This could include promoting GIBs as viable IB models and climate investment targets, extending support for GIB ecosystem building, adapting existing IB frameworks of ASEAN member states to integrate climate programs as an IB focus, deepening IB learning by including green businesses in policy dialogues, and harnessing public and youth interest in sustainable development for the poor and low-income population.

ASEAN members states could also devise measures to support the inclusion of the poor and low-income population through GIBs in the green energy and circular economies, sustainable and healthy food systems, efficient industries and logistics, greener cities and towns and green financing agendas and policies.

Overall, the promotion of green and inclusive business constitutes a concrete pathway within a socio-ecological market transformation through which ASEAN can achieve a just transition that leaves no one behind .

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i. INTRODUCTION

As global temperatures and sea levels rise, people living in poverty are the most severely affected. The impacts of climate change, and the vulnerability of communities to climate change, vary greatly, but in general, climate change is intensifying existing insecurities particularly among those at the base of the socio-economic pyramid, more so among those living on or below the poverty line. Since climate change affects everything—where a person can live, their access to clean water, food and health care, and overall security of life, assets, and livelihood—millions are plunged further into poverty as environmental conditions worsen. In rural and remote areas where mobility and livelihood choices are limited, decreasing crop yields lead to famines, and loss of landmass in coastal areas displace thousands of families, leaving migration as the only way to safety. Current realities and future forecasts are grimmer for those living in low-income countries; just as climate change deepens inequalities in-country, it also further stratifies nations because some are more threatened than others, with developing countries facing greater risks and having fewer resources to deal with the problem. Pre-pandemic, nine of the 10 countries with the highest risk to climate hazards are in Asia—the Philippines was found as most vulnerable, followed by Japan, Bangladesh, Myanmar, China, Indonesia, India, Vietnam, and Pakistan. And countries in the ASEAN region—Myanmar, Vietnam, the Philippines, and Indonesia—were among the top 10 most at risk of experiencing a single devastating climate event¹.

While there are massive public and private sector as well as development cooperation investments in climate change mitigation and adaptation, very few of those investments are designed to deliberately create win-win outcomes between environment and climate on the one hand, and social impact for poor and low-income people at the base of the pyramid (BoP) on the other. Social improvement and climate or environmental improvements are often assumed or indirect, with current investments often criticized as green-washing and not relevant for the poor. Recent climate change discussions, therefore, emphasize that ownership and impact of climate (and environmental) solutions could be enhanced if investments are crafted to bring about direct, positive results for those at the BoP. More deliberate and strategic public and private sector actions towards more just and green economic transitions—particularly in highly vulnerable countries in the ASEAN region—are more critical now than ever to mitigate not only climate change impacts but also the reversal of decades of poverty alleviation gains. “Leave no one behind”, at this time of worsening climate conditions and global pandemic recovery, becomes an imperative.

The private sector has an important role to play in climate adaptation, CO2 mitigation, and climate finance. It also plays a major role in environmental sustainability and its interrelationship to climate. Experts argue that climate and environmental investments in emerging economies receive more favorable responses when they deliberately consider the markets of the poor, and design for impact on those BoP as suppliers, consumers, distributors and retailers. And there is a growing number of enterprises—green and inclusive businesses (GIBs)—that are primarily investing in BoP-centered adaptation and environmental solutions like decentralized cooking and lighting, slum cleaning and circular economy, sustainable or regenerative agriculture, resource-based commodity production supply chains, climate-adaptive housing for the poor, slum upgrading that create more space for environmental improvements, water saving and sanitation technologies and systems, and low-carbon last-mile transport and delivery models, to name a few. Supportive policies and programs for and better investments in GIBs are necessary to scale up and replicate these types of business models, uplift more lives at the BoP, and grow industries that are more environmentally conscious and people-centered.

1 Butler, Gavin. *The nine countries most threatened by climate change are all in Asia, report finds* (2019). <https://www.vice.com/en/article/7xgdgq/nine-countries-most-threatened-by-climate-change-crisis-disaster-hazard-all-asia-report-finds>

This report highlights climate change policy developments and examples of GIBs, particularly in the ASEAN region. Emerging GIBs in Africa are also included as learning models, as the case for fast-tracking the transition to green and just economies within ASEAN is built.

ii. PROMOTING GREEN AND INCLUSIVE BUSINESSES

Inclusive business (IB). Starting from the premise that there are four billion poor people living at the economic base of the pyramid (BoP), companies operating inclusive business (IB) models seek innovative ways to integrate the poor and low-income on 1) the demand side as customers by providing BoP access to essential goods and services (e.g. health care, energy or finance), fulfilling unmet needs, and addressing existing market failures and inefficiencies; and 2) the supply side by engaging BoP sectors or groups as distributors, retailers, suppliers of goods and services, or employees via new livelihood and income-generation activities to move them out of subsistence or informal livelihoods, and giving them access to markets for their products and services in key sectors like energy, health and agriculture. IB models are not expected to substitute basic goods and services provided by the state; instead, they complement public programs and provisions.

As market-based solutions, IB models aim to be financially self-sustaining. It is mainly medium and large size businesses that are exploring this market opportunity. In the face of economic slowdown in traditional markets, many established multinational companies have also been exploring the potential of or already expanding BoP reach and engagement in emerging markets as a growth strategy. Global networks of such companies and enterprises, such as the Business Call the Action (BCtA) network², highlight how inclusive businesses are dramatically increasing capabilities, opportunities, and improving lives at the BoP.

Green and inclusive business (GIB). Ensuring triple-bottom line wins, green and inclusive businesses aim to promote sustainable development in all of its dimensions—economic, social, and environmental. **Green business (GB) models** explicitly focus their efforts on solving environmental challenges by reducing negative environmental impacts, increasing resilience against environmental impacts, or by providing a more efficient and responsible use of natural resources. Through their products and services, they contribute to the protection of the environment, the climate, biodiversity and natural ecosystems. For GB models, a distinction is made between models that develop and offer green products and services (such as waste management, renewable energy), and those that make their products or services in an environmentally friendly way (e.g. ecotourism, resource-efficient products). Well-known examples of green business models include waste-reducing refilling stations for household products (e.g., soap, hair products, cleaning agents), carpooling, non-motorized transport systems, and reusable or recyclable consumer products.

There are also companies that operate **green and inclusive business (GIB) models**—these companies are able to produce both positive social and ecological effects, based on a financially viable business model (triple-bottom line). An example is the use of off-grid renewable energy solutions in rural areas, where a new market is created and access to energy is provided for the poor, while, at the same time, shifting their households to using clean energy and reducing the negative environmental and health effects of using traditional coal, fuel, and gas.

Increasingly in recent years, entrepreneurs have developed green and inclusive business models in different sectors and countries. However, to date, relatively few of these ventures have managed to attain significant scale and reach. For development partners and policymakers to be able to support green and inclusive business (GIB) models and make them commercially viable and scalable, they need to understand the gains and gaps in operating and sustaining GIBs. Apart from companies adopting GIB models, important actors in this ecosystem include, among others, banks and investors as well as incubators and accelerators. It is important to also understand the local context in which GIBs operate and thrive so that development partners and policymakers can better define or adapt programs to support

2 UNDP. *Business Call to Action*. <https://www.businesscalltoaction.org/>

GIB models at various stages of development—from startups to growth stage models (scaling up or replication initiatives).

Inclusive business promotion in ASEAN. Beginning in the mid-2010s, inclusive business gained traction in global corporate circles, and attracted support from development financing institutions such as the World Bank’s International Finance Corporation (IFC) and Asian Development Bank (ADB). Increasingly, governments have also recognized the potential of inclusive business as a sustainable development strategy. Working with regional blocs such as the ASEAN, development organizations such as GIZ through the Inclusive Business Action Network (iBAN)³, and international organizations like UNDP, and UN ESCAP have created spaces for multistakeholder dialogues and peer learning among policymakers to integrate inclusive business in country agendas, and develop enabling policies and mechanisms for inclusive business support in member countries. As a result, ASEAN member countries in 2017 endorsed the *ASEAN Inclusive Business Framework*⁴, and the ASEAN Coordinating Committee for Micro, Small and Medium Enterprises (ACCMSME) was given the mandate to promote inclusive business in ASEAN. In 2019, ASEAN Economic Ministers endorsed the *Guidelines for the Promotion of Inclusive Business in ASEAN*, a non-binding reference document that outlines 12 policy instruments for promoting inclusive business⁵:

1. Strategy and action plan on inclusive business enabling environment
2. Institutionalizing inclusive business promotion
3. Inclusive business accreditation and registration
4. Inclusive business awareness raising
5. Inclusive business coaching for enterprises
6. Inclusive business investment incentives
7. Reducing impact investment risks
8. Promoting inclusive business in public procurement
9. Targeting inclusive business in existing private sector and other development programs
10. Linking inclusive business to the social enterprise and corporate social responsibility agenda
11. Monitoring and reporting on inclusive business results
12. Creating synergies

ASEAN’s green transition is under way but still needs strategic direction and collective action.

Globally, countries are prioritizing sustainability investments, as concerns about climate change and the resulting transition to a green economy gather speed and urgency. Economies around the world have passed major stimulus programs to address the Covid-19 pandemic and promote “build back better” initiatives, and are accelerating the push toward green and

3 The Inclusive Business Action Network (iBAN) is a global initiative supporting the scaling and replication of inclusive business models. iBAN is funded by the German Federal Ministry for Economic Cooperation and Development and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. An earlier phase of this project (01/2017–12/2021) was supported by the European Union

4 ASEAN Secretariat. *ASEAN Inclusive Business Framework (2017)*. <https://asean.org/wp-content/uploads/2012/05/ASEAN-Inclusive-Business-Framework.pdf>

5 ASEAN Secretariat. *Guidelines for the Promotion of Inclusive Business in ASEAN (2020)*. <https://asean.org/wp-content/uploads/2021/09/6.-ASEAN-IB-Promotion-Guidelines-Endorsed-at-the-52nd-AEM.pdf>

sustainable economic development. Sustainability efforts and opportunities are on the rise in the region⁶—regional target setting to secure almost a quarter of ASEAN’s energy from renewable sources by 2025; increasing sustainability awareness among corporates and family-run businesses and sustainability investments from private equity funds since 2018; growing digital economy that is expected to triple by 2025; emerging innovation hotbed and promising startups that attracted around USD37 billion in funding in 2019; and rising sustainable and responsible consumption mindset among consumers. Member countries, however, have yet to take more strategic and collective actions to capitalize on and fully realize the impact of these developments. As of this year, and despite the region’s significant environmental responsibility for the world’s biodiversity, no ASEAN nation figures in the top 40 for attaining the Sustainable Development Goals (SDGs)⁷. The region also continues to experience increasing environmental stress, including rising emissions and diminishing resources. The focus on post-pandemic recovery and job creation in certain sectors within each country further raises the stakes for governments—together with companies—to reimagine growth and adopt a new perspective on sustainability. Green and inclusive businesses (GIBs) can play a critical role in this discussion, and in unlocking what is estimated as a trillion-dollar potential of green economies. Similar to how inclusive business support gained traction in ASEAN, putting a spotlight on climate change- and GIB-related policies and trends will help ASEAN and its member countries integrate GIB support into current policy frameworks and programming.

6 Hardcastle, Dale and Gerry Mattios, *Southeast Asia’s Green Economy: Pathway to Full Potential*, Bain & Company, (November 2020) <https://www.bain.com/insights/southeast-asias-green-economy-pathway-to-full-potential/>

7 Sustainable Development Report, *Rankings*. (2022) <https://dashboards.sdgindex.org/rankings>

iii. CLIMATE CHANGE POLICIES AND RELATED ENVIRONMENTAL PROGRAMS IN ASEAN

Countries in Southeast Asia are especially vulnerable to the impacts of climate change. The 2021 Global Climate Risk Index identified the Philippines and Thailand among the top countries that have been most affected by extreme weather events from 2000 to 2019.⁸ The 2021 World Risk Index also identified Brunei, the Philippines and Cambodia among the top 15 countries with the highest disaster risk worldwide.⁹

The drought experienced by the region was at record levels from 2015 to 2020, severely impacting more than 200 million people.¹⁰ Other slow onset events, such as sea level rise and coastal flooding, threaten low-lying areas, including the major centers of Bangkok, Jakarta and Manila.¹¹

These risks are only expected to escalate. A report from the Nanyang Technological University and the University of Glasgow, released ahead of UNFCCC COP 26 in 2021, found that the region could lose up to 35 percent of its GDP in 2050 from climate change and natural hazards. This was especially marked in the sectors of agriculture, tourism and fishing.¹² Other reports are more conservative - a 2015 report from the Asian Development Bank estimated an 11 percent reduction in the region's GDP, taking into account climate change impacts on agriculture, tourism, energy demand, labor productivity, health and ecosystems.¹³

A. REGIONAL APPROACHES AND PRIORITIES

The Nationally Determined Contributions of ASEAN Member States reflect a prioritization of adaptation actions, particularly those that relate to managing disaster risks, improving the resilience of sectors such as agriculture, health and human settlements, and reducing the vulnerabilities of communities.¹⁴ In comparison, however, Ding and Beh (2022) note that the

8 Eckstein, David, Vera Künzel and Laura Schäfer. *Global Climate Risk Index 2021*. Bonn: Germanwatch (January 2021) <https://www.germanwatch.org/en/cri>

9 Aleksandrova, Mariya et. al.. *World Risk Report 2021*. Ruhr: Bündnis Entwicklung Hilft (2021) <https://www.welthungerhilfe.org/news/publications/detail/worldriskreport-2021/#:-:text=The%20WorldRiskIndex%202021%20indicates%20the,impacted%20by%20the%20Corona%20pandemic.7>

10 United Nations Social and Economic Commission for Asia and the Pacific (UN ESCAP) *Ready for the Dry Years: Building Resilience to Drought in Southeast Asia* 2nd edition. Bangkok: United Nations (2021) <https://www.unescap.org/publications/ready-dry-years-building-resilience-drought-south-east-asia-2nd-edition>

11 Greenpeace Southeast Asia. *The Projected Economic Impact of Extreme Sea Level Rise in Seven Asian Cities in 2030* (June 2021) <https://www.greenpeace.org/static/planet4-eastasia-stateless/2021/06/966e1865-gpea-asian-cites-sea-level-rise-report-200621-f-3.pdf>

12 Nanyang Technological University and University of Glasgow. "Southeast Asia needs to boost disaster resilience, as climate change could have severe economic impact." (28 October 2021) https://www.ntu.edu.sg/docs/default-source/corporate-ntu/hub-news/southeast-asia-needs-to-boost-disaster-resilience-as-climate-change-could-have-severe-economic-impact-highlights-cop26-report-by-ntu-singapore-and-university-of-glasgowc19d8fbc-8939-4921-9a81-2e18716cd6b1.pdf?sfvrsn=6b1be15f_3

13 Raitzer, David et. al. *The Economics of Global Climate Change Stabilization*. Manila: Asian Development Bank (2015) <https://www.adb.org/sites/default/files/publication/178615/sea-economics-global-climate-stabilization.pdf>

14 See: ASEAN Secretariat. *ASEAN State of Climate Change Report*. Jakarta: ASEAN Secretariat (October 2021) https://asean.org/wp-content/uploads/2021/10/ASCCR-e-publication-Correction_8-June.pdf 58

region generally “underperforms” in these climate change mitigation efforts,¹⁵ despite an uptake in initiatives to reduce GHG emissions and national commitments toward meeting the Paris Agreement’s long-term temperature goal.

B. ROLE OF THE PRIVATE SECTOR

At UNFCCC COP 26, the Glasgow Financial Alliance for Net Zero estimated that the private sector could provide 70 percent of the finance needed to put the world on a path to net zero emissions by 2050. Large corporations were identified as potentially the largest contributors to these investments.¹⁶ An accounting of private sector finance has also been conducted in relation to broader environmental actions - a recent UNEP report, for example, estimates that private sector financing for Nature-based Solutions (NbS) amounts to USD 18 billion annually. This amount is much lower than that for dedicated climate finance, and the report highlighted that investment would need to accelerate significantly to address triple crises of climate change, biodiversity and land degradation.¹⁷

This infusion of private sector finance has been identified as critical by the Southeast Asian region as a whole, and at the national level, in order for countries to scale up climate action. The ASEAN State of Climate Change Report (2021) notes the “untapped potential” of private sector finance for adaptation programs, and the need to mobilize this through the development of “policy and incentive measures.”¹⁸ Facilitating “innovative finance” is further identified as an action for enhancing climate change mitigation in the region.¹⁹

C. BUSINESSES AND THE PRIVATE SECTOR IN NATIONAL CLIMATE CHANGE POLICIES, STRATEGIES AND PLANS

National Climate Change policies, strategies and plans also reflect the need for private sector finance across sectors. Public-private partnerships are especially highlighted as arrangements to drive investments in climate change adaptation, mitigation, resilience and low carbon development.

For example, Cambodia’s Climate Change Strategic Plan 2014-2023 seeks to mobilize public-private partnerships for technology for energy efficiency and Renewable Energy.²⁰ Myanmar’s Climate Change Strategy 2018-2030 seeks public-private partnerships to strengthen the resilience of healthcare and other social protection systems.²¹ The Philippines National Climate Change Action Plan 2011-2028 seeks to promote public-private partnerships for investments in climate smart technologies, products and services, and for the development of carbon

15 Ding, David and Sarah Beh. “Climate Change and Sustainability in ASEAN Countries.” *Sustainability* 14 999 (2022) <https://doi.org/10.3390/su14020999>

16 Glasgow Financial Alliance for Net Zero. “Net Zero Financing Roadmaps - Key Messages.” (November 2021) <https://www.gfanzero.com/netzerofinancing>

17 United Nations Environment Programme. *State of Finance for Nature: Tripling Investments in Nature-based Solutions by 2030*. Nairobi: UNEP (2021) <https://www.unep.org/resources/state-finance-nature>

18 ASEAN Secretariat. *ASEAN State of Climate Change Report*. Jakarta: ASEAN Secretariat (October 2021) https://asean.org/wp-content/uploads/2021/10/ASCCR-e-publication-Correction_8-June.pdf

19 Ibid. 115

20 Royal Government of Cambodia. *Climate Change Strategic Plan 2014-2023* (October 2013) <https://www.climate-laws.org/geographies/cambodia/policies/cambodia-climate-change-strategic-plan#:~:text=In%202013%2C%20the%20Royal%20Government,sustainable%20and%20knowledge%2Dbased%20economy., 16>

21 Republic of the Union of Myanmar. *Climate Change Strategy 2018-2030* (2019) <https://unhabitat.org/myanmar-climate-change-strategy-2018-2030#:~:text=The%20Myanmar%20Climate%20Change%20Strategy,of%20present%20and%20future%20generations., 84, 127>

markets.²² Brunei's National Climate Change Policy seeks to develop policy tools to encourage private investments in charging stations and other infrastructure for electric vehicles.²³

Other strategies and activities are not couched as directives, but in “softer” language. Vietnam's Decision No. 450/QĐ-TTg - Approving the National Environmental Protection Strategy and Vision Until 2050 (2022), for instance, encourages the private sector to establish private funds sponsoring environmental protection initiatives.²⁴ Laos' National Strategy for Climate Change encourages the private sector's participation in activities to reduce GHGs from waste.²⁵ Indonesia's Long Term Strategy for Low Carbon and Climate Resilience 2050 calls on the private sector to increase their commitment to environmentally sound practices, with possible incentives for contributions to emissions reduction and other environmental benefits.²⁶

But beyond finance, broader roles are also envisioned for private sector actors. They are seen as critical partners in programs for capacity building and communications, policy development, and program planning and implementation:

Capacity Building

- Brunei's National Climate Change Policy seeks to establish a multi-sectoral partnership to focus on research and awareness raising for the promotion of community forestry.²⁷
- Malaysia's National Policy on Climate Change plans to put in place a mechanism to institutionalize business and industrial responses in financial incentives, training of experts, technology management, outreach and communications and recognition awards.²⁸
- The Philippines National Climate Change Action Plan 2011-2028 broadly intends to mobilize public-private partnerships for skills upgrading and training on climate change adaptation and mitigation.²⁹

Communications

- Cambodia's Climate Change Strategic Plan 2014-2023 seeks to mobilize public-private partnerships to communicate climate change threats, opportunities and responses.³⁰

22 Climate Change Commission - Philippines, *National Climate Change Action Plan 2011-2028* (2011) <https://climate.emb.gov.ph/wp-content/uploads/2016/06/NCCAP-1.pdf>, 92, 112

23 Brunei Climate Change Secretariat. *National Climate Change Policy* (July 2020) <http://mod.gov.bn/Shared%20Documents/BCCS/Brunei%20National%20Climate%20Change%20Policy.pdf>, 33

24 Socialist Republic of Vietnam. *Decision No. 450/QĐ-TTg - Approving the National Environmental Protection Strategy and Vision Until 2050* (13 April 2022) <https://thuvienphapluat.vn/van-ban/Tai-nguyen-Moi-truong/Decision-450-QĐ-TTg-2022-Approving-national-environmental-protection-strategy-until-2030-510740.aspx>

25 Government of Lao PDR. *National Climate Change Strategy* (2012) <https://www.undp.org/laopdr/publications/national-strategy-climate-change-lao-pdr> 14

26 Ministry for Environment and Forestry - Indonesia. *Long-term Strategy Strategy for Low Carbon and Climate Resilience 2050* (2021) https://unfccc.int/sites/default/files/resource/Indonesia_LTS-LCCR_2021.pdf 113

27 Brunei Climate Change Secretariat. *National Climate Change Policy* (2020) 29

28 Ministry of Natural Resources and Environment - Malaysia. *National Policy on Climate* (2010) <https://www.climate-laws.org/geographies/malaysia/policies/national-policy-on-climate-change-d99de8fd-a724-40b1-bec5-daa9604427ea> KA-11 ST3

29 Climate Change Commission - Philippines, *National Climate Change Action Plan 2011-2028* (2011) 118

30 Royal Government of Cambodia. *Climate Change Strategic Plan 2014-2023* (2013) 17

- Thailand’s Climate Change Master Plan 2015-2050 looks to the private sector to promote „green marketing“ by educating consumers on environmentally friendly products and practices.³¹

Policy and Program development and implementation

- The Philippines National Climate Change Action Plan 2011-2028 looks to tap the private sector for the development and implementation of resettlement plans.³²
- In Singapore’s Climate Action Plan, the government seeks engagement with business networks that promote sustainable practices.³³
- Thailand’s Climate Change Master Plan 2015-2050 seeks to create dedicated public-private fora to: 1) monitor climate change knowledge and policy communication, 2) to develop GHG mitigation mechanisms, particularly economic measures such as carbon taxes and carbon markets, and 3) to discuss support mechanisms needed from the government.³⁴

In addition, new policies and strategies have begun to more directly target the nexus between climate, the environment and IB. Notably, Vietnam’s Decision Approving the 2022-2025 Program on Support for Private Enterprises in Sustainable Business seeks to: Raise awareness of the private sector on sustainable businesses; raise support for sustainable business among government; develop tools, research and data systems on sustainable businesses; and raise resources from the private sector for sustainable business initiatives.³⁵

In Vietnam’s new policy, the definition of sustainable businesses explicitly includes inclusive businesses as a way to improve the living standards for low-income and disadvantaged people.³⁶ The programme aims concretely to “support about 10,000 private enterprises in sustainable business; contribute to the achievement of energy saving of 5.0 - 7.0% of the total national energy consumption and increase average labor productivity by about 7%/year”.³⁷

Identified sustainable businesses can receive capacity building and advisory support, technology support (including for rental and purchase of identified digital solutions), and marketing and communications support.³⁸

Likewise, the Philippines’ Republic Act 10771 or the Green Jobs Act seeks to encourage businesses to create green jobs by allowing for a deduction from their taxable income equivalent to 50% of the expenses for skills training and research development, and tax and duty free importation of capital equipment used in the promotion of green jobs.³⁹ Green jobs here refer to “employment that contributes to preserving or restoring the quality of the environment, be it in the agriculture, industry or services sector, [including] jobs that help to protect ecosystems and biodiversity, reduce energy, materials and water consumption through high

31 Thailand Ministry of Natural Resources and Environment. *Climate Change Master Plan (2015-2050)* https://climate.onep.go.th/wp-content/uploads/2019/07/CCMP_english.pdf 102

32 Climate Change Commission - Philippines, *National Climate Change Action Plan 2011-2028* (2011) 89

33 National Climate Change Secretariat - Singapore, *Climate Action Plan* (2016) <https://climate-laws.org/geographies/singapore/policies/climate-action-plan> 46

34 Thailand Ministry of Natural Resources and Environment. *Climate Change Master Plan (2015-2050)* 85, 99, 101

35 Socialist Republic of Vietnam. *Decision Approving the 2022-2025 Program on Support for Private Enterprises in Sustainable Business* (8 February 2022) Part 1b

36 Ibid. Part 1c

37 Ibid. Part 11b

38 Ibid.

39 Government of the Philippines. *Republic Act 10771 - Green Jobs Act of 2016* (April 2016) <https://www.official-gazette.gov.ph/2016/04/29/republic-act-no-10771/> Section 5

efficiency strategies, decarbonize the economy, and minimize or altogether avoid generation of all forms of waste and pollution. Green jobs are decent jobs that are productive, respect the rights of workers, deliver a fair income, provide security in the workplace and social protection for families, and promote social dialogue.”⁴⁰

The Climate Change Commission is tasked with certifying the green jobs that may claim the incentives provided for,⁴¹ but guidelines for this have not been released.

D. KEY OBSERVATIONS: CLIMATE CHANGE POLICY GAPS, OPPORTUNITIES, AND CHALLENGES

1. **National Climate Change policies, strategies and plans recognize the role and contributions of the private sector in actions to enhance climate change adaptation and mitigation, and build disaster resilience.** However, implementation of these policies, strategies and plans has not always strategically deployed the private sector’s expertise and resources. While there is heavy reliance on financial resources and public-private partnerships, these still appear to view the private sector’s climate action in a silo that is separate from other national strategies and approaches on investments and trade, other productive sectors (such as agriculture, tourism, technology and industry) and poverty alleviation. As such, it is not clear how national-level climate action will be able to maximize the expected influx of investments into “green business,” or how countries can ensure a coherent and comprehensive policy landscape to support green business development.
2. **While policies, strategies and plans recognize the vulnerability of marginalized sectors to climate change impacts, much remains to be done to address the needs of low-income communities.** These are the same communities that are especially vulnerable to climate change, as their lack of resources makes it more difficult to adapt to climate change impacts, or recover from climate induced disasters. GIBs have the potential to provide the social and economic benefits that will build the communities’ adaptive capacity and resilience.

Companies have identified five business mechanisms that could drive green growth, if adequately supported by policy and regulatory mechanisms:⁴²

- Carbon pricing, sufficient to participate in carbon markets, without being too prohibitive for small and medium enterprises;
- Tax credits and subsidies;
- Funding for Research, Development and Innovation;
- Infrastructure, such as those that support circular economies, and renewable energy development; and
- Targeted regulations, including standards, mandatory disclosure and bans.

Some of these are provided for in national policies and regulations, but are not clearly identified or explained in most climate change policies, plans or strategies. However, **new policies that better recognize the nexus between climate action and supporting green businesses, are still in their early stages, or have seen stalled implementation** - Vietnam’s Decision Approv-

40 Ibid. Section 4

41 Ibid. Section 5

42 Donor Committee for Enterprise Development. *Leveraging Private Sector Practices to Guide Green Business Environment Reform* (April 2022) i

ing the 2022-2025 Program on Support for Private Enterprises in Sustainable Business has potential to address the nexus between climate action and supporting green business, but it remains to be seen how this will be implemented over the next three years.

iv. GREEN AND INCLUSIVE BUSINESSES IN ASEAN, EMERGING MODELS IN AFRICA

A. GiB SURVEY

To capture the potential, gains, and challenges of operating GiB models, a total of **17 GiBs** were profiled—13 companies based in ASEAN countries or have operations in the region, and 4 notable learning cases from Africa; in particular, enterprises in Zambia⁴³. The companies interviewed were as follows:

Sector	ASEAN	AFRICA
AGRICULTURE	Amru Rice (Cambodia): <i>Organic rice farming</i>	Dytech: <i>Bee farming and honey production</i>
	Burapha Wood (Lao PDR): <i>Agroforestry and wood production</i>	
	Urmatt (Thailand): <i>Organic rice & egg production</i>	Good Nature Agro: <i>Legume seed production and farming</i>
	Olam Agri (Thailand and Vietnam): <i>Rice farming</i>	
ENERGY	Hybrid Social Solutions (Philippines): <i>Solar system distribution</i>	Kukula Solar: <i>Solar system production and distribution</i>
	Sun King (India/ Philippines): <i>Solar system production and distribution</i>	
TRANSPORTATION AND LOGISTICS		Buffalo Bicycles: <i>Bicycle production and distribution</i>
FINANCIAL TECHNOLOGY	Negros Women for Tomorrow Foundation (Philippines): <i>Microfinancing for women</i>	
	Aloi Global (Singapore, Nepal): <i>Fintech for e-vehicle financing</i>	
Sector	ASEAN	
MANUFACTURING	Covestro (Thailand, Vietnam, Indonesia, Myanmar, India): <i>Polyurethane-based solar dryers and affordable housing materials</i>	
	Minh Hong Biotech (Vietnam): <i>Eco-friendly detergents</i>	
HOUSING	My Dream Home (Cambodia): <i>E co-friendly brick production and affordable housing development</i>	
WATER AND SANITATION	Khmer Water (Cambodia): <i>Pipeline water supply and distribution</i>	
TOURISM	Borneo Eco Tours (Malaysia): <i>Biodiversity wellness and tourism</i>	

⁴³ Detailed profiles of these companies are in the Annex.

B. GiB PERFORMANCE AND IMPACT

B.1 COMMERCIAL VIABILITY

- **GIBs profiles are predominantly medium-sized companies.** Most green inclusive businesses in the region (as well as their counterparts in South Asia and Africa) identify as medium-sized enterprises and/or social enterprises (SE). A number of these enterprises (i.e., My Dream Home, Kukula Solar, Aloï Global) started with and are currently sustained largely by external grant funding, incubator support or impact investments. Government support or investment remain limited.
- **Agribusinesses have the biggest reach and scale in terms of revenue; GIBs in energy and transport show high profitability. But revenue growth among GIBs slowed down due to the pandemic.** Agribusiness companies, particularly those involved in rice production in the region, are the most viable and sustainable, with companies such as Amru Rice, Olam Rice, and Urmatt with international/ regional distribution channels for products earning at least USD5 million per annum. High value crop/ commodity production, facilitated by companies such as Dytech and Good Nature Agro in Zambia, are showing profitability and positive revenue growth (between 10%-20% revenue growth seen in the past three years).

GIBs in the sectors of financing (i.e., Negros Women), energy (i.e., Hybrid Social Solutions, Kukula Solar), and alternative transport (Buffalo Bicycles) report considerable and steady revenue growth—similar 10-20% growth rates—and positive income and net profit in the past three years. The revenue reported by these GIBs are about USD2-4 million/ annum, showing high profitability of their business line, and also high acceptability of the BoP products and services they offer. Overall, 60-80% of the revenues of larger GIBs surveyed come from commercial sales, supplemented by grants and subsidies primarily from development organizations and private investors. Startups like Aloï Global and My Dream Home are still largely dependent on external financing but are looking to expand operations to beef up their commercial revenue stream.

The pandemic, however, slowed down or tempered growth projections and, for some of the companies, resulted to net losses especially in 2020, particularly for GIBs offering or have financing services bundled into BoP products and services (i.e., Negros Women, Hybrid Social Solutions), with lower repayment rates from BoP clients due to repives extended by the company or mandated by government and job/ livelihood losses during lockdowns. GIBs with logistics-heavy operations (i.e., Amru Rice, Urmatt) also took a hit financially, due to mobility restrictions and higher fuel and carriage costs (exacerbated by the Russia-Ukraine war). Overall, the GIBs survey report financial recovery in 2022, and foresee a return to pre-pandemic growth rates from 2023 onwards, as economies slowly open and border restrictions are relaxed.

- **Microfinancing institutions (MFIs) are well-established in the region and can be effective conduits for green technologies and services. Financial technologies are increasing accessibility and affordability of product or service financing for the BoP, most notably in last mile delivery of clean energy solutions.** MFIs in the Philippines such as Negros Women for Tomorrow (managing almost USD30 million in assets and loans), and Hybrid Social Solutions have made headway in expanding accessible financing schemes for alternative livelihoods and small businesses among low-income households—primarily among women borrowers. These financing packages come with social protection bundles (i.e., health insurance, educational assistance, emergency relief and initial disaster recovery support), and targeted environmental awareness/ sustainability programs (i.e., tree planting, solid waste management, last-mile off-grid energy solutions). The operation of Sun King in the Philippines, whose core business is solar product manufacturing in India, gained ground when it partnered with Hybrid Social Solutions for the distribution of its solar lamps and home systems. This case demonstrate how MFIs can be/ are increasingly tapped as distributors or intermediary channels for green financing and clean energy technologies, which also help diversify an MFI's loan and

assistance portfolios. The introduction of digital technologies by startups like Aloï Global providing tailored green financing for electric buses and tricycle drivers, as well as vendor/ loan management systems for banks providing green loans in Nepal further improves ease of doing business in developing country contexts, and automates financial service delivery to BoP clients. These startups, however, are still at the pilot-testing/ tech refinement stage of development, but are showing growth potential and are gearing up for expansion to other countries.

B2 IB STRATEGIES AND IMPACT

- Women are heavily engaged in the value chain, as staff or customers by the GIBs surveyed.** GIBs are unlocking the capabilities and potential of women entrepreneurs, workers, and homemakers at the BoP. Agribusinesses engage women to lead cooperatives (i.e., Good Nature Agro), manage contracts & funding (i.e., Urmatt), and start small businesses to supplement limited income from paid employment (i.e., Covestro). Hybrid Social Solutions and Negros Women mainly target mothers from low-income households, making up 98% of their MFI customer base. The same is true for Sun King's operations in Africa (90-95% of MFI members are women). Kukula Solar's employs mostly women as "solarpreneurs", who market and facilitate the delivery of their solar products and services in their areas of operation. Majority of Minh Hong Biotech's employees are also women; the company employs 400 single women, and women with disabilities to handle organic waste processing and the production of their detergents. Aloï Global also targets women bus and tricycle drivers in their green financing program.
- BoP reach of GIBs is steadily on the rise.** From 100 informal workers engaged (Aloï Global) to as many as 500,000 direct BoP borrowers (Negros Women), the GIBs surveyed report a steady increase in the number of BoP individuals and households served, mirroring reported growth rates. This exponentially increases when the number of persons in the household who indirectly benefit from GIB interventions are factored in (i.e., a third-party assessment of Covestro's solar dryer tech reported 3.2 million users/ beneficiaries in 2021, and expected to reach 10 million by 2025). Companies such as My Dream Home and Khmer Water, whose BoP client base is currently limited to 20-30% of their total clients, are actively seeking to incrementally increase their BoP client share in the next 2-5 years as they expand their operations.
- GIBs have considerable impact in increasing individual and household livelihoods and incomes.** The GIBs surveyed have greatly improved existing livelihoods and income streams (i.e., agribusinesses apply fair market prices for all commodities procured, with upfront payment schemes) or have introduced a range of alternative sources of income to individuals, households or communities who would not have otherwise explored such ventures (i.e., beekeeping and honey production introduced by Dytech to communities in/ near forests and protected areas; solarpreneurship introduced by Kukula Solar). Reported increases in income among BoP stakeholders are no less than double to as much as a five-fold increase (i.e., Burapha Wood) in earnings as a result of company engagement. A concrete illustration is the case of Dytech's honey producers, many of them women, who now earn significantly more than they did before as maize farmers (i.e., one kilogram of maize brings 10 cents, whereas a kilogram of raw honey brings USD1). At full productive capacity, one beehive produces USD75 worth of honey per season, and with the average beekeeper managing 10 ZamHives, a producer can earn as much as USD750 per season.

B3. ENVIRONMENTAL SUSTAINABILITY STRATEGIES AND IMPACT

- **Capacities for more rigorous environmental impact monitoring and assessment are still limited among GIBs. Impact data reporting is currently not required by government regulators. However, a number of companies are able to estimate generated impact based on their interventions and operations.** Only a handful of companies actively track and publish on their environmental impacts, whether as part of their voluntary ESG reporting and external audits, or in order to pursue and maintain additional revenue streams (see section below on carbon credits). The high cost and technical requirements of regular environmental impact assessments are cited as major barriers among companies to effectively monitor and report in detail the environmental impacts of their value chains.

A number of GIBs surveyed, however, are able to estimate and report on the environmental impact of their business. Hybrid Social Solutions, for example, has published figures on and targets for reducing carbon emissions (47,000 metric tons of emissions avoided by their operations from 2010 to 2020, and targets to increase this figure to 288,000 metric tons by 2025).⁴⁴ My Dream Home likewise estimates that the production of 10,000 of their eco-friendly bricks reduces carbon emissions by 5,000 to 9,000 metric tons, compared to conventional counterparts. Others also track reforestation and forest conservation impacts, especially when these are central to their core business. Burapha AgroForestry, for example, reported that their plantations in Lao PDR had protected 899 hectares of Special Management Areas with archaeological, cultural and livelihood, and biodiversity values.⁴⁵

Other environmental impacts may be appreciated in relation to companies' compliance with specific voluntary sustainability standards. Amru Rice, for example, has been consistently certified under the Sustainable Rice Platform standards developed by the International Rice Research Institute (IRRI), United Nations Environment Programme (UNEP) and GIZ.⁴⁶ A cumulative score is calculated in accordance with set requirements, which include, among others, prevention of land conversion, efficient water use and use of organic inputs. Certification is not granted for companies that rate lower than 90 percent, with minimum thresholds across categories.⁴⁷

While general environmental statements may be sought as part of initial certification or licensing processes, and special environmental permits are needed for specific activities or occupational safety standards, none of the profiled companies are required by government regulators to regularly submit data on the environmental impacts of their operations. More stringent environmental monitoring is often only required of industries with considerable environmental footprints (such as mining, new hydropower facilities, or extensive infrastructure), or companies with high revenue and larger operations.⁴⁸ Governments likewise do not prescribe standard methods for measuring, reporting and verifying (MRV) these impacts. As such, there is no basis for corroborating these, or computing how company figures track against national baselines and targets. However, it should be noted that GIB impacts, and taking note of these impacts, can contribute toward meeting the climate change mitigation targets of the host countries. Most countries in the region have submitted their Nationally Determined Contributions (NDCs) under the Paris Agreement, and have plans to progressively cut

44 See: <https://www.hybridsolutions.asia/our-impact>

45 Burapha AgroForestry, *Burapha Annual Sustainability Report* (2019) 22

46 Grow Asia Partnership Ltd. *Amru Rice: A Case Study on Responsible Investment into Rice in Cambodia*. <https://www.fao.org/3/cb9580en/cb9580en.pdf>

47 See: Sustainable Rice Platform. *Sustainable Rice Platform Standard for Sustainable Rice Cultivation*. Bangkok: Sustainable Rice Platform (2020) <https://www.sustainablerice.org/wp-content/uploads/2021/10/103-SRP-Standard-Version-2.1.pdf>

48 See, for example the Philippines' Securities and Exchange Commission (SEC) Memorandum Circular no. 4 series of 2019, which requires sustainability reports for publicly listed companies.

GHG emissions. The work of GIBs ties in directly with meeting these goals, although they are not always quantified or accounted for by state regulators. This is especially evident for renewable energy, green cookstoves and sustainable transport companies, some of whom, as mentioned, are already making efforts to independently track their carbon footprint. Hybrid Social Solutions uses the GOGLA impact calculator, especially designed for the solar energy sector. My Dream Home likewise records this data for their operations, but as noted above, both companies are presently not required to submit this information to their respective governments.

- ***GIBs actively contribute to climate change adaptation and mitigation, ecosystem conservation and restoration, waste reduction and management, and more sustainable production and consumption. Sustainability certifications help build and legitimize their brand.*** Due to the nature of their business with its particular reliance on the natural resource base, GIBs deliberately find ways or deploy innovations to protect and/or enhance land and ecosystems a part of their business model. These are able to 1) ensure the consistent quality of their products and 2) avoid or bounce back from climate-related impacts.

While these approaches may be focused on products or operations, they contribute to the conservation and restoration of nearby ecosystems, and contribute toward climate change adaptation and mitigation targets for the agriculture sector. For example, organic agriculture that relies on less chemical inputs, such as that practiced by Good Nature Agro, Olam, Covestro, has already been shown to improve soil carbon sequestration, in addition to creating benefits for biodiversity.⁴⁹ Organic farming is also used in livestock production; Urmatt's partnership with hill tribe farmers has allowed them to include organic eggs among their goods. These GIBs also make use of sustainability certifications (such as "organic" and "fair trade"), which add to their brand recall, value and appeal to specific markets. While companies acknowledge that consumers in the region are not always ready to shoulder the increased prices that accompany these commodities, Amru Rice accurately observes that these certifications and labels nevertheless help them occupy a "niche" in an otherwise competitive market. Climate change being a significant concern for the agricultural sector, agribusinesses have also invested in efforts to ensure that their operations can continue. Amru Rice, for example, has piloted the climate resilient crop varieties that they have developed with the International Rice Research Institute (IRRI). This does not only assure them of a steady supply of goods, but can also help ensure food security despite climate change impacts.

Contributions to climate change mitigation have also allowed several GIBs to access a separate revenue stream from voluntary carbon markets, or the trade in carbon credits. While currently, this is still in its inception (in the case of Amru Rice), or largely considered a short-term measure (in the case of Kukula Solar), participation in these schemes can be expected to grow, as governments and the private sector alike have made commitments in various fora to reach net zero emissions by 2050. There are estimates that "the market for carbon credits could be worth upward of USD50 billion in 2030"⁵⁰. Companies like Burapha Wood have already proven attractive to private investors willing to enter into joint-venture schemes. Nevertheless, carbon markets remain volatile, and are not guaranteed investments.⁵¹

49 See: Food and Agriculture Organization, *Organic Agriculture and Climate Change Mitigation*. Rome: FAO (December 2011) <https://www.fao.org/3/i2537e/i2537e00.pdf>

50 Blaufelder, Christopher, et. al. "A blueprint for scaling voluntary carbon markets to meet the climate challenge" *McKinsey Sustainability* (January 2021) <https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge>

51 See: Trove Research, "March Madness - Voluntary Carbon Market Volatility - What is Going On?" *Trove Intelligence* (March 2022) <https://trove-research.com/press-release-march-madness-voluntary-carbon-market-volatility/#>

The contributions of agribusiness companies, particularly in effective natural resource use and waste management, are also significant. For example, DyTech's beekeepers are incentivized to maintain nearby forested areas to ensure the quality of their honey, which provides a layer of protection for local carbon sinks, in addition to enhancing other ecosystem services. These forested areas especially benefit from DyTech's biomimicry system, which ensures that production beehives are as close to natural conditions as possible. Waste management measures and other approaches toward circularity also contribute to emissions reductions. The potential of circular economies to accelerate climate change mitigation has recently been recognized. A study estimates that circular economy strategies of redesign, reuse and regeneration, particularly in the production of cement, aluminum, steel, plastics and food, can cut 9.3 billion tons of carbon emissions by 2050.⁵² Many of these approaches are built into GIB models. For example, Olam has begun developing bio-charcoal in an effort to find alternative uses for agricultural waste instead of burning it, while also reducing the need for conventional firewood. Other businesses put heavy emphasis on the right to repair. This not only pertains to the timely and efficient availability of parts and services, but also to the quality of the products themselves. High quality products can be used for longer, and longer life cycles mean that these do not add to waste that is disposed of after a few years. For example, Kukula Solar's *solarpreneurs* and Hybrid Social Solutions' *solaristas* and *solusyonistas* are core components of the circular economy, providing repair and maintenance for the solar power units. Similarly, the Buffalo Bicycles team deploys to far-flung rural areas to bring parts and installation. These initiatives are especially critical in developing country contexts, where recycling and processing facilities are not always available for e-waste and batteries from solar technology, or rubber and metal from bicycles. Environmental sustainability strategies therefore do not only ensure consistent quality and uninterrupted operations; they also provide new revenue and investments, reputational rewards and government recognition that make them "triple win" solutions delivering for people and planet, while also turning a profit.

52 Ellen MacArthur Foundation, Executive Summary - *Completing the picture: How the circular economy tackles climate change* (2021) <https://ellenmacarthurfoundation.org/completing-the-picture>

V. CRITICAL CONSIDERATIONS AND CHALLENGES RAISED BY GIBS SURVEYED

Despite the innovation spurred and triple-bottom line gains achieved, GIBs face specific challenges that need to be considered and addressed.

A. LEVEL OF SUCCESS IN SHIFTING MINDSETS AND BEHAVIORS IN THE TARGETED BoP GROUPS CAN MAKE OR BREAK A GIB MODEL.

BoP communities generally have limited access to basic information on environmentally friendly products and services. Cost and convenience are prioritized, as gaps in financial literacy or technical knowledge and skills, or just the reality of purchasing power, affect both the introduction and reach expansion of GIB products and services in BoP communities.

Changing these mindsets and behavior will require companies to invest in information and education campaigns. Without this effort, markets will remain limited. There is already a perception that green products and services, such as clean cookstoves, solar systems, and eco-friendly building materials, are not “needs,” but are rather luxuries for those that can afford them.

To contest this perception and increase access to these products and services, new distribution channels need to be created to reach BoP markets more effectively. Building partnerships with intermediary organizations, like MFIs and NGOs, are one pathway in order to do so.

B. SECURING GIB MODEL FINANCING REMAINS A CHALLENGE DUE PRIORITIES AND RISKS FOR RESOURCE ALLOCATION AND INVESTMENT

On the whole, ASEAN’s green transition is underway, and there is ample opportunity to scale up current initiatives. In particular, some GIB models are already proven business cases and well-known by investors, bankers and other financing agencies. This is especially true for renewable energy systems, but other green products and services are less tested and are perceived as greater risks. As such, it can be challenging to access sustainable and adequate financing for these new initiatives, and the market research, impact assessments, continuous capacity building and networking that they entail.

Innovative partnerships, including with governments, may be able to help bridge this challenge - ASEAN countries have already identified the value of public-private partnerships in mobilizing the resources needed to meet social services, such as infrastructure, energy and water, particularly to communities that need them the most.

These cooperative efforts can also serve to strengthen the enabling ecosystem for green and inclusive businesses. Creating linkages with the government allows GIBs to access networks, and importantly, to participate in platforms for policy and decision making.

C. GENERAL LACK OF GIB KNOWLEDGE OF AND SUPPORT FROM GOVERNMENTS, AND REGULATORY GAPS LIMIT GIB GROWTH AND EXPANSION.

Even companies that did not originally include climate change adaptation or mitigation efforts in their operations have been able to quickly scale up their social and environmental impacts, whether by design, or as they expand into activities beyond their initial model. Agribusiness companies like DyTech and chemical companies like Covestro have already incorporated solar technology into their facilities and post-harvest processing. Others have partnered with similar initiatives; Buffalo Bicycles, for example, sends the paper waste that it generates to other enterprises engaged in recycling, and several of the GIBs profiled are partnering with each other as well (for example, Hybrid Social Solutions and Negros Women).

The range of the socio-environmental interventions and impact generated by GIBs imply that a suite of strategic and complementary measures—including policy instruments, platforms for participation, robust data management, streamlining of standards and management processes, and a reassessment of national and local priorities and development approaches—will be required for ASEAN governments to support and facilitate the transition to green and inclusive economies.

The GIBs interviewed identified several policy gaps at the national level in their areas of work, which can be used as directives for this transition, and ensure the tools and resources for an enabling ecosystem. Some cite policy gaps that are broad ranging and comprehensive, such as lack of legislation on waste management and energy conservation, which other are more specific, such as non-existent regulations on the use of biotechnology, or of laws encouraging and supporting regenerative farming practices.

Companies interviewed also observed that some government projects tend to “crowd out” the market for GIBs; for example, there have been cases wherein government initiatives flood markets with renewable energy units, usually as part of disaster relief operations. However, these units are often substandard, and does not factor in customer service and repair. Indirectly, these state projects create competition and reputational damage for GIBs offering these products and services—solar products and services of GIBs, which go through more stringent quality control and cover after-sales services—become viewed as unreliable by association.

In addition, subsidies, tax and duty reductions and/or exemptions, whether for commodities themselves, final products, or components thereof, have significant impact to GIB operations, especially for small- and medium-sized businesses. The lack of targeted subsidies and tax considerations for GIBs limit their capacity to mainstream new technologies, and scale up operations. In the Philippines, for example, NGOs involved in microfinancing like Negros Women had previously opposed the 2% preferential tax to be imposed under the Tax Reform for Acceleration and Inclusion (TRAIN) Law, and the Passive Income and Financial Intermediary Taxation (PIFITA),⁵³ that will impose a uniform 15% rate on interest income and dividends, which will reduce MFI's pool of funds. While there are existing legal provisions that GIBs take advantage of, they can be limited to very specific components, which also limit the uptake of more comprehensive solutions GIBs offer; Hybrid Solutions, for example, pointed out that while solar units are duty free under the Philippine Renewable Energy law, energy efficient appliances that can best benefit from these systems are not. Some companies, however, have been able to successfully lobby for more favorable incentives; Buffalo Bicycles, for example, successfully lobbied for a reduction of duties imposed on bicycles, with the Zambian government cutting it down to 15 percent starting 2024.

As illustrated above, restrictive regulatory environments can limit the growth and expansion of GIBs providing public goods, such as access to clean water, sanitation, electricity

53 Tadalán, Charmaine, “PIFITA bill expected to sail through Senate,” *Business World* (February 2020) <https://www.bworldonline.com/editors-picks/2020/02/12/278363/pifita-bill-expected-to-sail-through-senate/>

and transport. This is especially ironic, as in these cases, companies step in to meet critical needs that the state is unable to fulfill. Apart from the legal and regulatory issues, in general, policy-makers are still generally unaware of GIB models and associated challenges in sustaining and scaling these models. As such, formal recognition, accreditation, and targeted, programmatic support for GIBs are still lacking, and can be more complicated for those GIBs that straddle between NGO and profit-making models.

vi. CONCLUSIONS AND RECOMMENDATIONS

National climate change policies, strategies and plans of ASEAN member states recognize the role and contributions of the private sector in actions to enhance climate change adaptation and mitigation, and build disaster resilience. However, implementation of these policies, strategies, and plans largely does not strategically tap into or deploy private sector expertise and resources. While there is heavy reliance on blended financing and public-private partnerships, the private sector's participation in and contributions to climate actions is still viewed in a silo that is separate from national strategies and approaches to investments and trade, productive sector development (such as agriculture, tourism, technology and industry), and poverty alleviation. And while policies, strategies and plans recognize the vulnerability of populations at the BoP to climate change impacts, much remains to be done to address the needs of low-income and high-risk communities. GIBs, as illustrated by the cases, have the potential to provide the social, economic, and environmental benefits that can build BoP communities' adaptive capacity and resilience.

ASEAN GOVERNMENTS CAN RAMP UP GIB SUPPORT THROUGH THE FOLLOWING:

- A. **Integration of climate change and environmental sustainability efforts in inclusive business frameworks and promotion.** ASEAN IB Frameworks and national IB strategies can better respond to GIB and BoP needs with strengthened environmental and climate mitigation/adaptation aspects.
 - **Promote GIBs as a viable IB models and climate investment targets.** Vietnam, for example, has started fostering 10,000 private firms to become sustainable businesses by building a supportive market ecosystem, and providing assistance to properly integrate sustainability and socially responsible business operations into value chains⁵⁴. Launching similar efforts in other countries that will enable targeted exposure of and GIB awareness-raising in the private sector, involving companies and business associations, can spur further business innovation and growth, along with social-environmental impact consciousness and accountability among businesses. As seen in the case studies, many GIBs are still at the startup stage or are small and medium enterprises (SMEs); providing financing for expansion and scale up is key to broaden their reach and impact. Facilitating matchmaking opportunities between GIBs and impact investors and climate investment holders who are looking for potential partners in ASEAN can be a way to increase GIB financing.
 - **Extend support beyond financial subsidies for GIBs and BoP engagements.** Government could consider strategic investments in building an ecosystem that can transform business opportunities to climate response—this includes not only government incentives for GIB growth, but also putting in place climate- and environmental impact reporting mechanisms within and among ASEAN members. Policy frameworks should open up towards making more inclusive businesses green, and green businesses more inclusive, and long-term sustainability of GIBs will require additional investments, particularly in infrastructure development in and capability building the BoP communities GIBs work in (e.g., pre-financing for farmers, greenhouses and irrigation systems, building better credit profiles for business and social protection financing). Local governments should be also be involved and capacitated to improve ease of doing business in their respective localities for GIBs, and increase BoP constituent access to GIB goods and services, and engagement in GIB opportunities.

⁵⁴ <https://hanoitimes.vn/vietnam-to-foster-10000-private-firms-towards-sustainable-business-in-2022-2025-319950.html>

Existing IB frameworks of ASEAN member states such as the Philippines, Cambodia, Vietnam, Myanmar, Malaysia, and Indonesia, can integrate climate programs as an IB focus, supported by targeted GIB financing (i.e., risk reduction fund and co-investing with impact investors), accreditation, business and partner coaching, more favorable tax and procurement incentives, and robust GIB monitoring and evaluation mechanisms to capture and track short-term outcomes and long-term impact.

- **Deepen IB learning by including green businesses and their BoP partners in conversations and policy dialogues.** Although IB, in principle, seeks to ensure the triple-bottom line, environmental sustainability and impact monitoring is often not highlighted or given as much attention as the social engagement and development components. Ongoing IB conversations and policy dialogues will greatly benefit from involving GIBs and their community partners, and taking into account their experience, needs, and insights on what works and what does in relation to the technologies they use, and the sector and contexts they work in. GIBs can serve as learning models in peer learning sessions.
- **Develop and harness public and youth interest in sustainable development.** Building a GIB advocacy should not only put a spotlight on model businesses and entrepreneurs, but also to the individuals and groups in the BoP communities they engage with (those who are sustaining operations on the ground). This is to further pique and increase public interest, especially of the youth, in getting involved in these types of business ventures and community work. A 2020 survey in Thailand found that 82% of the respondents are willing to invest in sustainable businesses, coinciding with a growing social and environmental awareness. More than half, 51%, expect government actors to lead national sustainability efforts. Increasing awareness of, access to, and use emerging technologies (e.g., digital media, e-banking, e-lending systems), especially in rural and remote areas, can also help bring BoP communities up to speed, and increase local confidence and competence in learning/using new technologies and engaging with entities such as GIBs. Environment-oriented civic groups and the academe (local schools and universities) can be partners in disseminating sustainable development-related knowledge and skills.

B. Supporting the green transition of ASEAN that leaves no one behind. GIB promotion and support will be a key towards fast-tracking the envisioned transition to more sustainable and just economies within ASEAN member states. GIBs are already laying the foundations and building community capacities for sustainable natural resource use, green energy consumption, regenerative agriculture, reducing waste and carbon footprints, promoting circularity and sustainable production and consumption, and providing access to eco-friendly materials and transport options for the poor and low-income population.

The challenges to a green economic transition in ASEAN, and to basic regulatory and whole-of-government support for GIBs within countries are still considerable. However, evidence shows the agility of investors, innovative enterprises, and progressive policymakers can help accelerate behavioral and systemic transformation in the region. The profiled companies present showcases that will allow governments and other businesses to devise more focused strategies to disrupt the “business as usual” paradigm, and pursue green economic transformation for the poor.

As shown by the profiled companies, GIBs can pave the way for concrete pathways towards a just and green economic transition in the region. Apart from targeted support for GIBs, ASEAN governments could pay more attention to and devise measures to support the inclusion of the poor and low-income population through GIBs with the following:

1. Green energy and circular economies. Shifting to sustainable energy consumption and resource extraction presents USD270 billion in annual economic opportunities for ASEAN by 2030⁵⁵, which can be reached through proactive measures to:

- **Shift to renewables and alternative fuels.** GIBs are taking bold actions to rebalance portfolios through low-carbon investments such as renewable energy sources.
- **Adopt circular economy practices.** Now increasingly vital to design business models that reduce, restore and regenerate resources. Waste can be transformed into value-creating elements to lower costs and attain alternative revenue streams. Other key approaches include conserving and regenerating biodiversity. ASEAN's resource sector must find a more sustainable way to locate, harvest, and conserve available but limited resources.

2. Sustainable and healthy food systems. Embarking on transformational pathways in the food and agriculture sector will allow companies in ASEAN to capture USD205 billion in opportunities annually by 2030⁵⁶, and enable the region to produce nutritious food more sustainably by:

- **Adopting regenerative and sustainable agriculture to improve productivity, sequester carbon, reduce food loss, and repurpose waste across the value chain.** As significant agricultural producers (of rice in particular), ASEAN GIBs show the potential to further enhance food systems and technologies to boost yields and the quality of agricultural commodities. More efficient agri value chains and addressing hurdles to last-mile product delivery—learning from the logistical and mobility issues brought about by pandemic restrictions—are key to feeding and improving nutrition among growing populations in the region.
- **Building end-to-end traceability.** Improving trust across the value chain is a huge challenge, yet this is an approach that GIBs pursue to strengthen relationships with their BoP suppliers and clients. Digitally enabled solutions provide greater transparency in monitoring suppliers' practices while enabling regulators and consumers to trace products back to their origins and also measure impact.

3. Efficient industries and logistics. Establishing efficient industries and logistics offers a USD200 billion opportunity by 2030⁵⁷. This can be achieved by:

- **Digitizing supply chains.** GIBs tap into digital solutions to track, trace and continuously monitor supply sources to solve supply chain performance issues in real time. Automation can improve efficiency of operations and achieve more efficient overall use of energy.
- **Standardizing regulations.** Standardizing cross-border regulations will be key to increasing trade efficiencies, streamline logistics, and cut costs.
- **Reducing carbon footprints.** GIBs are employing new technologies for greener and more efficient last-mile deliveries. Improving infrastructure—road networks, communication facilities, shared service facilities—particularly in rural and remote areas will help GIBs further reduce logistics costs and carbon footprints at the same time.

55 Bain & Company, "Southeast Asia's Green Economy: Pathway to Full Potential" (2020) https://www.bain.com/about/media-center/press-releases/2020/the_green_economy_unlocking_a_more_sustainable_future_in_southeast_asia/

56 ibid

57 ibid

4. Greener cities and towns. Strategically transforming urban centers and rural towns into green and connected cities and towns offer USD185 billion in opportunities by 2030⁵⁸. This will entail:

- **Rethinking affordable housing.** With increasing decent housing requirements, GIBs are finding ways to reduce housing-related resources and costs, and use eco-friendly materials and designs. Public and private investment needs to be ramped up for socialized and eco-friendly housing models introduced by GIBs.
- **Promoting inclusive mobility.** In addition to promoting shared urban mobility services, bicycles and electric vehicles have the potential to be a catalyst for a mobility revolution in ASEAN. Accelerating the roll out of these alternative transportation modes, and providing the necessary public infrastructure for such transport modes become critical.

5. Green financing will be an enabler to support the growth and spark transformation towards greener economies. Governments as well as financial institutions, investors, and other service providers can pursue the following:

- **Accelerating the shift to sustainable investing.** Investors can deploy capital to projects or startups that support the growth of a green economy. With studies showing that funds incorporating ESG goals into their strategies perform as well as or better than other portfolios, investors can increase efforts to incorporate sustainability criteria into investment decisions.
- **Developing green financing instruments.** Taking advantage of products such as green loans or bonds, or risk mitigation tools such as green guarantees and insurances, will be key to fueling the growth of green economies.
- **Establishing a carbon market and services ecosystem.** Carbon-related businesses such as low-carbon project development, consulting and verification services for clean development mechanisms, and carbon footprinting are emerging opportunities companies can tap into.
- **Measurements and risk assessments** will be important tools companies need to employ to ensure they have access to capital.

58 *ibid*

GREEN AND INCLUSIVE BUSINESS (GIB) PROFILES



Aloi

Sector: **FinTech, Green Lending**

Country: **Singapore/Nepal**

<https://aloi.global/>

As the 2030 Climate Deadline approaches, sustainable financing, more particularly green lending, is viewed to be one of the many ways the private sector can contribute to addressing climate change. Green lending reimagines how borrowers attain access to funds by ensuring a substantial contribution to an environmentally sustainable objective. From an international perspective, it encourages private investment to people who seek growth that aligns with climate change solutions⁵⁹.

The BoP is a key player in the large-scale transition towards more sustainable economies. Many micro and small-scale entrepreneurs at the BoP, particularly women from the informal sector in Nepal, are interested to shift to using greener technologies but still have limited access to resources to do so. While billions of climate and development financing are made available globally, keeping track of whether the financing reaches grassroots entrepreneurs remains a challenge⁶⁰, and this is the main issue Aloi wants to address.

The Company

Aloi works with microfinance institutions (MFIs) and banks, and operates a digital micro-entrepreneur financing platform that uses blockchain technology to help MFIs, banks, and their clients in monitoring expenditures, green loans, repayments, and other investments. Aloi's software aims to enable MFIs and banks to do targeted lending by creating vendor ecosystems that cater to a particular borrower's needs. Their model also allows borrowers to have a choice by allowing access to different vendors that can provide loans catering specific financing needs.

Aloi's digital tokens and lending platform helps minimize partner MFIs' and banks' operational costs by 50% (less travel to monitor loans) by making loan tracking easier through SMS. By digitizing transactions, the platform helps connect about 200 entrepreneurs to 16 MFI/ bank offering green loan portfolios. Aloi's operations is supported largely by grants but the startup reports increasing yearly revenue, with projections to break even by 2025. In 2022, they managed to disburse over USD400,000 in loans. Aloi's headquarters is in Singapore but current operations and clients are in Nepal.

59 World Bank, "What You Need To Know About Green Loans," Climate Explainer Series (October 2021), <https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans>

60 Aloi, "Aloi | Unlocking affordable finance for last-mile micro-entrepreneurs," Aloi, August 25, 2020, 0:58, https://www.youtube.com/watch?v=UD6NRh0_8x0

Value Chain Innovations

Business. The company currently manages two digital loan platforms: *ReGrow* for vendors of agriculture products, and the *Bijuli Power* platform for drivers of public electric mini buses—called *safa tempos*—in Kathmandu, Nepal⁶¹. Instead of having to deal with 3-4 financing institutions to access capital, Aloï’s platforms allow clients to have access to larger loans through financial institutions and different types of vendors within their ecosystem.

Environmental. Borrowers enrolled in their *Bijuli Power* platform, who are 90% women micro-entrepreneurs, are provided access to low-interest financing to upgrade the batteries of their electric buses and e-trikes to more eco-friendly lithium ion batteries through digital tokens⁶². Aloï’s digital tokens and lending platform helps minimize partner MFIs’ operational costs by making loan tracking easier through SMS. By digitizing transactions, the platform helps connect about 200 entrepreneurs to 150+ investors and vendors offering green loans.

Social. Aloï is helping systematize and automate MFI transactions, making them more efficient, attractive, and accessible to current and prospective clients. The enterprise also helps microentrepreneurs and cooperatives build their credits scores, and connects them to a variety of vendors for different financial needs. Aloï also provides clients with financial, technical, and digital literacy to further strengthen their credit profiles. In 2020, the company helped women drivers in accessing loans for collective electric mini bus operation; after gaining employment and steady income, the women drivers are now looking to buy their own e-vehicles. Based on their continued engagement with and good repayment records of these clients, Aloï has established partnerships with organizations that serve as a guarantor for the women drivers should they need larger loans from other financial institutions.

Critical Challenges

The company’s MFI and bank partners were faced with a liquidity crisis in early 2022, where higher credit disbursements are not being met with the necessary increase in deposits, which hampered business recovery from pandemic impacts⁶³. This liquidity crunch affected company revenues. Despite this challenge, and given the relatively positive performance of e-vehicles and green financing in Nepal, the company is looking to break even by 2025, with growing trust and partnerships with local MFIs and borrowers. Being able to maintain a steady pipeline for informal sector green loans lenders is a significant driving force/ value proposition for the company.

Apart from external factors, the company is also faced with legal risks associated with blockchain technology, which is often conflated with cryptocurrency (which the company does not use). Limited public knowledge and negative perceptions about blockchain technologies are limiting market expansion. The company mitigates this risk through careful technology development (ensuring that the platform and hosted transactions do not violate applicable laws), and literacy trainings for partners and clients.

Policy relevance and implications

The government of Nepal provides green subsidies and loans to rural communities as part of their Renewable Energy Subsidy Policy⁶⁴. The subsidy covers 40% of the total cost of a range of energy-efficient technologies and off-grid applications. Microentrepreneurs and low-income

61 Aloï, “Products,” Aloï, <https://aeloi.com/products/>

62 For Tomorrow, “Green Energy Mobility,” () for Tomorrow, <https://fortomorrow.org/explore-solutions/green-energy-mobility>

63 Shrestha, Sneha, “The ongoing liquidity crisis in Nepal, *Nepal Economic Forum* (January 2022), <https://nep-aleconomicforum.org/the-ongoing-liquidity-crisis-in-nepal/#:~:text=Liquidity%20crunch%20is%20a%20common,country%20and%20foster%20economic%20recovery>

64 Ministry of Population and Environment, Renewable Energy Subsidy Policy, 2073 BS, (2016), <https://policy.asiapacificenergy.org/node/2650>

households are encouraged to switch to renewable energy sources, and, consequently, utilize lending technologies such as that of Aloï's to gain access to financing institutions and lenders. Aloï's operations and work with mini-bus and tricycle associations also help fast-track government efforts to convert a significant portion of public transport vehicles to e-vehicles.

Increasing loan digitization and fostering transparent and stronger relationships among lenders, vendors, and customers promote more inclusive and green financing for BoP entrepreneurs and informal sector workers in Nepal. Governments can support similar technologies and platforms that help build better credit scores and profiles for microentrepreneurs, thereby expanding their growth opportunities. Aloï notes the little support they get from government at the moment, which they hope will increase so that startups like them can also bring their technologies and impact to scale. Currently in the pipeline is to expand operations to Indonesia. The company also noted the need for governments to capture as much data as possible on and from informal sectors and businesses operating in those sectors to policy-making and state support provision.



Amru Rice Co., Ltd.
Sector: **Agribusiness**
Country: **Cambodia**
<https://amrurice.com.kh/>

37% of the world's rice harvest comes from the ASEAN, with the region producing 220 million tons of rice in 2018 alone⁶⁵. Currently at the forefront of rice production are Vietnam and Thailand. However, majority of rice farmers across the region still employ conventional, pesticide-heavy farming methods, which negatively effects soil quality and long-term farm productivity. Several companies are shifting to organic farming to produce rice more sustainably and benefit both people and the environment. In Cambodia, Amru Rice produces organic rice and engages local farmers through a contract farming model that provides significantly higher income returns for smallholder farmers.

The Company

Amru Rice was established in 2011, is one of the leading organic rice producers and exporters in Cambodia. Increasing competition in the conventional rice market in the region, and growing demand for organically produced food especially in international markets, prompted the company to shift their focus to organic rice farming and trading. It then became a niche for the company that led to notable revenue growth; the company's reported annual revenue reaches to around USD40 million—33% of which is from organic rice production and trade. It exports 80,000 tons of rice per year—with organic rice accounting for 30,000–35,000 tons—to the United States, Europe, China, Vietnam and Thailand. In 2018, Amru Rice had 192 personnel, which grew overtime to 400 due to their engagement with farmer cooperatives.

At the core of their IB operations is their contract farming arrangement with smallholder farmers. In 2022, the company is working with about 20,000 smallholder farmers. The

⁶⁵ International Rice Research Institute, "Transitioning toward equitable, profitable, and environmentally sound rice agri-food systems, *International Rice Research Institute*, <https://www.irri.org/where-we-work/countries/southeast-asia>

company buys at the prevailing market price with a 20-30% premium. Farmers comply with organic rice production standards, IFC's Environmental and Social Performance Standards and Sustainable Rice Production (SRP)⁶⁶. With Amru Rice, farmers have a guaranteed buyer, and receive regular training to maintain rice quality and meet SRP standards. Amru Rice also maintains partnerships with government agencies and NGOs for complementary support programs for farmers.

Value Chain Innovations

Business. Apart from organic rice, the company is also investing in the production of other crops such as organic cassava due to increasing international demand. The company has also implemented blockchain technology with Oxfam called "BlocRice" for cashless payments, electronic verification of contract conditions, and full traceability and transparency of transactions with farmers, exporters, and manufacturers⁶⁷. Farmers are provided access to this information which helps build trust and partnership integrity between the company and their smallholder farmers.

Social. Amru Rice partners with local microfinance institutions (MFIs) for loan assistance to their farmers. Together with the Cambodia Agricultural Cooperative Corporation, the company is also involved in a number of public-private-producer partnerships. The government of Cambodia provides incentives to rice millers and producers that meet export targets in the form of loans from the Agricultural Rural Development Bank.

Majority of Amru Rice's farmers are women, which comprise about 67% the 20,000 farmers they are currently engaging; nearly a quarter (23%) of the company's total workforce are also women.

Environmental. In 2016, Amru Rice collaborated with the Sustainable Rice Platform to improve their sustainable rice production methods, and meet SRP standards. A partnership with IFC was also forged to implement environment, health, and sustainable management (EHS) systems. The company also introduced a climate-smart rice variety in one farming community in Phka Mealdey in 2020, in partnership with IRRI⁶⁸.

The company is exploring carbon management projects to generate and earn from carbon credits. In the coming years, the company is also looking into employing regenerative agriculture and carbon sequestration technologies. Amru Rice is also seeking to provide crop insurance, farmer incentives to transition to clean energy, and develop organic fertilizers and biopesticides. The company also recently subscribed to the Global Reporting Initiative (GRI) to generate sustainability reports. The company also finished testing rice husk to briquettes as a waste-to-fuel initiative, as part of the UNIDO-GEF Low Carbon Development for Productivity and Climate Change Mitigation. The company will soon launch an origination initiative for carbon-sequestering agriculture among its organic rice farmer suppliers.

Critical Challenges

Climate change poses the most significant threat to the agriculture sector, and inclusive agribusinesses such as Amru Rice are playing a role in ensuring the security of their BoP partners, and of the lands they cultivate. Droughts impact the volume and quality of farmer

66 International Finance Corporation, "IFC Partners with AMRU Rice to Promote Sustainable Rice Production in Cambodia," *International Finance Corporation* (June 2017) <https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=17450>

67 Oxfam in Cambodia, "Blockchain for Livelihoods from Organic Cambodian Rice (BlocRice)," *Oxfam* (March 2019), https://oi-files-cng-prod.s3.amazonaws.com/cambodia.oxfam.org/s3fs-public/file_attachments/BLOCRICE_0.pdf

68 Vannak, Chea, "Amru embarks on pilot climate change resilient rice variety project," *Khmer Times* (December 2020) <https://www.khmertimeskh.com/50792429/amru-embarks-on-pilot-climate-change-resilient-rice-variety-project/>

yields, and Amru Rice’s partnership with the Sustainable Rice Platform includes trainings on sustainable water management, and use of technologies such as water-retaining weeds and barriers. Despite limited climate-resilient infrastructure for organic farming, the company maximizes available and recent technology (e.g, intercropping and use of bio-charcoal—a by-product of agricultural waste like rice husks—as organic fertilizer) to secure both the farmer yields and incomes.

The company also noted the high cost of continuous/ regular farmer trainings to be able to meet and comply with international organic standards. To defray some of the costs, the company partners with government and international development organizations such as the Cambodia Agricultural Value Chain Program (CAVAC) financed by the Australian government, the Gender Transformative and Responsible Agribusiness Investments in Southeast Asia (GRAISEA) with the Swedish government and Oxfam, and harvest projects under USAID.

Policy relevance and implications

Amru Rice’s IB scale and impact has been recognized as a learning case not only in Cambodia, but in ASEAN and other regions. Amru Rice’s CEO, Song Saran, is also the president of the Cambodia Rice Federation (CRF), and acts as the representative of the Cambodian rice sector in policy discussions with government to promote ethical and sustainable rice value chains. The CRF has been working closely with the Ministry of Commerce to stabilize domestic rice prices during the pandemic. This led to active efforts by government to open up the market for commercial and organic rice, and further expand international rice exports. As an IB accredited company, Amru Rice hopes to continue working with the Cambodian government in promoting and mainstreaming sustainable agricultural practices and technologies, and helping more smallholder farmers in the process. The national government already has regenerative agriculture and renewable energy policies in place but the problem, as noted by the company, is in enforcement. Currently, no incentives are provided to the private entities promoting regenerative agriculture or the use of renewable energy.



Borneo Eco Tours

Country: **Malaysia**

Sector: **Tourism**

<https://www.borneoecotours.com/>

As the tourism sector in ASEAN begins to recover post-lockdowns, experts are expecting a surge of “intelligent travelers” seeking to travel to tourist spots that are wellness-oriented, and are eco-ethical (safeguard communities and the environment)⁶⁹. Malaysia, along with other ASEAN nations, is home to the most diverse natural ecosystems, and businesses that promote sustainable tourism play an important role in managing and protecting these ecosystems. Borneo Eco Tours (BET) is an example of an enterprise that supports strong engagements with the BoP, and institutionalizes environmental safeguards.

⁶⁹ Asian Development Bank Southeast Asia Development Solutions, “Why Southeast Asia Needs to Embrace Sustainable Tourism,” *ADB SEADS* (April 2022), <https://seads.adb.org/solutions/why-southeast-asia-needs-embrace-sustainable-tourism>

The Company

Established in 1991, BET is an ecotourism enterprise that operates in Sabah and Sarawak, Malaysia. The Sukau Rainforest Lodge (SRL) is at the forefront of their inclusive business operations. Their non-profit division, Borneo Ecotourism Solutions and Technologies (BEST) Society, which was set up in 1996, oversees various social and environmental projects of BET and SRL (i.e., capacity building, reforestation, land conversion and protection, and community development)⁷⁰. Local residents of the Sukau village are employed as tour officers, cooks, and suppliers of the lodge. According to their 2019 Sustainability Report,⁷¹ SRL is on track to impact to up to 1,000 villagers by 2024.

Value Chain Innovations

Business and Social. Both BET and BEST Society actively take part in community development initiatives with local communities, civil societies, and partners in tourism. Using tourism as an entry point to capacitate these communities, BEST conducts capacity building programs for the residents of Mesilou, Kundasang, Libaran Island, Kiulu, Kiau and Sukau on tourism and hospitality management as alternative sources of employment and income (e.g., residents of the Libaran community are equipped with local interpretation skills to be able to engage with tourists when they participate in activities such as Pandanus leaf weaving, local snack making, and upcycling of plastic bottles). BEST also has conducted programs on farm tourism, bamboo treatment methods, and financial literacy programs for local residents of Kiulu. A community-based tourism project, Kiulu Farmstay, offers quad biking, camping, and farmstay activities within their village, as well as cultural tours which in turn provides alternative livelihoods to more than 80 villagers.

Environmental. As of 2019, all rooms of the SRL are free of single-use plastics; all food containers & cutlery are switched to non-plastic materials. To conserve energy, SRL facilities and rooms use energy-saving LED bulbs, and 2 hornbill boxes (artificial nest boxes for the conservation of hornbill populations in the Kinabatangan) were installed in the lodge by the Wildlife Survey and Protection (WSP) team⁷². A total of 18,522 kilograms of lodging waste was recycled.

Wildlife conservation and river cleanup initiatives are regularly organized within the Sukau village area. Their monthly river-clean ups in 2019, collected 1,101 kilograms of waste. BEST also bought the 7.7 acres of forested land and established the Borneo Land Conservancy and set up Sukau Ecotourism Research Center to engage with academic institutions both local and international, in efforts to promote and conduct studies to further enhance the social, economic, and environmental well-being of Sukau, Kinabatangan. The lodge also partners with local resident, Mursalin, which work towards conserving Rasig Land, a 5.6-acre plot within their village area; by offering his guiding services rather than selling Rasig Land that would have been converted into a palm oil plantation, BET is promoting its conservation through various tourism activities.

Policy relevance and implications

BEST Society is one of the few, if not the only NGO set up by a tourism enterprise in Malaysia. Tourism as an industry has yet to be fully capacitated and adequately supported by the Malaysian government as a means to scale up environmental conservation and boost community engagement/ local employment in sustainable tourism ventures.

70 One Planet Network, "Borneo Ecotourism Solutions and Technologies Society (B.E.S.T.)," *One Planet Network*, <https://www.oneplanetnetwork.org/organisations/borneo-ecotourism-solutions-and-technologies-society-best>

71 Sukau Rainforest Lodge, *Sukau Rainforest Lodge Sustainability Report 2019 (2019)* <https://www.sukau.com/wp-content/uploads/2021/02/SRL-Report-2019.pdf>

72 Borneo Ecotourism Solutions & Technologies Society, "Artificial Hollows to Save Hornbills," *BEST Society*, <https://www.bestsociety.org/artificial-hollows-to-save-hornbills-2/>



Buffalo Bicycles

Sector: **Transportation & Logistics**

Country: **Zambia**

<http://www.buffalobicycle.com/>

Last-mile delivery of goods and services, especially to rural and remote areas, is a long-standing challenge both in developed and developing countries. In the case of Zambia, the delivery of basic services like healthcare to rural communities is hampered by inefficient road networks and transport modes, where cheap bicycles made from poor quality metal was the most accessible and affordable option. Buffalo Bicycles was established to address this gap via the design and distribution of durable and quality bicycles that can carry heavy loads and withstand rural terrains.

The Company

Buffalo Bicycles is a commercial, for-profit subsidiary of the World Bicycle Relief (WBR), an NGO based in Chicago. The organization started in 2005 to assist the recovery needs of people in Sri Lanka and Indonesia following the 2004 Indian Ocean tsunami. Buffalo Bicycles began its operations in Zambia in 2012, targeting to provide 22,000 bicycles to healthcare workers deployed for HIV/AIDS programs. The company was initially financed by WBR. By 2014, the company achieved profitability, and liquidity by 2017; thereafter, the company became a self-sustaining for-profit entity. As needed, Buffalo Bicycles can access and avail of inter-company business loans from the WBR.

The company's Zambia operations employs about 80 personnel, working in 29 shops. From the initial target of deploying 50,000 bicycles across the country, the company was able to go beyond that target and reported a total of 88,000 units sold in 10 provinces. They have also expanded operations to other African countries like Zimbabwe, Kenya, Malawi, and Uganda. Apart from health workers, the company has also expanded its client base to include farmers, students, informal workers and their households. Majority of the company's employees (60%) are from local communities.

Value Chain Innovations

Business and Social. Buffalo bicycles are designed to last long and withstand rough rural terrains, Buffalo bikes cost USD130-150, and comes with a warranty of 5 years for repairs and parts replacement. A bike can last up to 12 years if properly maintained. The company regularly rolls out Bicycle Clinics in rural areas—mobile trucks and roving mechanics offering free repair services and selling spare parts. Buffalo Bicycles also works with local associations such as dairy and wheat farmer cooperatives (about 66 dairy cooperatives and 4,500 wheat farmers) and the CSR programs of companies such as BMW for bike installment payment schemes and bicycle loans. Sales of bikes to organizational clients involved in sustainable agriculture and health programs are duty-free (as allowed by government).

Studies have documented the impact of Buffalo Bicycles have given to BoP clients⁷³. A 2016 report noted how dairy farmers from Palabana, Zambia were able to transport and deliver 25% more milk and earn 23% more income per month after acquiring the bikes—with a liter of milk costing 3.14 Zambian kwacha or USD0.19 per liter, the additional 331 liters that farmers

73 Buffalo Bicycles, "Mobility Buffalo Bicycles Impact on Dairy Farmer's Productivity," *World Bicycle Relief* (March 2016), https://cdn2.hubspot.net/hubfs/1738872/PDF_Downloads/wbr-dairy-farmer-research-study-report.pdf

were able to deliver using the bikes yielded to additional earnings of 1039 kwacha or USD197. Their travel time using the bikes has been reduced to 45% (30 minutes from what used to be a 55-minute ride). Moreover, the households of dairy farmers also benefited from using the Buffalo bicycles to go to school, to the hospital for medical needs, and to community gatherings. Estimates show that, as a result of extended household use, 20,000 bikes can potentially benefit as much as 100,000 people.

Environmental. The quality and durability of the bicycles they produce is a proven competitive advantage of the company, which in turn is helping reduce waste (less bikes thrown away or scrapped only after a number of months' use), and carbon emissions. The company only recently started to monitor the business' carbon footprint. Paper and plastic wastes from the company is sent, for free, to a small factory, where paper waste is turned into mache to make egg trays, and plastics go to a plastic recycling facility.

Critical Challenges

Keeping their bike price at an affordable price point (despite inflation) over the years had been a challenge, along with the 25% duty tax imposed by the government on imported bicycles. The company had to incrementally increase the price of their bikes (about USD20 increases), over the years, to meet their expected profit margins. Only recently, the company was able to successfully lobby for a decrease in the duty tax on bikes (15% starting 2024).

Policy relevance and implications

The company noted that current government regulations in relation to doing business in rural communities in Zambia, from their experience, are flexible, and do not require special permits (this is also the case for Kenya and Malawi). Local government agencies at times are involved in and cover for the news the delivery of bikes to mobilized communities, which help promote the bikes and the company. The same is true for national agencies, which has been very supportive of their mobility advocacy and work. MOUs have been signed with the Ministry of Health for an advocacy campaign and incentives to promote exercise using bikes, and the Ministry of Education to grant the company access to schools and provide bikes to students. The company is also in talks with the Ministry of Environment to promote bicycles as sustainable transportation alternatives that help reduce travel time and carbon emissions. The company also sits as a member of a non-motorized transport (NMT) group, and is helping lobby for car-free days in cities, and cycling tracks along main roads. Because of company compliance to environmental regulations and its notable impact on rural communities, a positive credit rating was issued and priority procurement was granted to the company by the Environmental Management Agency. The government's statistical agency recently procured bikes from the company for the latest national census; the used bikes will be donated to schools after. To further promote the use of bicycles as an alternative non-motorized transport mode, the company is keen to continue working with government to eventually make all bikes duty-free, and increase investment in support infrastructure like bicycle shelters in schools to have a safe bike parking area and encourage more students to bike to school.



Burapha Agro-Forestry

Sector: **Agribusiness, Forestry**

Country: **Lao-PDR**

<https://www.buraphawood.com/>

Companies and industries around the world are making pledges to contribute to net-zero carbon emission targets and reduce negative impact of business activities on the environment. To achieve these outcomes, business and government have been working together to align initiatives and explore ways to not only make more productive use of but also protect large, idle lands. Burapha Agro-Forestry and SilviCarbon are working with the national government of Lao PDR in converting swathes of unused and degraded land into large-scale plantations that protect local biodiversity, and increase tree cover to help reduce carbon emissions.

The Company

Burapha Agro-Forestry has been developing and managing eucalyptus and acacia plantations in Lao PDR since 1993, and works with SilviCarbon, a Swedish company that acquires plantations and leverages nature-based carbon removal projects around the world⁷⁴. The company earns revenue from furniture and plywood sales and exports, and also receives grants from external funders for various projects. The company was negatively hit by the pandemic, resulting to significant decrease in revenues over the past two years but is slowly recovering this 2022.

The company currently manages 5,859 hectares of plantations⁷⁵ across the country. Its emerging IB model involves local communities in over 53 partner villages in rice planting, livestock raising, and production of non-timber forest products (NTFP). Burapha also operates a plywood mill with an annual capacity of 50,000 CMB, and a furniture factory that directly sources timber from their plantations. The company is Forest Stewardship Council (FSC) certified for forest management and chain of custody (company only uses legally harvested materials and responsibly manages forests for its materials)⁷⁶.

Value Chain Innovations

Business and Social. Residents of local communities are involved in the different stages of plantation development--preparing the land, managing operations, and maintaining the plantations--over a seven-year period. In 2019, Burapha has employed 891 farmers (317 are women) from 35 villages. Farmers are trained in managing plantations, and in machinery and equipment operations. An independent impact assessment conducted in 2018 on Burapha's community involvement reported notable benefits to BoP communities, particularly among Khmu and Hmong ethnic groups. Along with the process of acquiring unused lands for their plantations, the company is also assisting farmers in securing land tenure over their ancestral lands⁷⁷. Burapha has also set up a village development fund for infrastructure improvements and targeted aid for partner villages; funds have been used to disaster relief, and the improvement of local schools, houses, and roads.

The company partners with NGOs to strengthen their capacities as a forest-dependent, community-based enterprise. The Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) has done trainings on financial planning, market research, and product development in Burapha's partner villages.

74 <https://www.silvicarbon.com/>

75 Burapha Agro-Forestry, *Forest Management Plan Summary 2022-2032*

76 <https://uk.fsc.org/what-is-fsc/>

77 Burapha Agro-Forestry, *Burapha Annual Sustainability Report 2019*

Environmental. The company has an Environmental, Social and Safety Management system in place that adheres to set standards (i.e., IFC Performance Standards). They identify and care for Special Management Areas, which are considered biologically sensitive areas within or adjacent to their plantations. Recently, the company worked with consultants from Germany, to obtain carbon certification for its carbon removal projects in 2021. Over the course of a 7-year operations cycle, Burapha reports an atmospheric carbon sequestration of 84 tons of CO₂ per hectare, and since 2018, has sequestered 259,000 tons of CO₂ with 4.4 million trees.

Burapha is a member of the Lao Plantation Forests Products Group (LPFP), a forum of Lao-based companies advocating for the sustainable growth of the local wood industry. The LPFP works on related projects and initiatives with the national government, and international donor agencies such as the World Bank.

Critical Challenges

A major challenge for the company is mitigating the high risk of fires in their plantations. Villagers and workers are therefore trained to manage fire hazards, and provide incentives to farmers to shift away from backyard burning and to adhere to proper waste disposal of flammable materials such as cigarettes. The company also invested in firetrucks to be able to respond quickly to fire emergencies.



Covestro

Sector: **Manufacturing**

Country: **India, Indonesia, Thailand, Vietnam, Myanmar**

<https://www.covestro.com>

Movement towards more sustainable and circular economies requires active participation of industries in innovating and implementing smart solutions. Covestro under its Inclusive Business vertical, along with its partners including government agencies reaches farmers, women, and local households of the underserved community for deployment of technologies which enable them to improve their earning capability.

The Company

Covestro is one of the world's leading manufacturers of high-quality polymer materials and their components. With its innovative products, processes and methods, the company helps enhance sustainability and the quality of life in many areas. Covestro supplies customers around the world in key industries such as mobility, building and living, as well as the electrical and electronics sector. Formerly known as Bayer Material Science Covestro came into existence in September 2015 with its headquarter in Germany and 50 production sites globally. It has world-scale polycarbonate manufacturing facility in Thailand.

Covestro adheres to the pillars of sustainability (3P's principle: **people, planet, and profit**).⁷⁸ The company promotes circularity in all products and processes starting from procuring, production, application, disposal, and recycling of raw materials. With the goal of reaching

⁷⁸ Covestro, "Commitment," Covestro <https://www.covestro.com/en/sustainability/what-drives-us/covestros-commitment/commitment#:~:text=%E2%80%9CPeople%2C%20planet%2C%20profit%E2%80%9D,has%20been%20applied%20at%20Covestro>

10,000,000 people by 2025, the company has rolled out three inclusive business solutions in ASEAN countries: solar-powered dryers, solar water distillation systems, and affordable housing.⁷⁹ Until 2021, 3.2 million people benefited from Covestro's technologies across regions.

Value Chain Innovations

Covestro produces more than 200,000 products comprising of polyurethanes and polycarbonates. The company deploys solar dryer domes to smallholder farmers (owning less than 5 acres of land) in Indonesia, Vietnam, Myanmar, and Thailand, which is used for drying agricultural products such as bananas, tomatoes, chili, coffee, cocoa, spices, and herbs⁸⁰. Agricultural produce keep its vibrant colors and valuable nutrient values when shielded from UV rays, resulting in higher valued products. The dryer is easy to transport and install, and reduces significantly the risk of spoilage, and hygiene concerns caused by dust, water contamination and livestock animals. With the solar dryers, coffee farmers were able to reduce loss of coffee bean, and reduce drying times considerably. A project funded by GIZ rolled out in 2020 was accessed by Covestro to promote Solar Dryer to dry coffee beans. Projects funded under Agri Innovation Fund were used to support farmers in Laos and Cambodia.

Off-grid, solar-powered cold storage solution were also developed by the company in close collaboration with industry partners to reduce post-harvest losses (increase the lifespan of fruit and vegetable seeds by more than 21 days) In Indonesia, shallots seeds are stored in solar powered cold storages helped in improving the availability of shallots seed for cultivation. The solar driers and cold storage units are also being used by farmers in Africa, India, Bangladesh, Nepal, and Sri Lanka.

Energy-efficient housing are made using panels from Covestro's polyisocyanurate materials (PIR). Houses made from these materials have better thermal insulation, resistance to moisture and mold. The technology is competitive compared to the conventional technologies and may be used for building primary healthcare center, primary schools, daycare centers, and other community infrastructure.

Solar water distillation systems help in purifying any type of water using solar energy. The company along with its partners also has a technology to convert sludge and feces into bio-fertilizers. Covestro is keen on implementing projects where faecal sludge can be converted into safe organic fertilizer.

Policy relevance and implications

Covestro's technologies are deployed primarily in participation with Government and industry partners and provide access to underserved community enabling them to improve their earning capability. The technologies implemented are sustainable and limit the use of fossil fuels in agriculture, construction and drinking water. Partnership with government helped generate financing for farmer in form of subsidies (e.g., 50% subsidy by government of Thailand under renewable energy and government of Tamil Nadu, India also provided 50% subsidy to these solutions). Over a period of time, interest in technology increased, amongst varied group starting from individual farmer, FPOs which allowed the government to reduce the subsidy (30% in Thailand, and 35% in India). Covestro's case shows clearly how government can support reach of quality and sustainable technologies to the underserved community.

79 Covestro, "Inclusive Business ASEAN," Covestro, <https://www.covestro.com/en/company/covestro-world-wide/asean/covestro-in-asean/inclusive-business-asean>

80 Nhu Phuong, Bui Tran, "Solar Dryer Dome - A Technology Solution to Enhance Climate Change Resilience", *InclusiveBusiness.net* (November 2017), <https://www.inclusivebusiness.net/ib-voices/solar-dryer-dome-technology-solution-enhance-climate-change-resilience>



Dytech Limited
Sector: **Agribusiness**
Country: **Zambia**

The protection of and facilitating responsible production activities within natural sanctuaries such as national parks and forests is a key strategy for more sustainable natural resource utilization. In Zambia, one such area is the **Bangweulu Wetlands National Park**, one of the most important wetland areas in Africa. Dytech works with communities in such areas to produce export-quality honey, and improve livelihoods and incomes within these communities to move them away from indiscriminate cutting of trees and poaching activities that are detrimental to sanctuaries' biodiversity. Local demand for honey in Zambia is estimated between 100 to 120 tons per year; while demand from abroad is significantly higher (365,000 tons from Europe, 300,000 tons for USA, 265,000 tons from China, and 5,000 tons from South Africa).

The Company

Dytech Limited is a medium-scale company that produces, processes and packages pure honey, as well as bee wax, propolis, honey-based products (*e.g., lollipops, candies, lozenges*). The products are primarily sold in 150 shops and 3 major chain stores in Zambia. The company uses innovative extracting methodology and equipment (called ZamHive®), and secures its continuous supply through two big farms with 1,000 beehives. The company engages its honey producers through a honey outgrower scheme. Apart from its farms, Dytech installs thousands of ZamHive® beehives near parks or natural forest reserves in partnership with Department of National Parks and Wildlife and Forestry Department. These avenues offer a more viable scalable sustainable income source for forest communities which lift thousands out of poverty while saving forests ecosystems and wildlife biodiversity.

After winning hotly contested global pitch competitions in Geneva Switzerland at World Trade Organization (WTO), and during the 2018 World Export Development Forum in Lusaka, Dytech received requests for least 80,000 new beehives that were deployed in Zambia, Mozambique, and Nigeria. Dytech in partnership with Zambia Forestry and Forest Industries Corporation (i.e. ZAFFICO) the largest timber company in Zambia, 96,000 ZamHives® were also introduced in 100,000 hectares of forest plantation across 6 provinces of Zambia; in exchange, the company is allowed to source raw materials like wood from the area and export the honey harvested. From about 800 beekeepers engaged in 2019, the company is steadily increasing engagement with local communities to hit the target of working with 10,000 outgrowers and 200,000 beehives to meet growing demands in both local and global markets 95% of the produce is exported. The honey is certified organic by Ecocert and Rainforest Alliance for products promoting healthy ecosystems. Harvested honey is cold-pressed to preserve its quality, color and smell, and is packaged based on the flower source and branded "SweetHarvest Pure Honey".

Value Chain Innovations

Business. The ZamHive®, which was developed by the company's founder and CEO, is an innovative double-chamber beehive made from unwanted wood waste, offcuts, and sawdust. The eco-friendly design boosts productivity, increasing honey production per beehive from 15 kilograms to 75 kilograms per season. Higher productivity means higher incomes for about 2,500 rural outgrowers currently engaged by the company. These outgrowers, many of them women, benefit from having a guaranteed market, and also earn more than they did before as maize farmers (i.e., one kilogram of maize brings 10 cents, whereas a kilogram of raw honey brings USD1). At full productive capacity, one beehive produces USD75 worth of honey per

season; the average beekeeper has 10 ZamHives, yielding to USD750 income per season⁸¹. Because of this technology, Dytech is able to sell honey at a lower price locally, much lower than the conventional market cost at USD30-40⁸².

Social. Honey production has become the main source of income for these producers, enabling them to provide for their families, invest in their children's education and even start side businesses. For example, several women outgrowers are taking advantage of the value-matching payment (VMP) option available by receiving payments in kind (e.g., mobile phone charging stations installed near their homes). Community members—who oftentimes live in remote, rural areas and do not have easy access to charging stations—can pay a fee to charge their phones in these stations, which is additional income for these outgrowers. Outgrowers may also avail of solar products to minimize household use of wood and fuel.

To maintain the quality of the honey, outgrowers are trained on beehive management and maintenance, and in some cases, outgrowers are also capacitated to train their peers on specific skills (e.g., setting up beehives, methods of attracting bees). Women outgrowers are empowered to lead, market, and handle most of the beehive operations and skills training for fellow women producers. Through these interventions, women-led groups, particularly in Lusaka, are able to produce as much as 5 kilograms of honey in one cycle.

Environmental. ZamHive[®] are strategically placed near wild, naturally flowering trees in forests to attract bees. No trees are cut down and no land is cleared for production. While traditional beekeeping involves cutting down trees and using logs as beehives, ZamHive[®] are made of wood waste, offcuts and sawdust. Another innovation introduced by the company is a biomimicry system—a method replicates natural scents of trees and flowers that attracts bees to the hives (high bee occupation rates lead to higher yields). The company also helps restore degraded land in their areas of operation by planting fruit trees, and installing ZamHive[®] in between them to spur further pollination.

Policy relevance and implications

The company noted that other than the required laboratory tests during honey processing, no permits are required to conduct their operations. Dytech is pushing for further partnerships between government and the private sector to better oversee and manager the country's forest ecosystems. Dytech has been working with different agencies to advance forest protection and curb deforestation due to illegal logging in natural sanctuaries (i.e., with Department of Forestry and Department of National Parks Wildlife for the use of Kafue National Park, the second largest national park in Africa). Introducing beekeeping has proven to be an effective way to revitalize natural ecosystems and improve lives in and the productivity of forest communities.

81 International Trade Centre, "Taking Zambian honey global, winning pitch contests: Alan Chanda of Dytech," *International Trade Centre* (October 2018), <https://intracen.org/news-and-events/news/taking-zambian-honey-global-winning-pitch-contests-alan-chanda-of-dytech>

82 Murungi, Nelly, "Exporting honey from Zambia to the world," *How we made it in Africa* (September 2020), <https://www.howwemadeitinafrica.com/exporting-honey-from-zambia-to-the-world/71771/>



Good Nature Agro

Sector: **Agrobusiness**

Country: **Zambia**

<https://goodnatureagro.com/>

Smallholder farmers in Zambia remain isolated and without viable market options despite rapidly growing global demand for quality produce. Research by Indaba Agricultural Policy Research Institute (IAPRI) showed that in 2019, the value of imported agricultural crops in Zambia exceeded agricultural exports for the first time in over 10 years, despite having over 60% of the population involved in farming⁸³. Due to a number of reasons, what Zambian farmers grow does not match the demands of formal markets, and farmers have limited access to quality inputs. Banking on the high demand for legumes in international markets, Good Nature Agro (GNA) is helping smallholder farmers—mostly maize and cotton farmers—grow high value legumes to double their income and have ready markets for their produce.

The Company

Good Nature Agro began as a small pilot project in 2014, which grew to become a for-profit social enterprise supplying legumes, seeds, and similar commodities in Zambia⁸⁴. The company is almost entirely commercially driven, and has grown dramatically (reporting an average of 58% annual growth rate) in the last 4 years; company revenues grew from USD2.5 million in 2019 to USD5.7 million in 2021 and by 2022, revenues are expected to reach USD9 million. Based on 2021 figures, 79% of company revenues come from seed production, 12% from commodity/crop sales, and 9% from input financing. Legumes (e.g., soybeans, peas, chickpeas, peanuts, lentils, etc.) were identified as priority crops because they revitalize the soil, have a high nutritional value, and fetch a large margin on the market. To date, the company has around 165 employees, and engages more than 26,000 farmers as suppliers.

Value Chain Innovations

Business. GNA's core operations are split into two major programs, the Seed Program (seed production) and the Source Program (commodity production). On the Seed side of the business, farmers are provided training, input loans, and reliable markets the seeds they will produce. The company purchases the seeds at a premium price, which are then sold to farmers on the Source side of the business. Before planting, GNA identifies, together with a pool of purchasing companies, what commodities are needed. This becomes the basis for the seeds that the company's seed breeders will produce and multiply for planting. Farmers under the Source Program also receive trainings and input loans, and the company guarantees to buy all produce which it then sells to purchasing companies.

Farmers are clustered into groups, and are managed by a Private Extension Agent (PEA). These agents are selected from the farmer clusters and are trained to facilitate regular trainings for their clusters, and provide advice to growers to meet specific needs and cultivate better farming practices⁸⁵. About 43% of the company's PEAs are women. PEAs use an app called "Smallholder" to track farmers' income targets and their progress. In January 2023 they are transitioning to a new, custom app proprietary to GNA to provide more targeted agroeconomic advice and facilitate credit direct to farmers from financial institutions.

83 IAPRI. *Rural Agricultural Livelihoods Survey (2019)*. http://www.iapri.org.zm/wp-content/uploads/2020/11/RALS_2019.pdf

84 iBAN, "Good Nature Agro," *Inclusive Business.net* (July 2021), <https://www.inclusivebusiness.net/impact-story/good-nature-agro>

85 Devex, "Good Nature Agro," *Devex*, <https://www.devex.com/organizations/good-nature-agro-109605>

Social. Farmers engaged by GNA report income gains of more than three times what they were earning from maize (e.g., previous earnings of USD116 per acre of hectare of maize are now up to USD600 per acre of legumes)⁸⁶. Farmer engagements are designed to guarantee payments even before harvest. About 90% of their supplier base are led by women; in partnership with Zambia's Department of Gender, the company is actively working with 100 female-led cooperatives. In registering new farmers, GNA targets a 50-50 male to female ratio.

The company offers different forms of support to their farmers. At the start of the season, farmers are provided training and small input seed loans, which they repay in seeds post-harvest. Farmers in the Source Program are linked to microfinance institutions (MFIs) for additional input financing (e.g., for fertilizer). The company also provides trainings on other relevant topics such as record keeping, financial literacy, and financial planning. Farmer households craft 1-year to 5-year plans that can help them monitor the achievement of set goals over time (e.g., opening a business, sending children to school, doing house repairs). In the past 18 months, the company has also invested in improving their data systems to help their farmers build better credit scores for easier access to available loans from financial institutions (starting loans at USD30-60 but can grow up to USD2000-3000 if they perform well).

Environmental. The company also pays attention to seed genetics in their Seed program, and are now looking into climate-smart crop variants that can withstand extreme farming conditions such as sudden droughts (e.g., in development is a variety that takes less than 15-35 days to grow, from planting to maturity). Making compact growing cycles possible is important to secure harvests. The company also values and invests in improving soil health; it currently produces biochar from ground nut shells, fertilizer blends that are 25-30% organic, and liming fields for acidity correction. Climate-smart technologies are making the company as well as their farmers more climate-resilient.

Critical Challenges

For the smallholder farmers, managing cash flow is a major challenge, especially during lean seasons. To resolve this, GNA provides pre-harvest payments, a functional line of credit that farmers can tap into during the lean seasons for expenses. Repayment is done with 0% interest once they are ready to harvest, and farmers can opt for a premium payment that can be delayed up until a month prior to the next season, so households can plan while maintaining access to next season's capital.

An initial challenge the company faced was in building trust with the communities; challenging to enter places where other companies have worked before and failed to follow through. Infrastructure in some localities can be limited, especially IT infrastructure. The company is partnering with mobile service providers to address this. Over the past two year, Covid-19 has slowed down many processes and hampered logistics. Climate challenges and plant diseases also threaten crops and productivity; the company is introducing new and resistant seed varieties to address these threats.

Policy relevance and implications

GNA is a case that demonstrates how these types of enterprises, though small in scale, are able to work with and handhold small farmers and farmer groups into adopting/ mastering new technologies and techniques, and create tangible socioeconomic benefits and increase climate adaptiveness in poor farming communities. Governments could consider creating forums for small- and medium-sized enterprises working with the grassroots to capture their business experiences and insights and uncover opportunities that are worth investing in. The disaggregation of these forums is really important as well; not everything should be based in the capital city (i.e., spur job creation not just in big cities; focus on targeted development in different regions). Investments to improve government verification/ vetting system can help

86 Good Nature Agro, "About Us," *Good Nature Agro*, <https://goodnatureagro.com/about-us/>

GIB have access to support programs or win government contracts; such a system will make it easy to check track record of potential suppliers/ contractors during procurement processes.



Hybrid Social Solutions

Sector: **Energy**

Country: **Philippines**

<https://www.hybridsolutions.asia/>

In the Philippines, 20 million people in 50,000 villages and rural areas still live in unelectrified or poorly electrified houses; this in stark contrast to those living in cities, which have an on-grid access rate of 98%⁸⁷. Off-grid rural households only rely on electrical subsidies and using hazardous lighting and fuel such as candles and kerosene.⁸⁸. An increasing number of businesses and social enterprises are turning their attention to solar and renewable energy, and are lighting up communities more sustainably. Hybrid Social Solutions is one of these enterprises that work with microfinance institutions (MFIs) to bring and make affordable solar products and home systems in off-grid communities in the Philippines.

The Company

Hybrid Social Solutions Asia is a for-profit social enterprise that started in 2010. The company partners with local MFIs such as CARD Bank, Inc., and Negros Women for Tomorrow Foundation to introduce and market solar products (solar lamps, batteries, solar panels, solar-powered appliances) to low-income households. Apart from individual households, the company also sells solar products to non-government organizations. While the main target customers are BoP households, the company plans to also cater to a wider customer range, such as micro-enterprise, commercial, and institutional buyers. In 2022, the company posted a revenue of USD4 million, and is deemed on track to reach their revenue target of USD7 million by 2023, and USD11-15 million by 2025.

Hybrid Social Solutions operates 11 solar hubs in Luzon and Visayas regions (Central Luzon, Palawan, Bicol, and Western Visayas), and hopes to open 9 more hubs by the end of 2022. The company is targeted to have 35 solar hubs in operation by 2025. A typical hub earns about USD36,000 per month, with a profit margin of around USD8,000 dollars per month. The company currently has a total of 330 employees. To date, over 4,000 villages have access to Hybrid Social Solutions' products and services, and around 88,200 women borrowers have availed of solar financing. The company also collaborates with farmer and fisherfolk cooperatives.

87 Taniguchi, Shinichi, "Securing Access to Electricity with Variable Renewable Energy in the Philippines: Learning from the Nordic Model," *ADB Institute* (September 2019), <https://www.adb.org/publications/securing-access-electricity-variable-renewable-energy-philippines>

88 Quiparas-Franco, Mary Ann, "Sustainable Energy Transition of the Poor Rural Communities in the Philippines," *Philippine Strategic Forum* (June 2021), <https://www.stratforumph.com/post/sustainable-energy-transition-of-the-poor-rural-communities-in-the-philippines>

Value Chain Innovations

Business and Social. The company's solar hubs (equipped with staff quarters, office, storage area, showroom, and workshop) are staffed by 6-7 *solaristas*, who are employed staff who market their products through demonstration sessions, and *solusyonistas*, who are employed individuals from the community assigned to area branches of the hubs, and assists in promotion and customer service. Accredited technicians are also employed locally to do repair work. *Solaristas* and *solusyonistas* are also encouraged to gather and submit change stories from their customers to monitor impact, and the company provides incentives and awards to *solaristas* and *solusyonista* to formally recognize their contributions to the company and the service they provide to the communities they handle.

The company's customer base comes from the clientele of their partner MFIs, around 98% are women. Solar packages are bundled in particular loan packages, and can be acquired by interested borrowers via installments (e.g, instead of having to pay in one go the cost of solar home systems worth USD177, households can pay USD1.77-2.65 per week). The company guarantees after sales repairs and support services, which they attend to within 7 days or less after receipt of repair or support request.

Some reported impact by users from the use of solar products⁸⁹: Household cashflow increased by 25% (PhP1,800 or USD32/month), through a combination of reduced energy expenditure on kerosene and batteries; improvements in health due to reduction in smoke inhalation, with household members coughing 56% less; replacing kerosene with solar energy eliminates risks of severe burns and household fires, leaving families safer and parents more comfortable when their children study at night; local search and rescue teams, using solar lanterns, can effectively ensure people's safety and can provide early warning by checking reservoirs at night.

Environmental. Hybrid Social Solutions works with leading technology suppliers like Sun King to deliver durable solar products suited for long-term use in rural areas. Their products (solar lamps, batteries, solar panels, and solar-powered appliances) only use 1/10th of the power needed for conventional appliances; for example, their television set runs on only 10-12 watts compared to regular units that consume 100-150 watts. The company also monitors environmental impact such as overall CO2 emission reduction, which is at 64,000 tons from 2010-2020. By 2025, the target is to reach 630,000 tons of CO2 avoided. According to the company's impact report, one solar lantern reduces 130 kilograms of greenhouse gases per year. Local demonstration and awareness raising activities done by solar hub personnel are exposing more people to clean and renewable energy, and helps promote environmental awareness and sustainability consciousness on the ground.

Critical Challenges

A key challenge raised by the company is the prevailing negative public perception of solar products mainly due to bad experience from using cheap and unreliable products distributed in aid packages. Association to these negative experience makes marketing more difficult for the company. To resolve this, Hybrid Social Solutions pays attention to handholding their customers—customers are trained face-to-face on how to maintain their solar products; solar hubs are located near the communities they serve and partner MFI branches for ease of access.

Policy relevance and implications

Hybrid Social Solutions' business model is able to capture what it takes to facilitate the shift of ordinary households to using renewable energy and sustainable technologies. The enterprise bridges local stakeholders and solar tech manufacturers, and harnesses local organizations such as MFIs to ease local market penetration and cultivation. Governments could look

⁸⁹ <https://www.hybridsolutions.asia/our-impact>

into helping build local ecosystems for other RE initiatives, and recognizing key players on the ground such as MFIs. Government programs distributing similar products should also pay more attention to the quality of products or services they deliver, and consider partnering with these enterprises that have working value chains for RE products and services (avoid one-time product donation approaches). It is also vital for government to promote ease of doing business for GIBs like Hybrid Social Solutions through (but not limited to) additional tax reliefs, and maintaining free duty-free status of solar products.



Khmer Water Supply Holding

Sector: **Water & Utilities**

Country: **Cambodia**

<https://kwsh.com.kh/>

Approximately 78% of Cambodians live in the rural regions⁹⁰. As of 2020, only 16.7% of households in rural areas have access to clean, piped, and treated water⁹¹. To address this need, private water operators have been granted licenses and exclusive rights to develop and operate water stations in licensed areas. This led to the emergence of more than 400 private water operators outside urban centers. Consistent supply of quality piped water in the regions, however, is still not ensured mainly due to the lack of technical, operational, and financial expertise among private water operators; lack of operator access to funds to expand pipelines to fully cover their license areas; and worsening droughts and flooding events that negatively affects water supply and water quality. This leaves poor households with limited access to clean water. Khmer Water is working to improve water business operations and to bring clean, piped water to more households in rural communities.

The Company

Khmer Water Supply Holding, established in 2013, is a medium-sized enterprise that operates water stations in targeted license areas, and seeks to expand piped clean water in semi-urban and rural areas in country. The company acquires underperforming water stations and works to improve production and distribution capacities through investments in operational and technical expertise at the water station level. By the end of 2022, the company is expecting revenues of USD1.4 million from its 5 stations in the licensed areas of Puok, Sosor Sdom, Chhlong, Tram Khnar, and Kampong Trabaek. The company has 17,600 connections to their pipe system (households, businesses, government buildings, hospitals and clinics, schools, factories, etc. with a point of connection). In 2021, the company distributed over 2 billion liters of water. With the recent USD2.3 million financing obtained by the company from Infra-Co Asia, the company is expected to complete pipeline extensions in their current 5-station portfolio to cover an additional 14,500 households.

Value Chain Innovations

Business and Social. Management expertise is concentrated at the holding company to ensure that best practices are uniformly introduced across the stations in the portfolio, which each have their own local teams running the day-to-day operations.; this set-up ensures high

90 OpenDevelopment Cambodia, "Water and sanitation," *OpenDevelopment Cambodia* (September 2022), <https://opendevlopmentcambodia.net/topics/water-and-sanitation/>

91 WHO, JMP, and UNICEF. *Joint Monitoring Programme for Water Supply, Sanitation and Hygiene: estimates on the use of water, sanitation and hygiene in Cambodia (updated July 2021)*. Report provided by company.

service quality at water stations and is more cost-effective than a single operator requiring similar inputs. Within their licensed areas, 16% of households belong to the poorest segments, ID poor 1 & 2⁹². The company has implemented a subsidy scheme in partnership with the Stone Family Foundation so that ID Poor households only need to pay USD10 to connect to the system (whereas the regular connection fee is USD35-70). Since its implementation in June 2021, they have subsidized 700 ID poor households out of the 2,500 connections made within a 12-month period. Customers are also given the option to pay in installments once they are connected.

Environmental. Environmental issues are growing more pronounced in high-risk countries such as Cambodia. KWSH has increasingly observed varying water quality and availability in their licensed areas. Different licensed areas vary in terms of existing alternative water sources. For example, Puok and Kampong Trabaek have ample access to ground water, and households usually have wells or boreholes. In contrast Tram Khnar has very little ground water available and many households relied on deliveries by truck). In 2019, communities in Puok experienced a drought that depleted water supply, affecting farms and households. KWSH invested in building reservoirs as backup sources in 2019. Chhlong has a history of frequent flooding whenever the Mekong river overflows, which affects water quality but thanks to the company's treatment facility, connected households maintain access to clean water.

Critical Challenges

At the onset, KWSH faced challenges in how to effectively market their pipeline service to BoP households (e.g., convincing a family that has been using the same well for 40 years). By working with partners experienced in handling WASH projects, focusing on the reliability, convenience, and cost efficiency of having piped water was proven effective in convincing households to get connected (more so than focusing the messaging on health benefits).

Detailed monitoring and evaluation of business impact (i.e., measuring impact on women in households, health benefits gained from piped water access, water collection time saved, etc) has yet to be done because of the high cost entailed by impact monitoring over time. Currently, only anecdotal evidence as reported by connected households are being noted by the company. However, the available literature already strongly establishes the significant benefits of investments in clean and reliable water services.

Policy relevance and implications

A number of recommendations raised by the company for regulators and government to increase further the reliability and resilience of the local water sector: 1) rationalize digging permits (local authorities can currently only allow digging to up to 4 meters, which is not deep enough to reach groundwater or for sufficient reservoir capacity), and soil digging taxes (which are charged to water suppliers as though they were soil traders, increasing the cost of building sufficient raw water backup sources); 2) avoid the political temptation to push water tariffs down, as this would make it unviable to continue investments in expanding water access to new areas; 3) better implementation of regulations on water licenses (monitor better other water stations in terms of service delivery and water quality standards, and impose penalties on non-compliant operators); 4) support further initial investments in building water pipelines across the country (bulk of investments and grants are coming from external funders); and 5) for ID poor households, help expand subsidy provision for connection fees.

92 Department of Identification of Poor Households, "About," *Department of Identification of Poor Households*, <https://idpoor.gov.kh/en/about/>



Kukula Solar

Sector: **Energy**

Country: **Zambia**

<https://kukulasolar.com/>

Green and inclusive businesses (GIB) are bringing technology innovations to last-mile consumers and building business models that guarantee more reliable sources of income and employment for local communities. Increasing access of BoP households to alternative energy sources, particularly climate-smart and energy-efficient products, can lead to long-term improvements in their quality of life. This is the core mission of Kukula Solar, as they provide a suite of solar product options and support services to rural poor households in Zambia and Malawi.

The Company

Kukula Solar is a for-profit enterprise set up in 2017, with an initial USD25,000 grant from the United States African Development Foundation. The company offers a range of high-quality solar products, such as solar lanterns, solar home system, solar water pump for smallholder farmers, and clean cook stoves. Operations grew rapidly over the next two years, with the company generating as much as USD75,000 by 2018; by 2019, with financing support from SEED, operations expanded in Malawi. Company revenue is now at USD1.925 million⁹³. Profit growth has been steady over the past three years (from 15% in 2019 to 18.5% in 2021), the company is confident about hitting the target of USD2.4 million revenue by the end of 2022. Based on sales performance over the year, the company is looking to earn as much as USD20 million by 2025.

From 5,000 people in 2017, Kukula Solar's reach has increased to 29,000 households or 180,000 individuals as of 2022. Estimated number of solar products sold to date is at 150,000 units. In 2020, the company has supplied over 50,000 clean cook stoves worth USD650,000; by 2025, the company estimates total deployment of 300,000 solar lantern units worth USD1.3 million.

Value Chain Innovations

Business and Social. Kukula Solar provides low-cost products primarily to rural poor families; their lanterns cost around 150 Kwacha (USD8.9), home systems range from 1,500–3,000 Kwacha (USD88.66–177.3), clean cook stoves for 800 Kwacha (USD47.29), solar water pumps for 25 000 Kwacha (USD1,477), and egg incubators for 8,500 Kwacha (USD502). 80% of their products come from international manufacturers in Switzerland, Canada, and China.

Integral to their inclusive business model are their *solarpreneurs*—women and youth recruited from local communities who market their solar products and provide additional support such as repairs and customer service. They have over 205 solarpreneurs to date, earning 2,500 Kwacha (USD147) per month. Prior to being recruited, these women and youths would earn only 600 Kwacha (USD35) a month. The number of solarpreneurs in the communities served by Kukula Solar continues to grow, with existing solarpreneurs training their peers in mar-

⁹³ Ong, Sonya, Rose, Benita, Zuerker, Mirko, "Eco-inclusive Enterprises Driving Green Recovery Pathways," *SEED* (Germany: 2021), <https://www.switch-asia.eu/site/assets/files/3237/seed-green-recovery-snapshot-2021.pdf>

keting and customer service. Repair and replacement requests received by solarpreneurs are processed within 48 hours.

The company keeps track of savings made from the use of their products; reports show that household users, collectively, have saved as much as USD52 million since they started going solar, and money spent on kerosene or candles are now spent on more important needs—i.e., 1,000 Kwacha (~USD60) spent before on kerosene and candles, are now channeled to house repairs or starting a business. Using solar lanterns and lighting systems, families also report how children are able to study longer, and business owners can operate for longer hours.

Environmental. The company currently does not do environmental impact monitoring and reporting (government does not have reporting system in place), but based on number of units sold, the company estimates about 1 million tons of CO2 emissions have been avoided from the use of their products. Having solarpreneurs on the ground to handhold customers on the proper use and care of their units has helped maximize the life span of the products (can last between 5-10 years). Solarpreneurs also collect discarded batteries, product parts and units, which the company sends to a recycling facility to be processed. A number of solarpreneurs also move around their areas using bicycles, which also help reduce carbon emission.

Critical Challenges

A major challenge to the business is, as pointed out by the company, the ability to pay by low-income households due to unstable sources of income and frequent financial shocks they experience. Kukula Solar implements a 6 to 9-month rent-to-own payment scheme to allow installment payments. Government incentives for enterprises doing business with the poor is also lacking; company is taxed the same way as other regular businesses. Financing terms (high interest rates) for business loans are also unfavorable for social enterprises such as Kukula Solar.

Policy relevance and implications

To further encourage businesses to adapt green and inclusive practices, the company hopes for governments to enact policies that will make possible favorable conditions for the growth of GIBs. Better access to financing and low-interest loans can help expand further Kukula Solar's operations. Investments in IB coaching and mentoring will also help similar businesses do better. Governments can also help promote GIB models to gain public interest—increase public awareness of environmental protection and people empowerment through business. Opening up rural communities to such businesses by improving road and communication infrastructure in far-flung areas can also expand their reach.



Minh Hong Biotech

Sector: **Manufacturing**

Country: **Vietnam**

<https://minhhongbiotech.com/>

About 80% of cleaning materials in the Vietnam market are made from synthetic chemicals, posing both a health and environment hazard. Organic alternatives, though available, are often costly and not affordable to most households, especially those at the low-income segments. Minh Hong Biotech, a research and manufacturing enterprise, produces affordable, safe, and organic cleaning products with single mothers and households in the village of Da Nang.

The Company

Established in 2015, Minh Hong Biotech is a small retail enterprise that produces chemical-free products using organic waste in Da Nang, Vietnam. Enterprise revenue has steadily increased over the past years (from USD870,500 to USD1.7 million); reported profit margin from 2019-2021 is at USD44,000, with projected growth to USD87,000 from 2022-2025. The company employs 400 single mothers and people with disabilities from poor households.

Value Chain Innovations

Business and Social. Using advanced biotechnology, the company manufactures its products dishwashing liquid, laundry liquid, floor cleaner, shampoo, body wash, hand sanitizer, etc.-using 100% peels and scraps of vegetables, tubers, fruits, leaves, and medicinal herbs. Employees are trained on the production process from handling and preparing organic waste to production and packaging of the goods. Consumers are encouraged to return the packaging to the company to reduce paper/plastic consumption and achieve circularity. Employees have significantly increased their incomes. A mother working with Minh Hong would have made at least USD200 per month from earning only USD37 per month prior to company engagement.

Environmental. An average of 109 tons of fruit peels and vegetable scraps are being made into 8 kinds of detergents, dishwashing liquids, shampoos, and body wash. Around 50,000 liters of consumer product are made every month⁹⁴. Apart from reducing agricultural waste in the community, Minh Hong's products benefits both users and the environment by removing stains without using chemicals; reducing household expense for cleaning agents (price is 1.5-9.5 times cheaper than similar products on the market); helping save water, time, and effort in doing house chores because the products are less foamy and less viscous; being safe for the skin and hands compared to chemical products; and using aerobic bacteria instead of chemical preservatives in its products, reducing exposure to metals, chemicals, and harmful

Critical Challenges

In recent years, Vietnam's industrial clusters have gained importance in generating employment for the people and fast-tracking national industrialization. By 2025, the country is expected to have 1,704 industrial clusters across Vietnam's rural regions⁹⁵. However, issues in development planning and management led to environmental gaps. The lack of environmen-

94 For Tomorrow, "Converting organic waste into household cleaning products," (*For Tomorrow*, <https://fortomorrow.org/explore-solutions/converting-organic-waste-into-household-cleaning-products5#presentation-tab>)

95 Vietnam Net, "Vietnam to have 1,704 industrial clusters by 2025," *Vietnam Net* (July 2021), <https://vietnamnet.vn/en/vietnam-to-have-1704-industrial-clusters-by-2025-752726.html>

tal safeguards for handling solid and hazardous waste has threatened local villages as shown by a study⁹⁶. Minh Hong Biotech has been vocal about and lobbying for proper environmental impact assessments and site support to local authorities to avoid such issues.

Policy relevance and implications

Minh Hong Biotech hopes government can take into account environmental impact and waste management in its industrial cluster development plans, and enforce safeguards that will ensure public welfare. Investment into enterprises like Minh Hong can also help expand further their impact, generating more employment opportunities for solo parents and persons with disability, and making organic products more accessible and affordable. Looking into how to better manage agricultural/ natural waste will also limit the burden on centralized landfills and drainage systems, and help curb pipe flooding and landslides.



My Dream Home

Sector: **Housing & Construction**

Country: **Cambodia**

A negative effect of the pandemic in Cambodia is an emerging crisis in housing; despite increasing spaces being put up for rent or sold below market value,⁹⁷ the prices of renting or owning a decent home is also skyrocketing, with housing options costing at least US-D75,000.⁹⁸ This is not affordable to an average Cambodian family earning USD551 per month, more so low-income households at the BoP earning less than USD100 per month. A number of solutions (policy and regulation) are being considered to keep the housing crisis at bay. A promising but still undertapped resource are enterprises such as My Dream Home that sells domestically produces low-cost, eco-friendly, and easy to use building materials (eco-bricks).

The Company

Established in 2015, My Dream Home manufactures environmental-friendly interlocking bricks that are affordable, reusable and makes house building less labor intensive. the company reports positive revenue growth over the years (20% profit margin per year). The company mainly operates in Phnom Penh and Siem Reap, with 35 full-time staff.

Since 2015, the company estimates about 1,800 households at the BoP have benefited from My Dream Home's services. To date, a total of 6,000 people have availed their products and services.

96 Dinh Trung, Nguyen, "Proposed solutions for Industrial cluster development and environmental management in Hanoi Vietnam," *Journal of Positive School Psychology* (2022), <https://journalppw.com/index.php/jpsp/article/view/2114>

97 Sokmean, Ou, "Cambodia's Real Estate Near Crisis, Experts Warn," *Cambodianess* (July 2021), <https://cambodianess.com/article/cambodias-real-estate-near-crisis-experts-warn>

98 Aronsakda, Ses, "Cambodia plugs affordable housing gap from several directions," *Globe_* (January 2022), <https://southeastasiaglobe.com/cambodia-plugs-affordable-housing-gap-from-several-directions/>

Value chain innovations

Business and Social. My Dream Home's environmental-bricks are made by mixing soil, water and cement into a machines compressed mold, and leaving the bricks to dry in the sun for 7 days. My Dream Home have capacity to build local machines and moulds after learning the technology from Thailand. The company can make roughly 10,000-15,000 bricks (300m²) per day. My Dream Home used to build affordable homes that cost USD9,000 to USD10,000 per unit in 2018. In 2021, My Dream Home launched a new product line called Breeze Blocks. Its design promotes significant sunlight and airflow to enter homes and buildings and improves the building's overall aesthetic. While conventional materials have to be imported from neighbouring countries, Breeze Blocks cost 20-40% less. The company extends to BoP households, who earn less than USD100 a month, 50% discount/ subsidies, and offer home architectural drawing services free of charge. They recover the costs of these subsidies from regular paying customers (upper and middle class customers, who earn more than \$700 per month)⁹⁹. They also employ people from poor households to help construct houses for projects with NGOs like Volunteer Building Cambodia in Siem Reap. They collaborate with other startups for trainings, and to get additional financing for machines to manufacture their bricks.

Environmental. Mimicking the idea behind interlocking stones at Angkor Wat and famous Lego brick concept, My Dream Home produces interlocking soil bricks made with less cement/sand and are produced without burning¹⁰⁰. Houses made out of these soil bricks take roughly two times less to construct than conventional red clay bricks, reducing overall material and labor cost by 20-40%¹⁰¹. In addition, houses made by My Dream Home provide better cooling and insulation, and last longer than houses made of wood and red brick. Due to the durability and sustainable process of making these bricks, the company's CO₂ emissions have been reduced by 10,600 tons (10,000 bricks emit 5.91 tons less than conventional red clay bricks).

Critical Challenges

Social enterprises like My Dream Home are charged with regular taxes and other government fees, as would any for-profit business, which cuts into finances. Their subsidy model is considered a tie-up risk to their profit as well, so the company has to ensure positive growth and profits to maintain the services provided to their clients. The company continuously explores multiple types of funding and diversification of assets—looking for impact investors, local partners for machinery, and technical support from NGOs—to support their BoP business model.

Policy relevance and implications

The company hopes to see better promotion of inclusive businesses not only in Cambodia but in the rest of the ASEAN. My Dream Home hopes to help arrest the housing bubble in Phnom Penh and Siem Reap by further expanding access to quality, affordable housing to poor households¹⁰². Cambodia's Ministry of Industrial Technology and Innovation plays a significant role in promoting inclusive business, and is a potential partner in directly engaging BoP sectors for similar efforts. Targeted government support for GIBs, such as credit and financial incentives, will be vital to growing their scale and impact.

99 Impact Hub, "One Cambodian Social Entrepreneur & his Dream Homes," *Impact Hub* (May 2016), <https://impacthub.net/cambodian-social-entrepreneur-his-dream-homes/>

100 Villgro Philippines, "My Dream Home," *Villgro Philippines* <https://villgrophilippines.org/project/my-dream-home/>

101 F6S, "Kongngy Hav," *F6S*, <https://www.f6s.com/kongngyhav>

102 Crowell, Maddy, "My Dream Home," *Khmer Times* (April 2016), <https://www.khmertimeskh.com/37592/my-dream-home/>



Negros Women for Tomorrow Foundation

Sector: **FinTech**

Country: **Philippines**

<https://www.facebook.com/nwtfi/>

In the Philippines, microfinance institutions play a key role in providing micro entrepreneurs, rural households, women, and other BoP households with financial assistance. As of 2019, 3,887 microfinance NGOs serve Filipinos by granting them access to credit and capital to steadily improve their homes, access to health services and education, and business and livelihood opportunities. Negros Women for Tomorrow Foundation, Inc. (NWTF) is the one of the country's largest MFIs in terms of capital assets. It targets non-working mothers seeking financial and non-financial support to increase their economic potential and effectively lift themselves out of poverty.

The Company

The NWTF was registered as a non-government organization in 1984, with the declared goal of helping Filipino women to attain self-sufficiency and self-reliance. Since then, they have expanded and pivoted operations to become a microfinance institution providing social and financial services to women and young persons in communities in South Luzon and the Visayas.

NWTF currently has two flagship projects: Project Dunganon provides collateral-free credit inspired by Grameen Foundation's lending methodology, and Project Kasanag assists micro and small entrepreneurs with low-interest individual loans that help them acquire capital and other business assets.

In 2005, they established the Dunganon Bank Inc., a microfinance and rural bank to expand their operations. This was followed by technology infrastructure, through the NWTF Integrated Systems Corporation, Inc, which supports both the bank and the Foundation.

In 2019, NWTF reported more than 585,981 active borrowers, all owners of small businesses, across the MFI's 197 branches. The COVID-19 pandemic saw a 20 percent drop in client payments as businesses suffered losses. Nevertheless, the payments became more regular in 2021, and targets for 2022 have already been reached. Given these, NWTF projects a 10 to 15 percent increase in their revenue over the next five years. NWTF uses Grameen Bank's Progress Out of Poverty Index (PPI) to target their BoP clientele. Once identified, prospective clients undergo a three-day training course on NWTF policies and procedures. Following this, they are grouped into five-member clusters to foster relationships and accountability.

Value Chain Innovations

Business and Social. NWTF has made adjustments to accommodate the shift to online work during the COVID-19 pandemic. In addition to training and webinars, non-financial services such as telemedicine consultations were extended during this period, with as many 5000 to 7000 calls received per month. A "Client Connect" platform was also created to support lenders struggling with repayments, whereby calls and text messaging allowed the MFI to check in their clients' well-being and financial state, even when face-to-face meetings were not possible.

In the next 5 years, NWTF plans to expand these services to help their clients fully recover from the pandemic impacts. Planned non-financial projects include further client training and awareness raising, interventions to improve women and family health, and product development for MSMEs. Continuation of the scholarship program is also in the works - in 2019, this supported 3,371 students. These innovations benefit from strong partnerships with other organizations. Improved access to healthcare, for example, was made possible through

partnerships with 146 primary care clinics, 143 pharmacies, and 132 medical laboratories. In addition, 800 medical missions were conducted, serving 345,468 clients.

Environmental. The Grameen Bank model makes use of ten poverty-free indicators and sixteen decisions to guide borrowers in their daily life choices. Of these, decision 5 pertains to planting seedlings during the appropriate season, and decision 8 is aimed at ensuring environmental cleanliness. To replicate this model, NWTF requires new clients to plant one tree in their households to symbolize their NWTF membership. Following the destruction wrought by Typhoon Haiyan (local name: Yolanda) in 2013, this tree planting program has been expanded to become a community-wide environmental campaign. Particular sites are identified for reforestation with mangroves or other endemic species - in these areas an estimated 31,500 mangrove propagules and 16,361 endemic seedlings were planted in 2019.

NWTF has continued to develop this initiative into a rehabilitation project that enhances the participation of BoP communities and clientele. The program has expanded to reach additional sites, and future plans include the curation of an environmental awareness campaign, and the development of an eco-friendly business zone for their clients, especially MSMEs.

To accommodate other non-financial needs, NWTF has worked to provide women and their families with solar panels, clean cookstoves and electronic bikes to increase their livelihood opportunities and improve their quality of life in the long term. In 2019, Php 21.4 million (approximately USD 380,000) was allotted to provide solar lights and clean cookstoves to 5,000 clients. A partnership with the USAID Fish Right also allows NWTF to train fishing communities in financial wellness, while also encouraging more sustainable fishing practices.

A dedicated department within the organization has been tasked with expanding these environmental initiatives further. Future plans are focused on projects on solid waste management and circular economies.

Critical Challenges

The COVID-19 pandemic was a considerable challenge, as NWTF saw repayment rates decrease by 78 to 98 percent, and client numbers dwindle by almost 60,000 individuals (from 560,000 to 480,000). Despite these losses, repayments stabilized by 2021, and the 2022 targets have already been met.

A current concern is the possible loss of incentives that may result from the passage of the Passive Income and Financial Intermediary Taxation Act (PIFITA), which has been proposed as part of the government's Comprehensive Tax Reform Program. If legislated, this will remove the 2 percent preferential tax granted to microfinance institutions and NGOs, in addition to making them liable for 12 percent value-added tax (VAT). This VAT will inevitably pass onto micro-entrepreneurs, such as NWTF's clientele.

Policy to and for Impact

The COVID-19 pandemic has demonstrated the importance of an enabling environment to support organizations such as NWTF that seek to mitigate financial and non-financial risks and shocks experienced by women and their households. In order to deliver these services effectively, NWTF has relied on strong working relationships with local government units and offices that align with their social and environmental goals.

Nevertheless, improvements in government processes and regulations can ease the bureaucracy that businesses need to contend with throughout their operations. Particular assistance can be extended to organizations that promote social welfare and environmental restoration, considering the value of their contributions. BoP subsidies can further support this work and allow it to scale up.

Olam AgriSector: **Agrobusiness**Country: **Thailand & Vietnam**<https://www.olamagri.com/>

Rice is a staple food across the world, with countries in Southeast Asia producing and consuming significant quantities of the crop. Thailand and Vietnam are two of the world's largest producers of rice, and they rely on smallholder farmers to ensure a steady supply. However, these farmers often lack the capacity to comply with international rice standards and are often among the most vulnerable sectors to climate change impacts. Olam Agri (Olam) assists farmers so they can produce crops of good quality, enjoy access to sustainable farming inputs, and increase their income by building their capacities and expanding their networks.

The Company

This profile particularly focuses on their rice production operations but the company has also begun investing in other products, such as cassava, timber and sugar.

Among private sector companies, Olam is the second largest handler of rice globally and works with the most outgrowers across Asia. Given the high demand for rice, they maintain operations in Thailand and Vietnam, and engagements in Peru, Nigeria and Australia. Unlike conventional agribusiness companies, which focus on turning a profit, Olam pays closer attention to preservation, risk, and scale.

Value Chain Innovations

Business and Social. Throughout 2021, Olam Agri trained over 20,000 outgrower farmers in Thailand, and 9,000 farmers in Vietnam. These trainings are informed by baseline studies on the farmers' conditions and priorities as regards improving their livelihoods. Prior research provides a better understanding of the farmers engaged, and allows the training programs to include environmentally targeted behavioral changes.

Olam's training programmes for their outgrower partners are especially thorough. These cover three topics: 1) pre-sowing and fertilizer application; 2) fertilizer application and care of crops during the season, and 3) pre-harvest and marketing. These are in accordance with the Sustainable Rice Platform standards, which Olam is compliant with. Efforts are also made to train the appropriate stakeholders. At times, these are local women, who do much of the work in the fields. These types of considerations ensure inclusive training protocols and high retention of outgrowers.

Since Olam started working with farmers, their income has increased by approximately 10 percent. For farmers in Thailand, savings can be generally attributed to a decreased need for fertilizers, while those in Vietnam benefited from training to better monitor their fields and implement integrated pest management.

Environmental. Olam's efforts to help farmers cut down on the use of nitrogen fertilizers contributes toward the reduction of greenhouse gas emissions. This also helps prevent eutrophication of nearby waterways, which can become contaminated by the excess of phosphates in the environment.

Further emissions reduction can be achieved by efforts to prevent the burning of agricultural waste and biomass. Work is being done to find alternative uses of this waste, which promotes circular economies, in addition to contributing toward avoiding Carbon emissions. On the whole, Olam's 2021 Sustainability Report records a 40 percent decrease in GHG emissions

from their operations, from their improved labor practices, and effective management of water, soil and pests.

Critical Challenges

The aging farming population is a key risk for Olam. The average age for farmers has recently gone up to 56 years from 54 in 2015, and some of the company's outgrowers are as old as 80 years. Many of them have observed that there are few incentives to continue with farming as a livelihood, and parents feel that their children will find more success in other careers.

Better technology could help address this challenge - mechanization can help ease the burdens of farm work and make the sector more interesting to younger generations. Olam itself has launched communications outputs in Thailand, such as television shows to get the youth interested in farming.

Other difficulties pertain to the realities of the BoP. Even with their increased incomes, many farmers still face poverty traps and usurious loans, especially when hit with unplanned expenses.

The market for organic rice has also been fairly niche and very competitive. Organic rice is more expensive than conventionally produced varieties, and as a staple crop, people tend to buy it in larger quantities. This is why consumer interest in it is more limited, even if it is widely available.

Policy relevance and implication

Olam has benefitted from partnerships with international organizations such as IFC, IFAD, IFPRI and GIZ. These have raised their profile in countries where their operations are located, and encouraged governments to engage with Olam and demonstrate their impact to farmers. In Vietnam, for example, the company works with the Department of Cooperatives and Rural Development, which helps them identify and work with local cooperatives. They have also partnered with the Rice Department of Thailand, under the Ministry of Agriculture.

These partnerships have been valuable, but it has been recommended that governments could create more enabling ecosystems that promote innovation, including through the use of digital technology and automation. This will require investing in research and development and technology trials, in addition to improving agricultural extension services.

Government support can also be devoted to communications around the viability of farming as a livelihood, to increase awareness and interest, especially among the youth. Credit services could also be strengthened, which may entail rethinking traditional metrics and requirements for loans and lines of lending.



Sun King

Sector: **Energy**

Country: **Philippines**

<https://sunking.com/>

Estimates from the World Bank show that the solar industry will have provided affordable alternative energy to more than 490 million people across the world by the end of 2021¹⁰³. However, off-grid and rural communities are not always able to access these technologies.

In this, solar enterprises play a vital role in ensuring large-scale electrification. Sun King is one such company, whose mission is the design and distribution of solar products to off-grid BoP communities in Africa, South Asia, and the ASEAN region.

The Company

Sun King began in 2009 as Greenlight Planet. It expanded operations to the ASEAN region in 2013, initially working as a distributor. At present, they consider themselves a medium-sized company providing energy consumer goods and off-grid energy products.

Operations for the ASEAN region are currently based in the Philippines. In the country, they work with MFIs, social enterprises, and other retailers to distribute their products. Sun King looks to double these Philippine operations in the next two years.

Sun King estimates that 95 to 99 percent of their present customer base are BoP consumers, with as high as 90 percent coming from minimum wage earners. In addition, 40 percent of their field personnel (or “field force”) also come from BoP areas.

The company employs more than 20,000 agents from the BoP, particularly in India, Kenya, Nigeria, Tanzania, Togo, Cameroon, Mozambique, Zambia and Uganda. Notably, in Africa, 36 percent of these field agents are women.

Value Chain Innovations

Business and Social. Reports show that Sun King has sold over 19 million solar lanterns and home energy systems to 90 million people in 65 countries¹⁰⁴. These comprise entry-level solar home systems and small-scale solar products that allow consumers to save approximately USD 5 to 8 on monthly utility expenses. Larger NGOs and governments are also customers, particularly when they procure solar energy technology for donation to partners, or as part of CSR efforts.

On the ground sales are made through a “direct-to-village” system, which operates via pay-as-you-go (PAYG) technology. Through this, consumers may make payments on installment over a ten to twelve-week period. Sun King also makes an effort to employ local residents who have a good understanding of the realities and needs of particular areas.

Customers and distributors receive end-to-end support - products are under two-year warranties, and Sun King works with distributors to ensure that quality is maintained, particularly for last mile customers. This is done through marketing support programs and sales training that helps distributors grow their business.

¹⁰³ World Bank, “Off-Grid Solar Market Trends Report 2022 : State of the Sector,” *World Bank* (2022), <https://documents1.worldbank.org/curated/en/099235110062231022/pdf/P175150063801e0860928f00e7131b132de.pdf>

Positive feedback has also been received from the women that the company engages with as agents and customers in Africa. From their gainful employment, women agents feel empowered when they market the products to their own social networks. The transition away from more dangerous sources of light and energy (such as kerosene and gas) have also allowed women and their households to feel more secure in their homes.

Environmental. A significant environmental impact is seen in the greenhouse gas emissions that solar technologies, such as Sun King's, are able to reduce. The company has been able to offset more than 25 million metric tons of greenhouse gases, to date.

The company also partners with an e-waste management system to recycle where possible and safely dispose of the products that are beyond repair. These must be compliant with the waste management regulations in the country concerned.

Critical Challenges

Sun King recognizes that the business is exposed to credit, operational, market, and regulatory risks. Nevertheless, by actively analyzing real-time data from regions where they have operations, they are able to monitor and minimize the probability of these risks.

In the Philippines, for example, Sun King and their partner MFIs make an effort to reduce the credit risks that can affect repayments. By working within the MFIs existing processes, a system for offering green energy loans has been explored. This allows consumers with good credit standing to avail of the solar products they need, while also incentivizing them for their timely payments.

An anticipated challenge pertains to the expansion of the company. Products must adapt, and new areas must be reached in order for the business to grow. To address this, Sun King makes an effort to align with distributors who share their vision and mission, allowing them to reach more underserved off-grid communities.

Policy relevance and implications

Sun King ensures that their products meet government standards and regulations, in order to better serve the BoP communities that are their primary consumers. To support this further, policies on the importation of solar technologies may need to be revisited. For example, in the Philippines, although solar products may be imported tax free, this exemption does not extend to appliances (such as televisions) that are part of larger solar home systems. This affects the price that is ultimately passed on to consumers.

Companies such as Sun King could also benefit from government efforts to raise awareness among the public on the benefits of solar technologies, thereby introducing more people to businesses that provide these options.



Urmatt

Sector: **Agrobusiness**

Country: **Thailand**

<https://urmatt.com/>

Thailand is one of the world's largest rice exporters. Production is expected to increase, as the government targets exports of 7.5 million tonnes in 2022, due to high outputs and weak currency.¹⁰⁵ Businesses such as Urmatt are important stakeholders to meet these priorities. Their proven models for contract farming have put in place an effective system that provides smallholder farmers with more income, while also improving the natural environment through organic farming methods.

The Company

Urmatt is one of the largest organic agribusiness companies in Thailand. While initially focused on conventional agriculture when it was established in 1982, the company quickly transitioned to organic methods and contract farming in the 1990s, making it a pioneer in the region. Their operations have also become fully integrated, as they are able to provide seed, fertilizer and assistance through trained agronomists.

Their company revenue is estimated at USD 15 million.¹⁰⁶ Urmatt's products are certified organic by multiple certification bodies, including Ecocert, the United States Department of Agriculture and the European Union organic label. While organic rice is Urmatt's main produce, several other agricultural crops are in their portfolio as well.

Value Chain Innovations

Business and Social. Under their contract farming model, Urmatt works with over 3000 smallholder farmers in northern Thailand, including families of the tribal communities. These farmers are guaranteed higher returns than what they would receive from other traders - contracts with Urmatt ensure that they earn 20 to 40 percent more, relative to shifting commodity prices.

Urmatt makes it a point to work with women farmers in the communities and around a third of their farmers are women. Contracts with the women members of households are encouraged, and seed funding is also provided to support women-led businesses.

Urmatt's strong engagement with women farmers is reflected throughout their business operations. For example, the company has recently developed a process through which paper pulp can be extracted from straw, which would otherwise be considered agricultural waste. The pulp is then used as material to make packaging, which are certified chemical-free. To engage women farmers in this new venture, Urmatt has exclusively contracted with them for the supply of straw providing them with a source of income that the male members of the household do not control.

Urmatt's founder has also been able to expand by establishing two subsidiary social enterprises producing organic eggs and noodles. Hilltribe Organics began in 2014, and now works

¹⁰⁵ Reuters, "Thailand targets higher rice exports of 7.5 mln tonnes this year," *Reuters* (8 September 2022) <https://www.reuters.com/markets/asia/thailand-targets-higher-rice-exports-75-mln-tonnes-this-year-2022-09-08/>

¹⁰⁶ Triodos Investment Management, "Success begins and ends with the farmer," *Triodos Investment Management*, <https://www.triodos-im.com/articles/2015/success-begins-and-ends-with-the-farmer>

with 200 farmers providing the first organic and free range eggs in Thailand.¹⁰⁷ While not originally intended to make a great deal of profit, this enterprise is expected to break even soon. Perfect Earth Foods began in 2015, and produces organic rice and gluten-free noodles based on rice from Urmatt's contract farmers¹⁰⁸.

Environmental. As they have been supporting organic agriculture for more than two decades, Urmatt's most significant environmental impact is appreciated in 25,000 acres of land that is maintained free from chemicals, maintaining soil fertility.

They have also focused on waste reduction and alternative packaging. In addition to the straw-pulp packaging that are in development, Hilltribe Organics already uses biodegradable packaging for its eggs.¹⁰⁹ Hilltribe Organics also makes an effort to use resources, such as fuel and energy, as efficiently as possible. This cuts down on costs, as well as greenhouse gas emissions.¹¹⁰

Critical Challenges

In their early days, Urmatt encountered challenges in ensuring that contract farmers delivered outputs that were compliant with the company's needs. To address this risk, the company invested in training and monitoring contract farmers, to ensure consistent quality products thereby reducing production and human risks.

As was the experience of many businesses, the company saw logistics costs from shipping and transportation triple at the height of the COVID-19 pandemic. Nevertheless, there are control systems in place for similar large-scale events such as those that may be brought by climate change and a potential global recession. Although the market for organic products may slow during these periods, Urmatt remains committed to ensuring that their goods continue to meet customer needs and align with their core business model.

Policy relevance and implication

Urmatt has established itself that government interventions neither hinder nor particularly support their operations. Nonetheless, the importance of government support to enable the actualization of visionary ideas remains. Many good ideas come from persons who are just starting out, and require financial resources or technical assistance to scale up and sustain their work. Government's role can therefore be meeting these needs, thereby supporting business models like Urmatt's, which provide both social and environmental gains.

107 Hilltribe Organics, <https://hilltribeorganics.com/>

108 Perfect Earth Foods, "About Us," *Perfect Earth Foods*, <https://perfectearthfoods.in.th/about-us/>

109 Hilltribe Organics, "Our Story," <https://hilltribeorganics.com/our-story/>

110 Hilltribe Organics, "Sustainability," <https://hilltribeorganics.com/sustainability/>



Inclusive Business Action Network (iBAN)

The Inclusive Business Action Network (iBAN) is a global initiative supporting the scaling and replication of inclusive business models. Through its strategic approach iBAN supports companies with tailormade investment readiness programmes and develops national inclusive business policy strategies with policymakers. On a global level iBAN manages the largest online knowledge platform (www.inclusivebusiness.net) on inclusive business. iBAN creates a space where evidence-based knowledge transforms into learning and new partnerships. With its focus on promoting the upscale of inclusive business models and consequently improving the lives of the poor, iBAN is actively contributing to the achievement of the United Nations Sustainable Development Goals. iBAN is funded by the German Federal Ministry for Economic Cooperation and Development. It is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. An earlier phase of this project (01/2017 – 12/2021) was supported by the European Union.

- <https://www.inclusivebusiness.net>

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