



Blue and Green Economy Labour Market Assessment:

Opportunities for Out-of-School Youth in the Philippines

A USAID Opportunity 2.0 Study

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Acronyms and Abbreviations

3R	Reduce, Reuse, Recycle
ADB	Asian Development Bank
AFMA	Agriculture & Fisheries Modernization Act
ASEAN	Association of Southeast Asian Nations
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BERDE	Building for Ecologically Responsive Design Excellence
BFAR	Bureau of Fisheries and Aquatic Resources
BGE	Blue and Green Economy
BRT	Bus Rapid Transit
BSP	Bangko Sentral ng Pilipinas
BYOB	Be Your Own Boss
CCC	Climate Change Commission
CHED	Commission on Higher Education
CIS	Climate Information Services
CNG	Compressed Natural Gas
COP	Conference of Parties
CPOA-ML	City Plan of Action on Marine Litter
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
DA	Department of Agriculture
DCAOSYD	Department of City Agriculture and Office of the Sangguniang Kabataan for Youth Development
DENR	Department of Environment and Natural Resources
DICT	Department of Information and Communications Technology
DOA	Department of Agriculture
DOE	Department of Energy
DOH	Department of Health
DOLE	Department of Labor and Employment

DOST	Department of Science and Technology
DOT	Department of Tourism
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
e-CDT	Electronic Catch Documentation and Traceability
EHS	Environment, Health, and Safety
EPR	Extended Producer Responsibility
ESG	Environmental, Social, and Governance
EV	Electric Vehicles
FCA	Farmers' Cooperatives and Associations
FISA	Free Irrigation Service Act
FIT	Feed In Tariff
FSF	Financial Sector Forum
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GEF	Global Environment Facility.
GIA	Green Investment Areas
GJA	Green Jobs Act
GPP	Green Procurement Program
GVA	Gross Value Added
HDAP	Human Development and Poverty Reduction Cluster
HUDCC	Housing and Urban Development Coordinating Council
HVAC	Heating, Ventilation, and Air Conditioning
ICT	Information and Communications Technology
IEEFA	Institute for Energy Economics and Financial Analysis
IFC	International Finance Corporation
ILO	International Labor Organization
IPRS	In-Pond Raceway System
IRR	Implementing Rules and Regulations

ISO	International Organization for Standardization
JMC	Joint Management Committee
KADIWA	Kadiwa ni Ani at Kita
KAYA	Kapital Access for Young Agripreneurs
KEG	Key Employment Generator
LEED	Leadership in Energy and Environmental Design
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer
LGU	Local Government Units
LTFRB	Land Transportation Franchising and Regulatory Board
LYDC	Local Youth Development Council
MAD	Make a difference
MAYA	Mentoring and Attracting Youth in Agribusiness
MCCC	Metro Cotabato Chamber of Commerce
MICE	Meetings, Incentives, Conventions, and Exhibitions.
MSME	Micro, Small, and Medium-sized Enterprises
MSW	Municipal Solid Waste
MW	Megawatt
NCCAP	National Climate Change Action Plan
NEAP	Non-environmentally Acceptable Products
NEDA	National Economic and Development Authority
NELP-GCP	National Eco-Labeling Programme - Green Choice Philippines
NESAP	National Ecotourism Strategy and Action Plan
NGJ HRD	National Green Jobs Human Resource Development
NHA	National Housing Authority
NIS	National Irrigation Systems
NMT	Non-Motorized Transport
NREP	National Renewable Energy Program
NSWMC	National Solid Waste Management Commission
NTDP	National Tourism Development Plan
NTESDP	National Technical Education and Skills Development Plan

OECD	Organization for Economic Co-operation and Development
OSY	Out-of-School Youth
OWOW	Our World Our Work
PACC	Paris Agreement on Climate Change
PAFSE	Program on Accelerating Farm School Establishments
PESO	Public Employment Service Office
POSY-GEN	Project Out-of-School Youth for General Santos City
PQF	Philippine Qualifications Framework
PUV	Public Utility Vehicle
PWD	Persons with Disability
QC	Quezon City
RE	Renewable Energy
RPS	Renewable Portfolio Standards
RSBSA	Registry System for Basic Sectors in Agri
RSS	Responsible Seafood Sourcing
SAGIP	Social Amelioration and Genuine Intervention on Poverty
SAS	Segregation at Source
SIPP	Strategic Investment Priority Plan
SK	Sangguniang Kabataan
SME	Small and Medium-sized Enterprises
SOWR	Search for Outstanding Rural Women
SPES	Special Program for Employment of Students
SWM	Solid Waste Management
TESDA	Technical Education and Skills Development Authority
TOD	Transit Oriented Developments
TVET	Technical and Vocational Education and Training
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
VAT	Value Added Tax
YDA	Youth Development Alliance

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01

Executive Summary

Executive Summary

In the Philippines, as many as 10 million youth aged 16–24 is not in school, are not gainfully employed, and have not finished college or postsecondary education. The USAID Opportunity 2.0 program seeks to promote collaboration among the government of the Philippines, the private sector, young people, and other key actors to improve second-chance education, employment, and livelihoods for out-of-school youth (OSY).

It is essential for the Philippines to define pathways to climate adaptation in the Decade to Deliver on the Sustainable Development Goals. The Philippines is one of the countries most adversely affected by climate change and is highly susceptible to climate disasters. On the other hand, we are also observing a significant rate of growth in the Philippines' economy, especially within sectors such as construction, manufacturing, and renewable energy, due in part to the government's increased focus on stimulating economic activity within these sectors. In terms of employment, about 6.9 million Filipinos, or roughly 17 percent of people employed, are working in specified green sectors. About 60 percent of them (4.3 million) are in services, while the rest are split between industry (1.4 million) and agriculture (1.3 million). Employment in the green economy is projected to require an additional 3.9 million workers by 2030, about another half of what it currently employs. Keeping this context in mind, the country has been proactive in fostering green initiatives through its Green Jobs Act. The government has implemented policies and fiscal incentives to encourage collaboration with the private sector and facilitate the transition toward a sustainable blue and green economy in the Philippines.

With the increasing demand for talent and skills in these sectors, Opportunity 2.0 is currently exploring potential pathways for out-of-school youth to engage in these opportunities and actively contribute to the Philippines' Nationally Determined Contributions (NDCs) and low carbon emissions strategies.

As a part of Opportunity 2.0, Accenture undertook this research to identify the range of employment and self-employment opportunities for OSY in the blue and green economy (BGE) of the Philippines. This report aims to identify the range of jobs for OSY in key blue and green economy sectors (BGE) of the Philippines. The report looks at eight key sectors in detail- Green Construction, Sustainable Waste Management, Green Transport, Sustainable Agriculture & Forestry, Sustainable Fisheries and Aquaculture, Sustainable Tourism, Renewable Energy, and Green Manufacturing. It outlines sector-level trends with respect to employment for out-of-school youth, gaps in the overall education, entrepreneurship, and employment system, current job roles available to OSY, and dynamics between the key actors in that ecosystem. These findings are outlined across the levers of employment attractiveness, capacity building, ecosystem enablers, and inclusive growth parameters.

The report, however, does not go deep into some of the levers that shape the evolution of blue and green jobs, i.e., policy measures, fiscal incentives, and other institutional parameters. One of our recommendations is for ecosystem actors to conduct a deeper analysis of the Philippines' policy readiness for transitioning to a low-carbon economy. This analysis needs to identify and include what are the forward-thinking initiatives that the Philippines government has already implemented, how these impact jobs, and what the art of the possible when it comes to the evolution of policy measures that enable a just transition and the growth of inclusive and decent blue and green jobs for out of school youth.

To understand the perceptions of different stakeholders within the out-of-school youth ecosystem in the blue and green economy of the Philippines, we adopted a rigorous research and analytical approach leveraging secondary research, individual interviews, and focus groups. Representation included government, private sector, industry associations, TVET organizations, civil society, and multilateral organizations.

We started this exercise by identifying the 14 sectors that have both high potential for employment of out-of-school youth and significant potential to undergo greening in the Philippines. Among the 14 sectors considered, we focused on prioritizing the top 8 sectors that showed the most promising potential for providing meaningful employment

opportunities to out-of-school youth. This prioritization was determined through an examination of secondary data, taking into account various criteria. These criteria included macroeconomic indicators defining the sector's growth, an assessment of its ability to generate jobs in the sustainable blue and green economy, the sector's impact on inclusive hiring practices, especially for marginalized groups, and its alignment with the Philippines' priorities and goals regarding climate change. Additionally, we considered whether the sector could contribute to the long-term development of a resilient community.

The 8 priority sectors identified were Green Construction, Sustainable Waste Management, Green Transport, Sustainable Agriculture & Forestry, Sustainable Fisheries and Aquaculture, Sustainable Tourism, Renewable Energy, and Green Manufacturing. We then undertook a series of market consultations to dive deeper into the sector-level trends, gaps, opportunities for employment, and dynamics between the key actors in that ecosystem. We outlined our findings across the levers of employment attractiveness, capacity building, ecosystem enablers, and inclusive growth parameters.

We understand the importance of localization of programs and insights for a large country such as the Philippines, which has a significant degree of variation across the different cities when it comes to the behavior of youth, employment trends, and pathways for meaningful opportunities. Via our market consultations and our understanding of how activity within the eight priority sectors is distributed within the Philippines, we identified six priority cities in order to understand the sector dynamics at a local level and how job demand is being driven across these cities. The city-level prioritization took into account parameters such as priorities of the local government unit, donor investment in blue and green economy programs, resources, and infrastructure needed for a blue and green economy transition.

We then conducted a detailed understanding of what is working well at a city level with respect to out-of-school youth employment and what key barriers impede OSY engagement in meaningful roles within the priority blue and green economy sectors that we identified. We outlined the cities of Quezon City, Legazpi City, Tagbilaran City, General Santos City, Davao City, Zamboanga City, and Cotabato City as priorities.

The key takeaways that we uncovered as a part of this assessment (elaborated in subsequent chapters):

- There needs to be an industry-wide alignment on what activities constitute the “blue and green economy.” Certain sectors such as sustainable agriculture and forestry, sustainable fisheries, and renewable energy currently consider themselves to be “green by-products,” i.e., the output itself contributes to mitigation or adaptation pathways, while others such as manufacturing are “green by process,” i.e., minimizing the footprint of the value chain.
- The key issue within capacity building is that current offerings in TVET have not evolved at the same pace as industry requirements. TESDA is now investing in greening its training regulations; however, there needs to be more alignment with the private sector on this training beyond the skills assessment survey. There also has to be more focus on increasing entrepreneurial skills like business management.
- Currently, available TVET courses lack the practical aspect of engineering and manufacturing, i.e., skills required on the job beyond theoretical education. Some TVET universities like Don Bosco may have courses for specific sectors like automotive, but their course fees do not allow all OSY to engage effectively. Additionally, not enough resources exist to foster the growth of OSY-led entrepreneurial ventures.
- There has been a growth in focus on the inclusion of women and other genders into the construction, renewable energy, and green manufacturing workforce. However, due to the physical nature of the jobs, they are often not inclusive towards persons with disability. Moreover, the focus on inclusion for indigenous groups is still negligible. A major concern for these sectors still continues to be employee health and safety provisions.

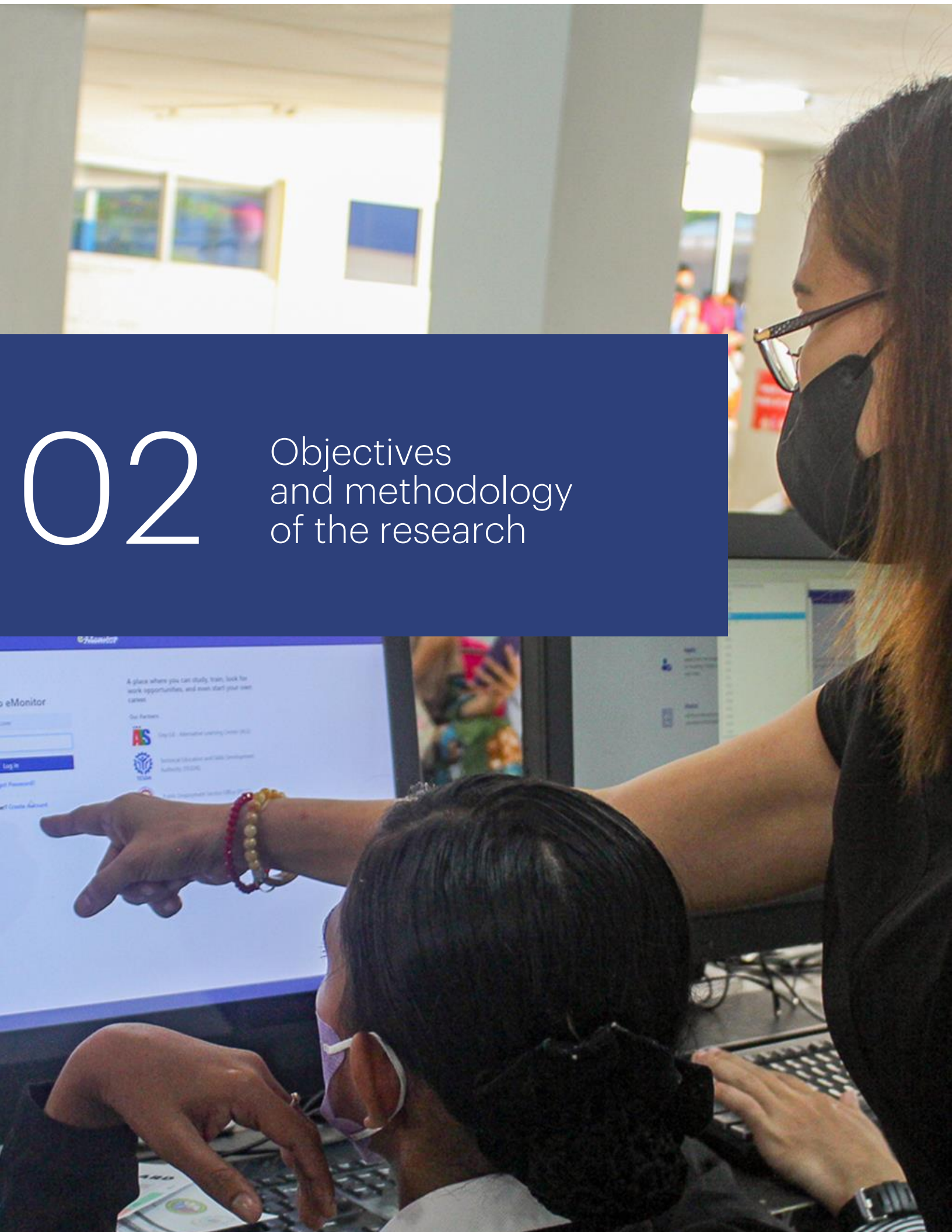
- Despite the circular economy being a crucial area of investment for the Philippines, the sustainable waste management sector has to undergo a great degree of transformation to actively contribute towards opportunities for out-of-school youth, in comparison to other sectors like green manufacturing or construction. Furthermore, until there is a formalization of jobs, there will be a distinct lack of quality of life for many workers - especially when it comes to wages, improved health and safety measures, or even legitimacy of employment. This is true for all sectors where there is a significant proportion of informal workers (e.g., agriculture, tourism).
- There is ongoing innovation from industry actors in catalyzing the green transition, especially for sustainable or regenerative agriculture, green construction, green manufacturing systems, sustainable fisheries, and improved sustainable waste management processes. Given the rapid pace of innovation in all these sectors, TVET programs have to be aligned with the latest and greatest that is happening across the identified sectors and include work immersion modules to enable students to get more practical knowledge about on-the-job duties.
- Energy security is one of the essential requirements for the Philippines' future development. There is a huge potential in the sector, specifically in solar power, and as solar power becomes less expensive, it will become more accessible and lead to more jobs. However, at this time, the jobs are primarily contractual and labor-intensive in nature. Corporations like General Electric are working towards skilling young people in renewable energy-related training for future employment, but the focus of TVET for the renewables sector is still heavily geared towards construction and manufacturing.
- Within the Blue Economy of the Philippines, the marine and coastal tourism sector, as well as the sustainable fisheries and aquaculture sector, see challenges in the transition to sustainable operations and decent work criteria for scale. While there are significant livelihood opportunities within the sector itself, they do not always result in meaningful roles, decent work conditions, provide social security benefits, or even engage the workers in catalyzing a green transition.

Based on these assessments at a sector level as well as at a city level, we developed a set of recommendations targeted to the specific gaps outlined by the stakeholders we consulted. Some of our suggested outcomes include:

- Engaging the private sector, including HR managers from large corporations, MSMEs, and industry associations, to partner with TESDA and enhance systems for assessing and forecasting the demand for skills in green jobs. The formation of sector-based skills councils can play a crucial role in refining TESDA's skills assessment surveys and Labor Market Information and Research (LMIR). These councils would incorporate insights from private sector stakeholders and draw upon case studies from other developing economies to adopt best practices in developing skill development tools that align with the requirements of a green transition.
- Develop knowledge products and a knowledge-sharing system based on market analyses of key sectors within the Philippines so that public and private sector actors stay updated on the trends in the blue and green economy. The landscape of blue and green economy sectors, green technology, sustainable production methods, and green products is evolving swiftly. There is a demand for knowledge resources that can assist both the public and private sectors in staying updated on the latest advancements. This ensures their ability to adjust skilling and employment programs, as well as hiring strategies for out-of-school youth, in response to the dynamic changes in this field.

- Invest in community mobilization to spread awareness among OSY on climate action and the need to engage in blue and green jobs. OSY is currently not actively engaged in the national climate adaptation activities. It is essential to bring together the youth leaders, civil society organizations, and PESO offices to educate OSY as well as their families about the impact of climate change on the Philippines and why BGE jobs have the dual opportunity of providing both resilient livelihoods as well as drive climate action to accelerate engagement.
- Strengthen industry action towards increasing adherence to EHS regulations and reduction in exploitative practices such as child labor and unfair wages. Sectors such as green manufacturing and green buildings have instances of health and safety issues for workers, which have to be targeted through advocacy from industry associations, EHS management and compliance schemes, and strong whistleblower protection mechanisms to ensure transparent governance. Critical sectors such as waste management, agriculture, and fisheries have high rates of exploitative practices such as child labor. This has to be targeted through stronger LGU monitoring for regulatory violations, certification systems for sustainable agriculture and fisheries, and coordinated efforts of communities and social enterprises.

Above all, we realize that a just transition within these sectors can only be facilitated through the willing collaboration of all ecosystem stakeholders - the national government agencies and local government units, private sector, and other development-focused actors; and strengthened by a behavioral shift from the wider society, including out-of-school youth, in supporting this catalysis by understanding their role in shaping the climate action agenda.



02

Objectives and methodology of the research

Research Overview

Objectives of the Research

There are as many as 10 million youth aged 16–24 who are not in school, are not gainfully employed, and have not finished college or postsecondary education¹. USAID Opportunity 2.0 is a program that seeks to improve education, employment, and livelihood outcomes for 180,000 Filipino out-of-school youth (OSY). Implemented by the Education Development Center (EDC), the program aims to strengthen workforce development systems by fostering collaboration among the government of the Philippines, the private sector, young people, and other key stakeholders in 15 cities of Luzon (Angeles City, Valenzuela City, Quezon City, Pasig City, Legazpi City), Visayas (Cebu City, Tagbilaran City, Iloilo City) and Mindanao (Cagayan de Oro City, Davao City, General Santos City, Cotabato City, Zamboanga City, City of Isabela, Iligan City).

Investing in the development of a Green Economy is particularly crucial for the Philippines. Firstly, the country is one of the top five countries most impacted by climate change (according to the Global Climate Risk Index of 2021) and is highly prone to disasters. The region also faces a high risk of loss of ecosystem services due to the increasing threats to biodiversity. A loss of ecosystem services will eventually translate to severe implications for the country's GDP. Research shows that green stimulus policies have the potential to provide substantial financial uplift. According to an econometric analysis focusing on government expenditures in energy technologies, each \$1 million spent results in the creation of 7.49 full-time positions in renewable infrastructure and 7.72 jobs in energy efficiency. In contrast, spending the same amount on fossil fuels only generates 2.65 jobs². This has also been observed in the Republic of Korea, the EU, the United States, and other countries.

Under optimal conditions, transitioning to a green economy could create 30 million jobs across Southeast Asia by the end of the decade.³ The Philippines is one of the fastest-growing economies in the world and has recently shown a growth rate of 7.6% (2022)⁴. Through its Green Jobs Act, the government of the Philippines has been setting policies and fiscal incentives to foster partnerships with the private sector and transition towards the development of a sustainable blue and green economy in the Philippines. As the demand for talent and skills in these sectors grows, Opportunity 2.0 is now exploring possible pathways for out-of-school youth to be engaged in them and actively contribute to the Philippines' NDCs and low carbon emissions strategies.

As a part of Opportunity 2.0, this research specifically focuses on the employment and self-employment of OSY in the blue and green economy (BGE) of the Philippines and, in particular, highlights the opportunities for OSY in the specific sectors within BGE. The aim is to understand how key sectors within the ecosystem can promote a just, more inclusive economic transition to sustainable systems while also providing meaningful opportunities for the OSY in the Philippines.

Three primary questions were investigated as part of this research:

1. In which sectors is employment demand growing in the Philippines' blue and green economy, and how is it aligned with the skills, assets, and aspirations of out-of-school youth?
2. How does this growth translate into job opportunities for OSY at the provincial/municipal levels?
3. What pathways, interventions, and partnerships can engage and enable OSY to tap into these opportunities in the BGE?

¹ Based on the Functional Literacy, Education and Mass Media Survey (FLEMMS) in the Philippines.

² H. Garrett-Peltier. 2017. Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model. *Economic Modelling*, Elsevier, Vol. 61(C), pp. 439–447. <https://www.sciencedirect.com/science/article/abs/pii/S026499931630709X>.

³ Asian Development Bank. "Implementing a Green Recovery in South East Asia," May 2022. <https://www.adb.org/sites/default/files/publication/793536/implementing-green-recovery-southeast-asia.pdf>.

⁴ World Bank Open Data. "World Bank Open Data," n.d. <https://data.worldbank.org>.

Research Methodology

The following graphic outlines the integrated approach taken to develop an understanding of opportunities for engagement of out-of-school youth in the blue and green economy of the Philippines.

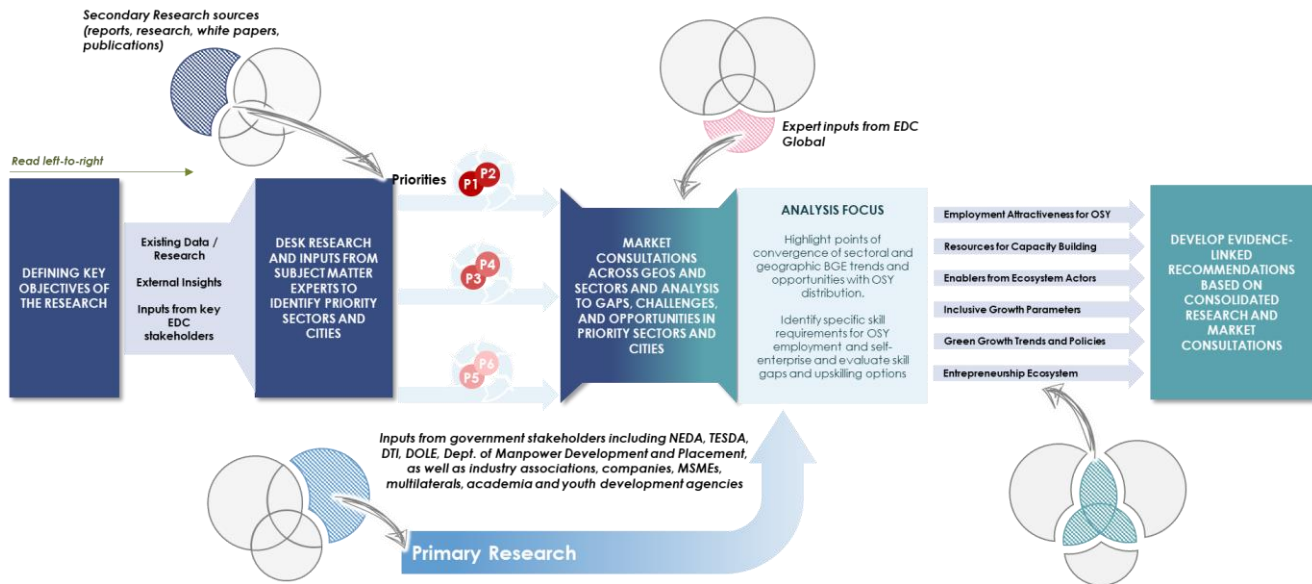


Figure 1: Detailed Research Methodology

Based on Accenture’s experience in supporting climate adaptation strategies and an understanding of the blue and green economy of the Philippines, we identified 14 salient high-potential sectors in the Philippines. Out of these 14 sectors, we prioritized the top 8 sectors that offered the most significant potential for engaging out-of-school youth in decent work opportunities based on an analysis of secondary data. This analysis was underpinned by several criteria looking at macroeconomic parameters defining the sector’s growth, a view on the sector’s potential to generate jobs within the sustainable blue and green economy, whether the sector has been able to move the needle when it comes to inclusive hiring practices (especially for marginalized groups) and whether the sector is a priority from the perspective of Philippines’ climate change goals, and can support in the long term development of a resilient community. Further details on the prioritization exercise are outlined in the Chapter “Sector Assessments.”

After identifying the eight priority sectors, we undertook a series of market consultations to dive deeper into the sector-level trends, gaps, opportunities for employment, and dynamics between the key actors in that ecosystem. We outlined our findings across the levers of employment attractiveness, capacity building, ecosystem enablers, and inclusive growth parameters. The findings for each sector are outlined under the “Sector Spotlights” in the Chapter “Sector Assessments.”

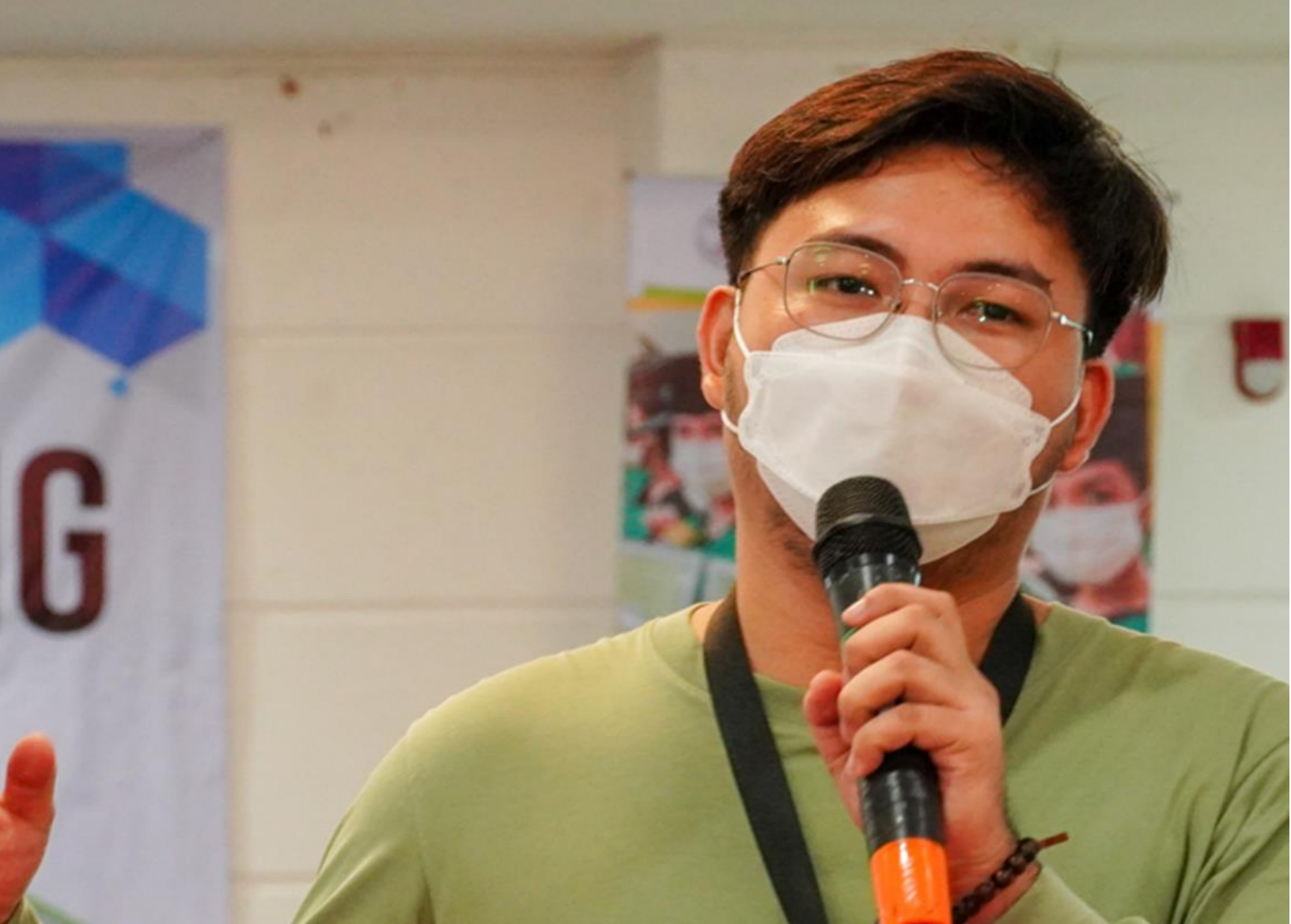
We understand the importance of localization of programs and insights for a large country such as the Philippines, which has a significant degree of variation across the different cities when it comes to the behavior of youth, employment trends, and pathways for meaningful opportunities. Leveraging our findings from the “Sector Spotlights,” we identified six priority cities within the Philippines in order to understand the sector dynamics at a local level and how job demand is being driven across these cities. The city-level prioritization took into account parameters such as priorities of the local government unit, donor investment in blue and green economy programs, and resources and infrastructure needed for a blue and green economy transition.

Based on these assessments at a sector level as well as at a city level, we developed a set of recommendations targeted to the specific gaps outlined by the stakeholders we consulted. Together with input from EDC global experts, we adopted a rigorous research and analytical approach to explore the potential of blue and green economies in generating employment opportunities for OSY. The methodology and attributes for evaluating sectors can be found at the start of Section 3, and the methodology and attributes for evaluating cities are found in Section 4. The research approach included:

- **Desk research** – To understand the demographics and dynamics of OSY in the Philippines, identify sector-wise insights and key trends on growth and employment attractiveness, and collect quantitative data from existing reports to shape preliminary insights and hypotheses.
- **Stakeholder Interviews** - The insights and hypotheses developed through desk research were supplemented with primary research through consultations with:
 - Government stakeholders, including the National Economic and Development Authority, Technical Education and Skills Development Authority, Department of Trade and Industry, Department of Labor and Employment
 - Private sector, including industry associations
 - Civil Society Organizations
 - International development partners
- **Focused Group Discussions** – These were conducted with municipal-level Youth Development Councils and Youth Development Alliances⁵ and Youth Development Councils to further understand the challenges in current state opportunities in BGE and OSY interests and challenges.



⁵ USAID Opportunity 2.0 currently works with 12 cities across the Philippines supporting local government units and communities organize as Youth Development Alliances (YDAs) to provide quality programs and services for vulnerable youth. YDAs are how local leaders in government, NGO, private sector and youth groups can come together, share resources and pursue common goals for their community.



03

An Overview of the Blue and Green Economy of the Philippines



An Overview of the Size of the Blue and Green Economy in the Philippines

The Green Economy in the Philippines

The green economy contributed about ₱ 2.7 trillion to the country’s total GVA (Gross Value Added) in 2016. A large proportion of this comes from the services sector (73%), followed by the industry sector (25%). Within services, the green subsector (the 10 percent most energy and water efficient) comprises more than a fifth of the sectors’ GVA, while the green industry shares about 15 percent of the industry sector’s total GVA. On the other hand, Green agriculture contributed only about 0.1 ₱ trillion in 2016 – i.e., less than five percent of the whole agriculture sector and only 2.5 percent of the entire green economy.⁶ In terms of employment, about 6.9 million Filipinos, or roughly 17 percent of people employed, are working in specified green sectors. About 60 percent of them (4.3 million) are in services, while the rest are split between industry (1.4 million) and agriculture (1.3 million). Employment in the green economy is projected to require an additional 3.9 million workers by 2030, about another half of what it currently employs. However, the conventional sector may continue to dominate the labor market based on employment projections, requiring 49.8 million workers in 2030.⁶ Figure 2 considers activities under sustainable agriculture and forestry, renewable energy, green construction, green manufacturing, green transport, and sustainable waste management.

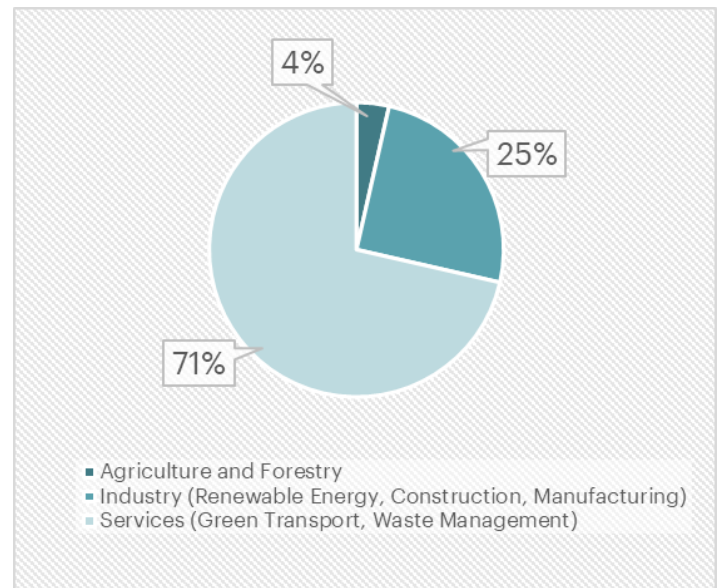


Figure 2: Green Economy GVA Distribution⁶

The Blue Economy in the Philippines

The World Wildlife Fund defines a sustainable Blue Economy as a “marine-based economy that:

- Provides social and economic benefits for current and future generations by contributing to food security, poverty eradication, livelihoods, income, employment, health, safety, equity, and political stability
- Restores protects, and maintains the diversity, productivity, resilience, core functions, and intrinsic value of marine ecosystems- the natural capital upon which its prosperity depends
- It is based on clean technologies, renewable energy, and circular material flows to secure economic and social stability over time while keeping within the limits of one planet.”⁷

⁶ International Labor Organization. “Employment Effects of Green Policies in the Philippines: Summary for Policymakers,” 2019. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_843612.pdf

⁷ World Wildlife Fund. “Principles for a Sustainable Blue Economy,” May 28, 2015.

https://wwfint.awsassets.panda.org/downloads/15_1471_blue_economy_6_pages_final.pdf.

The value of the ecosystem services that the Blue Economy provides is an estimated US\$17 billion. Coastal and marine tourism is the largest sector of the blue economy in the Philippines, contributing a quarter of the total value or an estimated US\$3 billion in value-added, with around 900,000 employees. Employment in the tourism industry grew steadily from 4.8 million employed persons in 2014 to 5.3 million employed persons in 2018, with the tourism industry employment growth rate higher than the aggregate employment growth rate in the Philippines.⁸ In 2012, the fisheries sector in the Philippines accounted for 1.4 million jobs. This constitutes 3.81 percent of the total labor force. Figure 3 considers the GVA distribution of the blue economy sectors (listed on the graph).⁹

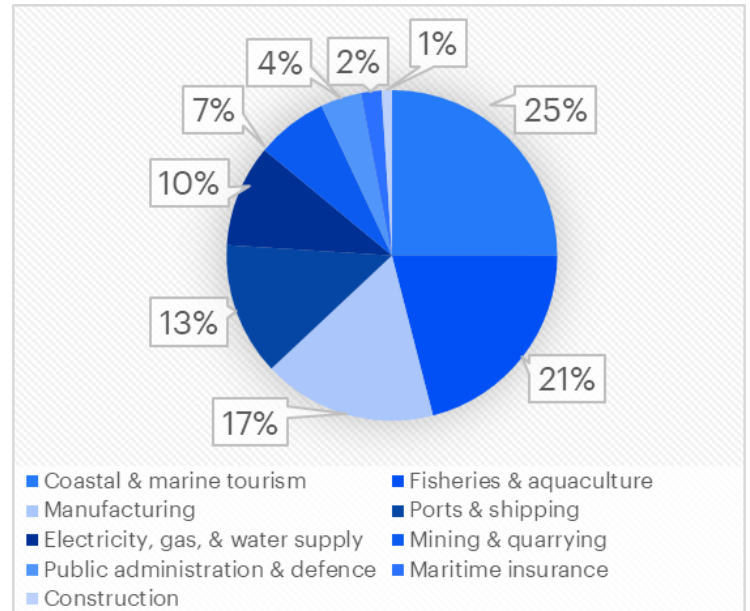


Figure 3: Blue Economy GVA Distribution

⁸ Maria Angela G. Zafra, Asian Development Bank Institute. "Developing the Philippine Blue Economy: Opportunities and Challenges in the Ocean Tourism Sector," December 2021. <https://www.adb.org/publications/developing-philippine-blue-economy-opportunities-and-challenges-ocean-tourism-sector>

⁹ Department of Environment and Natural Resources (DENR) and Partnerships in Environmental Management for the Seas of East Asia. "National State of Oceans and Coasts 2018: Blue Economy Growth (Philippines)," January 21, 2021. <https://www.pemsea.org/publications/reports/nsoc-philippines>.

State of Blue and Green Jobs and Skills Development in the Philippines

This research uses the definition of green jobs adopted by the Education Development Center through its *Our World, Our Work* initiative, a 10-year initiative that seeks to accelerate youth employment and self-employment in the green and blue economies. As it stands, there is no commonly held, precise standard for determining or measuring a “green job,” including in the Philippines, where businesses are interpreting sustainable practices in different ways and where local government agencies report they are unclear about how and where to channel green investments.

Our working definition for the purpose of this report is as follows:

- Jobs (wage or self-employed) are green or blue when they contribute to economies that are environmentally, socially, and economically sustainable.
- Jobs can be in any economic sector in which they:
 - reduce consumption of energy and raw materials,
 - lower carbon footprint and limit greenhouse gas emissions,
 - support adaptation to the effects of climate change (build resilience),
 - minimize waste and pollution, and
 - protect and restore ecosystems.

For the purposes of this research, Blue Jobs adhere to the principles above and are represented in maritime industries and coastal communities. In the context of a just and inclusive transition to a green-blue economy, jobs should promote gender equality and decent work and offer opportunities for underrepresented youth.

The Philippine Green Jobs Act broadly defines green jobs as “employment that contributes to preserving or restoring the quality of the environment, be it in the agriculture, industry, or services sector. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity, reduce energy, materials, and water consumption through high-efficiency strategies, decarbonize the economy, and minimize or altogether avoid the 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.”¹⁰ This definition of green jobs looks at parameters of decent work under the mandate of Sustainable Development Goal 8 (“Decent Work and Economic Growth”), bringing in accountability for labor and employment, statistics, finance, environment, education, skills training, development planning, tourism, trade and industry, science and technology, local government, transportation, and agriculture. The Green Jobs Act is one of the key mechanisms for catalyzing cross-sectoral institutional action for climate adaptation in the country.

The Inclusive Innovation Industrial Strategy has a pillar focused on building new industries, clusters, and agglomerations that link to environmentally sustainable industrial development. The Philippine Development Plan 2017-2022 also directs government action toward the full implementation of the Green Jobs Act and the provision of incentives to shift green manufacturing and production, as well as accelerating sustainable resource-based production in forestry and marine economies, as well as the promotion of eco-tourism.

For the Philippines, the establishment of a green economy is well integrated into the national development plans with industry-specific policies and roadmaps in sectors such as agriculture, manufacturing, transportation. The Philippines government has started to outline policies and programs that enable a transition to a low carbon

¹⁰ The World Bank Group. “Philippine Jobs Report: Shaping a Better Future for the Filipino Workforce,” February 2023
<https://documents1.worldbank.org/curated/en/099085003172324737/pdf/P173234007c9e00ad08b7b0200872373c69.pdf>.

economy that have identified employment impacts, including¹¹:

- The Public Utility Jeepney (PUJ) Modernization program aims to impose a 15-year lifespan limit on jeepneys, requiring their replacement with cleaner vehicles thereafter.
- The National Organic Agriculture Program focuses on enhancing the spread of innovation in organic agricultural practices, marketing, and product labeling among farmers. As a result, the count of organic farmers rose from 8,980 in 2011 to 43,470 in 2016.
- The Anahaw-Philippine Sustainable Tourism Certification initiative aims to integrate energy efficiency into mainstream practices, thereby lowering greenhouse gas emissions and subsequently reducing operational costs for businesses. Stemming from the Zero Carbon Resorts project, this program has expanded to include green hotel certification, recognizing over 300 establishments with awards since 2015.
- The Sustainable Markets for Recyclables and Recycled Products program, led by the Department of Trade and Industry and the National Solid Waste Management Commission, encourages the promotion of recyclables and recycled products in diverse markets. This involves coordinating and backing local trade fairs for such products, advocating for compost utilization in the National Greening Program, and streamlining incentive scheme guidelines to foster investor backing for recyclables and recycled products. Securities and Exchange Commission Memorandum Circular No. 4, issued in 2019, mandates publicly listed companies to disclose their non-financial performance encompassing economic, environmental, and social aspects starting in 2020. This data is to be included in the company's annual report and must adhere to specified templates and guidelines aligned with globally recognized sustainability reporting frameworks.
- The Promotion of Green Economic Development (ProGED) is a program carried out in collaboration with GIZ from 2013 to 2016. Its primary objective is to promote and enhance the sustainability of supply chains for Micro, Small, and Medium Enterprises (MSMEs). This is achieved through raising awareness about eco-friendly practices, facilitating business connections between green suppliers and their customers, and developing guidelines for green business operations.

Under the Paris Agreement, the Philippine government set a revised Nationally Determined Contribution to reduce 75% of its GHG emissions by 2030, particularly focusing on the energy, transport, waste, forestry, and industry sectors. The Philippines Climate Change Act of 2009 provides for the establishment of a Climate Change Commission to formulate and implement plans for the country to cushion the impact of natural disasters. This eventually formed the basis for the development of the Green Jobs Act in 2016. The Green Jobs Act aims to transform the Philippines into a sustainable green economy, promoting much-needed climate resilience in a country with high climate risk and prone to natural disasters. In 2021, at the Glasgow COP26, the Philippines committed to becoming a world leader in climate action, and in order to achieve this goal, there is a heavy emphasis on the implementation of the Green Jobs Act. The Government of the Philippines has proposed several fiscal and non-fiscal incentives toward this goal, but they are yet to be fully implemented and realized.⁴

The Government of the Philippines is undertaking this implementation via two routes: (i) the National Green Jobs Human Resource Development Plan and (ii) fiscal incentives for activities that directly contribute to the greening of different sectors. The Plan provides a broad direction for the creation and sustaining of green jobs and serves as a roadmap for stakeholders in developing and sustaining human resources to ensure just transition, anticipate green skills, and minimize the risks.⁵ In relation to this, the Department of Labor and Employment (DOLE) now has a mandate to maintain a database of green jobs and skills. DOLE has also been working together with the Climate Change Commission to support the development of definitions, standards, and frameworks around green goods and services, technologies, and practices.⁶

Estimations conducted by the Philippines Institute for Development suggest that aggressive adoption of greening within sectors to achieve the NDCs, as well as the promotion of green jobs and skills, would contribute positively towards economic growth within the key sectors. Some of the jobs identified by this study include

¹¹ Basis inputs shared by interviewees.

shifting from traditional chemical-based farming to more labor-intensive organic agriculture, the growth of the renewable energy sector, the promotion of rain forestation and integrated social forestry, and the expansion of the recycling sector, among others.

Some of the observations captured through our discussions with members of DOLE, DepEd, TESDA, PMAP as well as other employment-focused groups showcase the overarching challenges facing the Philippines education and employment ecosystem:

- As per the observation of talent management experts, there is a need for skilling in both technical as well as communication skills. This may range from understanding the technology behind the green jobs sector, such as renewable energy, to soft skills required by green jobs, such as team management, problem-solving, and critical thinking.
- There needs to be improved labor market information systems, which enables better training needs analysis based on an accurate understanding of what the current demand for skills looks like for the green and blue sectors. This would enable organizations like Technical Education and Skills Development Authority (TESDA) to assess the skill gap better and evolve their curricula accordingly.
- Initiatives for skill accreditations, such as the Philippine Qualifications Framework (PQF) and National Technical Education and Skills Development Plan (NTESDP), have not yet incorporated green skills as a component in their plans.

However, there are some systemic changes that are aimed at catalyzing an overall shift in private sector operations. For instance, the Climate Change Commission is in the process of establishing standards and frameworks for evaluating and certifying green jobs, skills, and products. This initiative aims to offer financial incentives to companies operating in environmentally sustainable sectors and engaging in green activities. These incentives are a component of the fiscal incentives outlined in the Green Jobs Act. They encompass two main aspects: (i) a special tax deduction that allows business enterprises to deduct eligible expenses related to skills development and research development for green jobs from their taxable income, and (ii) an exemption from customs duties and taxes for the importation of capital equipment that is directly and exclusively used in the promotion, generation, and sustainability of green jobs. The law also provides additional forms of support, including business development assistance, a specialized business facilitation program, and preferential business packages for enterprises that create green jobs. The key challenge in this situation is to be able to accurately define green jobs in terms of what is being produced as well as the process undertaken. There are also other existing labels, such as the Green Choice Philippines (under the National Eco-Labeling Programme), which are used to certify green products.

In tandem with these advancements, TESDA has begun to integrate green considerations into the TVET system. TESDA has formulated a framework aimed at incorporating environmentally sustainable principles into the TVET system.⁸ TESDA's efforts so far include the establishment of Green Technology Centers (GTCs), the initiation of the process to infuse environmental considerations into training regulations (TRs), the orientation of stakeholders on the importance of integrating green principles into TVET, and the documentation of successful instances of green TVET practices. These Green Technology Centers offer a range of training courses in green skills to address the growing demand for skilled personnel in emerging green industries.⁹

Projected employment (in million workers) by scenario and priority sector

Research conducted by the Philippines Institute of Development Studies¹² identified a significant potential to generate green jobs if the industrial ecosystem invests in aggressive greening. The research builds a Green Philippine

¹² Abrigo, Ortiz, Orbeta, & Llanto. (2021, December 17). Greening the Philippine Employment Projections Model: New Estimates and Policy Options. In Philippines Institute for Development Studies.

Employment Projections Model and specifies four scenarios over a time frame of 10 years (2020-2030). For the baseline business-as-usual scenario, the model assumes that the country’s GDP follows the growth trajectory forecasted by independent sources. In the ‘High Economic Growth’ scenario, the model assumes that the sectoral high economic growth targets are achieved. In the ‘High Economic Growth + Energy NDC’ scenario, the country is able to grow its non-renewable energy capacity to 15MW by 2030 following its proposed Nationally Determined Contribution (NDC) to the Paris Agreement. In the ‘High Economic Growth + Aggressive Greening’ scenario, the model assumes that a more aggressive greening trajectory will be achieved among industries. For these four scenarios, the potential employment demand has been projected below:

Agriculture				Transport			
	2020	2025	2030		2020	2025	2030
Business-as-usual scenario	1.01	1.09	1.14	Business-as-usual scenario	1.51	1.65	1.77
High Economic Growth	1	1.11	1.11	High Economic Growth	1.61	1.92	2.12
High Economic Growth + NDCs	1	1.12	1.13	High Economic Growth + NDCs	1.61	1.93	2.13
High Economic Growth + Aggressive Greening	1.06	1.33	1.42	High Economic Growth + Aggressive Greening	1.72	2.26	2.65
Fisheries				Tourism			
	2020	2025	2030		2020	2025	2030
Business-as-usual scenario	0.13	0.16	0.18	Business-as-usual scenario	0.2	0.27	0.33
High Economic Growth	0.14	0.17	0.19	High Economic Growth	0.21	0.29	0.36
High Economic Growth + NDCs	0.14	0.17	0.19	High Economic Growth + NDCs	0.21	0.29	0.36
High Economic Growth + Aggressive Greening	0.15	0.21	0.25	High Economic Growth + Aggressive Greening	0.24	0.41	0.57
Manufacturing				Waste Management			
	2020	2025	2030		2020	2025	2030
Business-as-usual scenario	1.56	1.89	2.18	Business-as-usual scenario	0.02	0.02	0.02
High Economic Growth	1.61	2.07	2.39	High Economic Growth	0.02	0.02	0.02
High Economic Growth + NDCs	1.97	2.07	2.4	High Economic Growth + NDCs	0.02	0.02	0.02
High Economic Growth + Aggressive Greening	1.73	2.64	3.32	High Economic Growth + Aggressive Greening	0.02	0.02	0.02
Construction				Renewable Energy			
	2020	2025	2030		2020	2025	2030
Business-as-usual scenario	1.55	2.08	2.66	Business-as-usual scenario	0.1	0.09	0.09
High Economic Growth	1.53	2.07	2.52	High Economic Growth	0.11	0.12	0.13
High Economic Growth + NDCs	1.53	2.07	2.53	High Economic Growth + NDCs	0.11	0.11	0.12
High Economic Growth + Aggressive Greening	1.71	2.62	3.47	High Economic Growth + Aggressive Greening	0.11	0.11	0.12

Figure 4: Projected Employment across Sectors under different greening scenarios (figures in millions of persons employed)¹¹



04

Sector Assessments

Assessment of Priority Sectors within the Blue and Green Economy

Prioritization of Sectors

A framework with detailed scoring was used to arrive at the eight priority sectors based on growth potential, BGE job potential, inclusivity, and climate considerations to shortlist the priority sectors.

Table 1 Sector Prioritization Framework

Category	Lever	Category Weight
Growth Potential	Total revenues for the sector (most recent 3-5 years)	25%
	Revenue growth	
	Export potential	
	Total investment in green and blue growth	
BGE Jobs Potential	Overall potential of the sector to generate green and blue jobs	30%
	Employment Potential for OSY	
Inclusivity	Relatively low barriers to entry for OSY	15%
	Gender and social inclusion	
	Decent work (adequate pay, safe working conditions, discrimination, collective bargaining)	
	Protection of human and labor rights (avoids child labor, forced labor, modern slavery)	
	Digital inclusion	
Climate Considerations	Sector is prioritized by the GOP, including in the NDC, the Green Jobs Act, and the climate change policies and programs	30%
	Supports youth & community adaptation to the effects of climate change	
	Resilience of livelihoods	
	Contribution to SDG 13 (climate action) and/or SDG 14 (life below water)	

Based on these criteria, each sector was analyzed and ranked in order of priority. Among the 14 sectors reviewed, our analysis revealed eight sectors with the greatest potential for green jobs for OSY, in this order: Green Construction, Sustainable Tourism, Green Transport, Green Manufacturing, Sustainable Fisheries and Aquaculture, Sustainable Agriculture and Forestry, Sustainable Waste Management, and Renewable Energy. The following graphic outlines the outcomes of the prioritization exercise.

Category	Lever	Green Construction	Sustainable Tourism	Green Transport	Green Manufacturing	Sustainable Fisheries and Aquaculture	Sustainable Agriculture and Forestry	Waste Management	Renewable Energy	Sustainable Electricity, Gas, and Water Supply	Green Ports and Shipping	Green Construction (Ocean)	Sustainable Mining and Quarrying	Green Manufacturing (Ocean)	Sustainable Maritime Insurance	
Sector Growth Potential	Total Revenues for the Sector (most recent 3 -5 years)															
	Revenue Growth															
	Export potential															
Green and Blue Jobs Potential	Total investment in green and blue growth															
	Overall potential of sector to generate Green and Blue Jobs															
Inclusivity	Employment potential for OSY															
	Relatively Low Barriers to Entry for OSY															
	Gender and Social Inclusion															
	Decent Work															
Climate Considerations	Protection of human and labour rights															
	Digital inclusion															
	Sector is prioritized by GOP, for climate change policies															
	Supports youth & community adaptation to climate change															
	Resilience of Livelihoods															
	Contribution to SDG 13 and/or SDG 14															
	Score	3.99	3.96	3.61	3.59	3.51	3.30	3.18	3.05	3.00	2.82	2.69	2.34	2.19	1.23	
	Rank	1	2	3	4	5	6	7	8	9	10	11	12	13	14	

Legend for Scores: 1 (lightest), 2, 3, 4, 5 (darkest)

Figure 5: Sector Prioritization Outcomes

Sector Assessments

The eight focus sectors were then analyzed in detail for key trends, policy, and regulatory landscape. A comprehensive assessment was done based on four parameters: Employment Attractiveness, Capacity Building, Ecosystem Enablers, and Inclusive Growth Parameters. The key findings from each sector assessment are summarized in the following “sector spotlights.”

1. Employment Attractiveness

This parameter gauges the attractiveness of the jobs available in the sector to OSY due to various factors such as nature of jobs and wages as well as other subjective elements such as perception.

2. Capacity Building

This parameter assesses ability of the upskilling and capacity building institutions and infrastructure to provide meaningful interventions for the OSY job market for the sector in question.

This parameter assesses the function of ecosystem elements such as government policy, private sector involvement, impact of social enterprises and market linkages that contributes to the overall skilling and employment.

3. Ecosystem Enablers

This parameter analyses an inclusive growth perspective within the sector, including decent work criteria, human rights, disability inclusion, and diversity.

4. Growth Parameters

Sector Spotlight – Sustainable Agriculture & Forestry

Overview

- The agriculture sector accounts for 22% of the total employment in 2022. Growing perennial crops generated the most employment, accounting for 38.5 percent (or 59,644 workers) of the total industry employment based on the 2018 Census of Philippine Business and Industry.
- **Capacity Building:** There is a need to restructure existing TVET programs to correspond with high-revenue-generating crops while also incorporating work immersion modules to provide students with hands-on experience in the sector. There is also a need for increased advocacy for income diversification strategies, especially the promotion of agritourism, which can serve the dual purpose of raising sectoral awareness along with offering support to farmers during periods of low market demand.
- **Employment Attractiveness:** Despite traditional forms of agriculture slowly giving way to sustainable methods of production, the agricultural sector remains relatively unattractive to young individuals due to their perception of labor-intensive tasks. However, it is important to increase awareness about technological advancements like farm mechanization and the role of sustainable agriculture in promoting food security as well as climate adaptation.
- **Ecosystem Enablers:** There is a need for collaboration between the private sector and government organizations to advance the training in sustainable agriculture. Youth actively engaged in farming should also participate in knowledge exchange hubs to share best practices. Social enterprises can also play a key role in helping youth involved in farming gain access to markets, especially for goods produced under Global GAP or organic certifications.
- **Inclusive Growth Parameters:** There exists limited inclusion for people with disabilities, primarily due to the physically intensive nature of the work. There is also a concerning prevalence of child labor resulting from a shortage of available adult labor, presenting a potential opportunity for out-of-school youth (OSY) to become involved.

Sector Performance

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 2: Potential Jobs in Sustainable Agriculture & Forestry

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Animal Husbandry	Medium-term on-the-job training or vocational training	Contractual/ Permanent	Producing agricultural products certified by Organic, RA, Global GAP	Organic Agriculture Production NC II
Farmer (fruit, vegetable, root crops)	Medium-term on-the-job training or vocational training	Contractual/ Permanent		Agricultural Crops Production NC II; Organic Agriculture Production NC II
Agripreneur/Farm Manager	Long-term on-the-job training or vocational training	Contractual/ Permanent		Agro-Entrepreneurship NC II
Aquaponics Food Production	Medium-term on-the-job training or vocational training	Contractual/ Permanent		Aquaponic Food Production
Hydroponics Food Production	Medium-term on-the-job training	Contractual/ Permanent		N/A
Horticulturist	Medium-term on-the-job training	Contractual/ Permanent		N/A

Capacity Building



- **Requirement of consolidated offerings for agripreneurs on technology and capacity development:** Key courses for sustainable agriculture training, as identified by farming enterprises, include financial literacy, business management, farm management, farmer associations, business registration, and KADIWA entrepreneurship.
- **Scholarships for TVET courses:** By means such as the PAFSE initiative, TESDA ought to give precedence to granting scholarships and assistance to agricultural schools that readily meet the qualifications demanded by agro-industries.¹³



- **Upgrading courses beneficial to entrepreneurs:** TESDA should persist in its efforts to offer pertinent, streamlined, and successful entrepreneurship education within the agribusiness domain while also considering the potential for tailoring leadership and business courses to align with the specific needs of the agribusiness sector.
- **Promote agritourism for income diversification:** LGUs are urged to promote agritourism as it serves as a valuable strategy for filling income gaps during periods of low market demand and generating higher profit margins.

¹³ Technical Education and Skills Development Authority. "Developing Philippine Agriculture through Agribusiness," December 2018. https://tesda.gov.ph/Uploads/File/Planning/Planning%202019/LMIR%20on%20Developing%20Philippine%20Agriculture%20through%20Agribusiness_Web%20Format.pdf.



- **Lack of work immersion aspect in TESDA courses:** TESDA’s existing courses need to have a ‘work immersion’ module where students can work together with agriculture and forestry enterprises to understand the occupational requirements for farm management, sustainable agriculture, farm mechanization innovations, and smart agriculture. In our interviews, we heard that “ *Youth have to be taught how to embed sustainability in all farming practices. Certification schemes like Global GAP are one of the pathways. However, these are sometimes expensive, so training programs have to incorporate these methodologies.* ”
- **Alignment with crops of high cash value:** TESDA should realign the delivery of its agricultural qualifications to align with the nation’s highest-valued crops in terms of production output, such as rice, sugar, coconut, and bananas.

Employment Attractiveness

- **Major Crops:** The main crops cultivated for local consumption are rice, corn, and sweet potatoes. Crops with high export values (coconut/pineapple) have also seen a significant rise in production.
- **Key Sectors:** Sectors such as urban farming, hydroponics & aquaponics sectors are also gaining traction along with the poultry industry, which has been a key driver of growth for the past ten years.
- **Rise in Organic Farming:** There has been an increasing trend among farmers to move towards Organic & Global GAP certification schemes.



- **Lack of awareness of advancements in agriculture:** OSYs have a lack of awareness of advancements in agriculture (including mechanization), and they still believe that agricultural work is labor-heavy with low payoffs.
- **Lack of awareness of jobs within sustainable agriculture:** OSYs lack awareness of sustainable agriculture jobs and diverse activities (such as fertilizer production, dairy management, integrated pest management, etc.), hindering their potential as agripreneurs.



- **Working with integrated farms and farming enterprises:** There are opportunities to work with integrated farming enterprises in regions like Davao City, Quezon City, and Angeles City. These enterprises not only help grow sustainable agriculture skills but also encourage OSY to grow and sell their own produce and adopt agriculture as a means of sustainable employment.
- **Learning the different aspects of sustainable agriculture:** OSY can contribute to sustainable agriculture by exploring diverse roles like developing fertilizers, pest management, and farm management services. We also heard in our interviews that “ *One challenge farmers are all facing is climate change and how to grow crops, vegetables, and high-value crops in a way that can be resilient. This will ensure higher incomes and also encourage more youth to enter the sector and become self-sufficient.* ”



Ecosystem Enablers



- **Need for scaling up Rural Improvement Clubs:** There is a need to set up more Rural Improvement Clubs like those in the Cagayan region to exchange knowledge on best practices and promote agripreneurship.
- **Market access for OSY farmers:** Improved access to market information and training programs is crucial for OSY involved in farming, as it provides them with valuable references for price negotiations and enhances their understanding of market opportunities.



- **Sustainable agriculture TVET collaboration:** Effective collaboration between the private sector, the Department of Agriculture, TESDA, and CHED is essential for advancing TVET in sustainable agriculture. This collaboration should focus on aligning education, research, and extension services with industry needs, promoting efficient resource management, and reducing carbon emissions on farms.



- **Improving market linkages for farmers:** Social enterprises can help youth involved in farming with access to markets, especially for goods produced under Global GAP or organic certifications.
- **Urban agriculture programs to involve youth:** Youth-led urban agriculture programs foster self-sufficiency, entrepreneurship, and interest in sustainable farming as a viable career option. One such program is from the Center for Urban Farming in Quezon City, which trains youth in hydroponics, compost making, production, and culturing of Black Soldier Fly as poultry feeds.

Inclusive Growth Parameters

- **Low income from agriculture:** Agriculture income is declining for farmers who are unable to transition to sustainable and resilient systems. This is deterring youth from engaging in the sector due to a lack of knowledge on how to build resilient agricultural systems or strong market linkages.

- **Prevalence of child labor:** Despite government efforts, child labor is still prevalent in the agriculture sector and registered the proportion of working children in 2020 at 47.4%. This is due to a lack of labor availability, which could be countered by engaging more youth in the sector.



- **Lack of inclusion for persons with disability:** PWD inclusion in agriculture lags due to labor-intensive jobs. However, by providing greater access to capital, PWD agripreneurs can establish and manage their own farms by hiring additional labor, thereby creating income opportunities.

- **Focus on inclusion for indigenous groups is low:** While the private sector is increasingly focused on social inclusion, there is limited evidence of significant CSR programs or trends that prioritize the inclusion of indigenous groups.



- **Awarding female agripreneurs:** There is a need to promote awards for female agripreneurs by the LGUs and state agencies as these awards help them debunk their perceived capability limitations and open opportunities to be more engaged and become entrepreneurial. For instance, the Search for Outstanding Rural Women (SOWR) by the Department of Agriculture (DA).



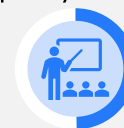
Sector Spotlight – Green Construction

Overview

Sector Performance

- Capacity Building:** The challenges in the green construction sector include outdated TVET courses necessitating on-the-job training and the demand for tertiary education in roles like project management, design, and site operation within the private sector. These factors affect skill development and career opportunities in the field.
- Employment Attractiveness:** Most of the roles available in this sector pertain to masonry, carpentry, electrical maintenance, etc., which are well regarded in rural areas but have low desirability in urban settings. IFC also projects that the overall percentage of new green buildings is expected to increase by 2% to 5% steadily every year, at least until 2030¹⁴. This should create more jobs for the youth to participate in.
- Ecosystem Enablers:** Private sector participation is currently restricted to companies that have a corporate foundation that focuses on providing livelihood to OSYs. As a part of various programs, scholarships are provided, but there is a need to amplify the government and other corporations' financing for these scholarships to attract more OSY into the sector.
- Inclusive Growth Parameters:** Employee health and safety provisions remain a significant concern within the sector. While there is a notable increase in efforts to integrate women and individuals of various gender identities into the construction workforce, the intrinsic nature of the job makes it less accommodating for persons with disabilities.

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 3: Potential Jobs in Green Construction

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
HVAC mechanics and installers	Vocational training	Permanent/ Contractual	Ensuring energy efficiency in green buildings	RAC-PACU/CRE Servicing NC II; RAC-PACU/CRE Servicing NC III

¹⁴ International Finance Corporation. "Green Buildings Market Intelligence Philippines Profile," April 2022. <https://edgebuildings.com/wp-content/uploads/2022/04/Philippines-Green-Building-Market-Intelligence-EXPORT.pdf>.

Masonry workers	Short-term on-the-job training or vocational training	Contractual	Engaged in green building materials manufacture	Masonry NC II
Project managers and project site supervisors	Tertiary education degree	Permanent/Contractual	Contributing to green building design	N/A
Project designers	Tertiary education degree	Permanent	Contributing to green building design	N/A
Insulation Workers	Medium-term on-the-job training or vocational training	Contractual	Ensuring energy efficiency in green buildings	Masonry NCII; Electrical Installation and Maintenance NC II
Solar Photovoltaic Installers	Medium-term on-the-job training or vocational training	Contractual	Facilitating RE systems in green buildings	Photovoltaic Systems Installation NC II
Cement Masons & Concrete Finishers	Short-term on-the-job training	Contractual	Engaged in sustainable cement mixing	Masonry NC II

Capacity Building



- **Community awareness and mobilization need to be increased:** Enhanced community-level information dissemination is crucial to counteract negative perceptions of construction jobs and showcase how experience in the field can serve as a pathway to a better career. In our interviews, we heard that “*Parents and teachers tend to discourage OSY from pursuing construction and green building projects. They would always tell me that there is no future out there. Given the culture in the Philippines, the influence of the family really plays a very significant role in the decisions of OSY.*”
- **Relying merely on digital tools to attract youth in large numbers is insufficient:** Social media, through an active medium for circulating information, should be supplemented with on-ground efforts for awareness building.



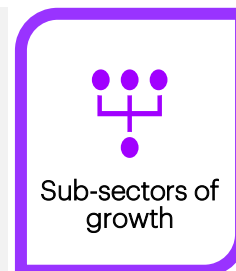
- **OSYs lack confidence in business management:** The lack of business management expertise is a deterrent for many OSYs to start their own entrepreneurial ventures in the sector as contractors.
- **Private sector programs to boost entrepreneurial knowledge:** Mentoring programs enable youth to inculcate a mindset for gaining skills like masonry carpentry/electrical maintenance, which can be used for community rehabilitation in case of disasters and serve as a good source of income for OSY as well.



- **Obsolescence of TVET courses:** Green construction courses available from TESDA (like Masonry NC II, Carpentry NC II, Electrical Installation and Maintenance NC II) do not cover all aspects of modern tools and techniques used by the private sector, hence increasing the relevance of on-the-job training.
- **Requirement of tertiary education:** There is a need for tertiary education as the sought-after roles available within the private sector related to project management, project design, and project site operation mandates having tertiary education degrees.

Employment Attractiveness

- **Green building sector:** The green building sector generated 355M Philippine pesos in cost savings within the first three years of green building implementation.
- **Key sub-sectors:** The Green Construction sector is growing moderately across its sub-sectors (transport, warehousing, healthcare), with the commercial sector growing faster than residential.
- **Key centers of growth:** Manila City, Cebu City, Davao City, Cagayan de Oro City, and Legazpi City.



- **Lack of desirability of roles in Urban areas:** Jobs in the sector without a professional degree, which is mostly in masonry, are not seen as lucrative in urban areas. We heard in our interviews that “I think the perception of people towards the sector is very important because people are not aware of the opportunities that will be made available to people who acquire skills. The urban youth think construction jobs are difficult, dangerous, and dirty.”
- **Positive perception in rural areas:** The jobs in masonry, carpentry, or electrical maintenance are considered to be a sign of ‘self-reliance’ and of utility to the larger community in rural areas, due to which construction companies prefer recruiting from rural areas.



- **Roles available in green buildings:** Roles available currently in Green buildings are restricted to masonry, machine (HVAC, solar panels) installation and repair, and clerical jobs (within green construction).
- **Roles beyond masonry are growing:** Roles in other parts of the green construction value chain are growing. For example, many companies have adopted vertically integrated systems, leading them to commence in-house manufacturing of autoclaved aerated concrete.



Ecosystem Enablers



- **Lack of focus towards sector job generation:** Despite the investment in programs like “Build, Build, Build,” there is still scope for the central government to provide incentives, e.g., scholarships or startup finance, to encourage OSY to enroll in construction-oriented programs.
- **Slow adaption of regulation and policies to industry best practices:** The state agencies responsible for employment and training are lagging in keeping up with the latest industry practices in the field of green building. A few improvements have been seen as well. For example, in 2014, Mandaluyong City implemented its Green Building regulations, which require new buildings to incorporate high-efficiency practices related to energy and water usage. These practices include rainwater harvesting and the use of efficient air conditioning, among others.



Private sector programs

- **Lack of private sector participation:** Private sector participation is still low, and only construction companies with a corporate foundation are investing in livelihoods and OSY integration.
- **Administration skills are being reinforced:** Some programs by organizations like Primary Group offer scholarships and training programs focusing on project administration and skills related to technology used in green buildings.



Social Enterprises

- **Insufficient funding available for scholarships:** Support from corporations in terms of providing scholarships is low. Social enterprises can connect OSY to donor programs or corporate foundations for financial support.
- **Fostering areas of growth:** Not-for-profit organizations like Habitat for Humanity Philippines Solar Energy Alliance can play a role in mobilizing OSY to spread awareness about renewable energy and disaster resilience within Green Construction.

Inclusive Growth Parameters

- **Worker's safety and risk on construction sites:** Worker safety poses a risk at construction sites, and in the event of accidents, there are instances where fair compensation is not provided, and the litigation process can be expensive.
- **Social security provision for workers:** There is a need for social security measures to support workers displaced due to natural disasters and emergency situations linked to climate change.



Favorable work criteria

- **Lack of inclusion for persons with disability:** OSY with disability are restricted to support functions only, like warehouse jobs or clerical roles, due to the inherent risk involved due to the nature of other jobs.
- **Focus on inclusion for indigenous groups is low:** While the private sector is increasingly focused on social inclusion, there is limited evidence of significant CSR programs or trends that prioritize the inclusion of indigenous groups.



Social inclusion

- **Sensitizing project sites for inclusion of other genders:** While LGBTQ+ employees are still in the minority, private organizations are taking steps to foster a culture of respect for workers from other genders, especially on project sites.
- **Lack of women in the workforce:** Despite ongoing efforts, women still form a minor fraction of the workforce (less than 10%). Private sector companies with a focus on inclusion and diversity are trying to encourage women to build skills in construction.



Diversity and gender inclusion

Sector Spotlight – Sustainable Fisheries and Aquaculture

Overview

- Capacity Building:** TESDA centers are primarily concentrated in urban areas, and the outreach of information in remote regions relies on the efforts of local communities. Often, the training programs offered exclusively focus on specific sectors like construction and manufacturing. It is crucial to align out-of-school youth (OSY) with TESDA courses that match their interests and preferences to ensure efficient use of available resources.
- Employment Attractiveness:** Despite traditional forms of fishery slowly giving way to sustainable methods of production, it is still not a key sector of focus for youth due to the perception of labor-intensive work associated with the jobs. However, there is a pressing need for increased accessibility to technological advancements, such as climate-smart aquaculture, to promote food security and climate adaptation.
- Ecosystem Enablers:** Discrete programs and initiatives by the central government, LGUs, and social enterprises are slowly encouraging youth to participate in aquaculture as well as educating them on sustainable fishing practices like handline and line gear fishing, organic aquaculture & aquaculture. There is a need for the private sector to collaborate with government enterprises to enhance the development of training programs focused on sustainable fishing. Social enterprises have the potential to support young individuals involved in fishing by facilitating their entry into the market.
- Inclusive Growth Parameters:** There has been a slight growth in focus on the inclusion of women and the rights of indigenous groups into the fishery workforce. However, PWD inclusion is still lagging due to the labor-intensive nature of work. At an overall level, the sector still faces challenges from low-income and child labor.

Sector Performance

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 4: Potential Jobs in Sustainable Fisheries and Aquaculture

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Aquaculture Farm caretaker/ aid	Short-term training or vocational course	Permanent/ Contractual	Contributing directly to a fishery project	Aquaculture NC II
Fishermen	Short-term on-the-job training or vocational	Contractual/ Permanent		Fish Capture NCII
Vessel Operator	Vocational Course	Permanent		Fish port operations NC II,

Capacity Building



- **Aligning OSY with suitable TESDA courses:** It is important to match OSY with TESDA courses based on their interests and preferences to ensure the effective utilization of allocated resources.
- **Enhancing skills profiling for youth employment:** Profiling the required skills and competencies of companies within the region can help youth identify direct employment opportunities and facilitate targeted capacity-building initiatives to develop relevant technical skills.



- **Promotion of climate-resilient courses for entrepreneurs:** TESDA's entrepreneurship education in aquaculture supports the growth of ocean farming, reduces resource pressure, and offers climate resilience. Controlled growing conditions in aquaculture practices contribute to lower greenhouse gas emissions compared to land-based livestock.
- **Supporting startup and existing farms:** The Department of Agriculture's (DA) KAYA program should continue providing loans at zero interest to support the start-up and existing farms. Also, the Business Incubation in Agriculture platform offers assistance to business incubators MSEs/ FCAs in their operations.



- **Increase in accessibility of TESDA training and assessment centers:** The accessibility of TESDA centers is limited to those within the urban areas, and dissemination of information in far-flung areas is dependent on barangay efforts. One of our interviews mentioned that *"I attended a 2-day workshop in TESDA where they presented the regional priorities for Zamboanga City, such as Carpentry and two other courses. I mentioned that it was questionable because it is a Fishing and Manufacturing industry-driven region. What is the implication of these priority skills? These (carpentry) are the skills that they will get funding for, and people would also flock to that industry. And it will already be a mismatch for the demands of the region."*
- **Promotion of training and mentoring in agri-business:** The Department of Agriculture's (DA) MAYA program promotes mentoring and training in Agri fishery business by offering 6-month internship programs aimed at developing a skilled young workforce for future leadership in the Department of Agriculture (DA) and LGUs.

Employment Attractiveness

- **Key sectors:** Aquaculture is growing much faster than capture fisheries, and most of the production comes from the farming of seaweed, milkfish, shrimp, carp, oysters, and mussels.
- **Other areas of growth:** The Philippines' In-Pond Raceway System (IPRS) with U.S soy nutrient-dense feedstuff allows aqua farmers to use the same amount of water to produce more fish, significantly increasing a pond's production potential while lowering per unit production costs, reducing risk, and improving yields. Such interventions could make this sector attractive and could create new areas of opportunities for OSYs



- **Lack of interest in youth:** Participation of youth is usually present on a survival basis, helping their family gain income. Fishing communities are generally isolated and have limited access to education, and they often engage in deep fishing and fish processing at an early age.
- **Need for technological advancements:** The perception among youth is that manual labor is associated with hard work and limited financial rewards. To change this mindset, it is crucial to modernize and make sustainable equipment and facilities readily available through technological advancements. We heard in one of our interviews that, *"Our technology is grounded on data but not yet grounded into science. By science, I mean what the impact of global warming and climate change really is. The fishing sector can grow if we can marry the technology part with the science and business part. Now, there's no longer a season; at any given time when our fishermen are in the middle of the oceans, suddenly there will be a storm."*



- **Jobs in marine manufacturing & aquaculture farms:** OSY can work with private corporations in regions like Zamboanga City, General Santos City, Navotas City, and Davao City and engage in small-scale fisheries.
- **Aspects of sustainable fishery:** The roles available are not restricted to fish capture but are also present in vessel operations, machine operations, welding, fish handling, quality assurance and inspection, and developing climate-smart fishing techniques. The government also provides training to nurture sustainable aquaculture skills and encourages OSY to grow and sell their own produce as a means of sustainable employment.



Ecosystem Enablers



- **Strengthening policies:** There is a need to strengthen policies to keep illegal activities in check. Programs such as Malinis at Masaganang Karagatan support the prevention of illegal, unreported, and unregulated fishing by rewarding outstanding coastal communities and providing them with fisheries livelihood projects.
- **Social protection of fishermen:** The Department of Social Welfare and Development (DSWD) has collaborated with the Department of Agriculture - Bureau of Fisheries and Aquatic Resources (DA-BAFR) to enhance a social protection program for fisherfolk and their families. This program aims to provide support during adverse weather conditions that restrict fishing activities, mitigating the impact on their income.



- **Need to collaborate closely with DOA, TESDA, and CHED:** The private sector needs to collaborate with DOA, TESDA, and CHED to help in the evolution of TVET for sustainable fishing and technical roles within the fishing industry. TVET programs need to work together with the private sector to focus on sustainable resource management, energy efficiency, and reduced carbon emissions from aqua farm activities. This would be crucial to train OSY in sustainable fishery pathways.



- **Improving direct market linkages for fisherfolks:** Social enterprises can empower youth engaged in fishing by providing them with market access. In aquaculture and capture fisheries, the focus is often on production, while marketing and distribution are left to brokers or intermediaries. These intermediaries not only take a commission but also have the authority to set prices, leaving fisherfolks with minimal profits and a limited share in the value chain.

Inclusive Growth Parameters

- **Low income from fisheries:** Small-scale Fisherfolks are among the poorest and most marginalized people in the country due to a lack of a clear-cut agenda for the sector. This lack of income prevents them from transitioning to sustainable and resilient systems, especially due to the Philippines being prone to climate disasters, which in turn deters youth from engaging in the sector.
- **Prevalence of child labor:** In the most economically disadvantaged regions of the country, there is a greater motivation for families to compel their children to engage in labor to fulfill the daily necessities of the household rather than allowing the children to pursue their education.



- **Lack of inclusion for people with disabilities:** PWD inclusion lags due to labor-intensive jobs. However, by providing greater access to capital, PWD entrepreneurs can establish and manage their own ventures by hiring additional labor, thereby creating income opportunities.
- **Lack of Inclusion of Indigenous people:** They face vulnerability to external threats and struggle with access to sustainable resources and territorial rights. Inclusion in fisheries planning and management is essential to recognize their rights and safeguard their interests.



- **Need for inclusion of women in leadership roles:** Gender inequality in leadership and decision-making persists, with women's resource use often overlooked. However, women play a crucial role in managing vital ecosystems like mangroves and seagrass beds, which serve as breeding grounds for valuable fish species.
- **Need for recognition:** Women in select Indigenous communities are active participants in the entire value chain – from fishing, gleaning, and picking to selling and trading. Despite this contribution, women are rarely involved or tapped in important conversations in the community.



Sector Spotlight – Green Manufacturing

Overview

Sector Performance

- **Capacity Building:** While TESDA offers courses across the sub-sectors, most of these are short in duration (less than a year), outdated, and lack the practical aspect of engineering and manufacturing. Also, in order to increase automation and artificial intelligence adoption in the private sector, it is crucial for out-of-school youth (OSY) to acquire green skills through training in order to stay competitive in the job market.
- **Employment Attractiveness:** Out-of-school youth (OSY) exhibit a lack of interest in shop floor work and machinery due to their limited knowledge of tools and technology. Their interest in the green manufacturing sector primarily stems from their desire to reduce poverty, and thus, they do not undergo any intensive training. Employers emphasize the need for OSY to build skills in digital, critical thinking, etc., to stay relevant and earn high-skill positions.
- **Ecosystem Enablers:** Private sector participation in integrating OSY into mainstream employment within green manufacturing is typically low. This can be attributed to the pattern where OSY, after receiving extensive training, leave their jobs to pursue opportunities overseas. With limited foreign investment, government efforts for sectoral productivity also rely on LGU interventions.
- **Inclusive Growth Parameters:** While there is an increasing focus on engaging more women on the shop floor, health and safety are still important concerns. Therefore, environmental risk management and ESG performance must be incorporated into standard industry practices. Once these practices are widely embraced, they will facilitate the growth of the sector and offer more opportunities for every group of individuals.

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

The key sub-sectors showing green growth are green packaging manufacturing, chemicals, and food manufacturing. For the textiles sector, there is a trend to move towards the usage of banana fibers, abaca, etc., as well. For food manufacturing, the key greening trends are around using machinery that is less energy-intensive and reducing waste in the supply chains. A few other green jobs available for OSY are maintenance mechanics, production workers, industrial automation technicians, chemical process operators, etc.

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 5: Potential Jobs in Green Manufacturing

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Chemical process operator	Vocational training	Permanent	Engaged in the production of water-based paint, organic fertilizers, etc.	Chemical Process Operations NC III
Plant maintenance mechanic	Medium-term on-the-job training or vocational training	Permanent/ Contractual	Contributing to energy efficiency systems	Plant Maintenance NC I
Packaging production worker	Medium-term on-the-job training or vocational training	Permanent	Engaged in green packaging production systems	Food/Fish Processing NC III
HVAC mechanics and installers	Vocational training	Contractual	Contributing to energy efficiency systems	RAC-PACU/CRE Servicing NC II; RAC-PACU/CRE Servicing NC III
Apparel production manager	Long-term on-the-job training combined with vocational training	Permanent	Engaged in apparel production from sustainable materials	Fashion Design (Apparel) NC III, Dressmaking NC II
Industrial automation technician	Medium-term on-the-job training combined with vocational training	Permanent	Contributing to energy efficiency systems	Mechatronics Servicing NC II
Instrumentation and control technician	Medium-term on-the-job training combined with vocational training	Permanent	Contributing to energy efficiency systems	Instrumentation and Control Servicing NC II

Capacity Building



- **A gap in awareness for stipend programs:** Discrete manufacturing enterprises are working with regional PESO offices (e.g., Manila, Valenzuela) to start training programs with stipends. However, OSY is not well aware of such programs.
- **Slow adaptation of government agencies to industry practices:** State agencies involved in employment and training seem to lack behind the overall industry. The private sector seems to now be working more closely with TESDA to modernize the training programs.



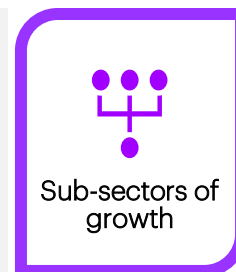
- **Lack of financing for ventures:** MSMEs have difficulty accessing finance due to limited seed funds/grants along with lack of collateral and inability to comply with requirements of formal lending institutions, exacerbated by the lack of a credit risk database for MSMEs.
- **Lack of business continuity planning:** MSMEs lack digital readiness and business continuity plans, exposing vulnerability to supply chain disruptions



- **Lack of practical experience:** While TESDA offers courses across the sub-sectors, most of these are short in duration (less than a year) and do not provide practical experience in handling machinery and heavy equipment.
- **Green skills for the automation era:** In light of the increasing automation and artificial intelligence adoption in the private sector, it is crucial for out-of-school youth (OSY) to acquire green skills in order to stay competitive in the job market, as low-skilled jobs are gradually phased out.

Employment Attractiveness

- **Key sub-sectors:** The key sub-sectors showing green growth are green packaging manufacturing, chemicals, and food manufacturing. For the textiles sector, there is a trend to move towards the usage of banana fibers, abaca, etc., as well. For food manufacturing, the key greening trends are around using machinery that is less energy-intensive and reducing waste in the supply chains. A few other green jobs available for OSY are maintenance mechanics, production workers, industrial automation technicians, chemical process operators, etc.
- **OSY opportunities:** Opportunities for OSY are in eco-friendly packaging manufacturing (paper cups, paper bowls, etc.) and chemicals (for products that are eco-labeled or certified by Green Choice Philippines). Moreover, the food manufacturing and packaging sector involves OSY on its shop floors and assembly lines.



- **Lack of desirability in available roles:** While some companies are moving towards integrating OSY into mainstream employment, OSY is showing a distinct lack of interest in working on the shop floor and handling heavy machinery. Most of this disinterest stems from a lack of knowledge about the actual tools and technology being used.
- **Reduction in poverty as primary interest:** OSY primarily enters green manufacturing jobs as a means of poverty alleviation, hence ending up in menial jobs without spending time undergoing any intensive training. We also heard in our interviews that “OSY primarily gets into employment to make money to get *out of poverty*. *They do it without any training and, hence, end up only in blue-collar roles. This eventually does not help them get interested in the sector as a whole.*”



- **Restriction of job to the shop floor or to plants:** In the green sub-sectors (food manufacturing, packaging, chemicals, textiles), roles available for OSY are for machine operators, maintenance workers, electrical technicians, supervisors, and, at times, sales and service staff.
- **Changes in required skills:** According to the employers, OSY must build skills in digital/ICT, business management, critical thinking, and complex problem-solving to earn high-skill positions in the future.



Ecosystem Enablers



- **Limited government initiatives:** Government initiatives to enhance sectoral productivity and a green transition remain fragmented and dependent on LGU interventions. Foreign participation is also restricted to sub-sectors like automotives or chemicals, thus limiting investment flow.
- **Strengthening business resilience to maintain job generation:** Since the Philippines is highly vulnerable to climate change risks, there is a need to strengthen business resilience to maintain job generation and attract foreign investors



- **Lack of private sector participation:** Despite manufacturing's large contribution to the GDP, interest from private sector organizations in integrating OSY is low. Involving MSMEs in training and employing OSY across the different regions could be helpful.
- **OSY attrition:** One of the reasons for the lack of private sector participation is that some OSYs generally quit after a training program with a company to accept overseas roles with better benefits and career growth.



- **Need for higher collaboration with key industry actors for green jobs generation:** Industry associations and social enterprises need support from companies to strengthen their capacity for green manufacturing and to ensure high resource efficiency. Enhancing the competitiveness of organizations can be achieved by promoting international product and process standards, such as ISO standards, through information, training, and incentives.

Inclusive Growth Parameters

- **Human Rights and Workplace Safety:** Certain prominent smartphone and laptop brands that source products from the Philippines exhibit deficiencies in their human rights processes, particularly concerning workplace safety standards.
- **Environmental risk and performance management must be mainstreamed:** To meet the financial and organizational constraints of SMEs, adequate systems for reducing environmental risks and Environmental, Social, and Governance (ESG) performance should be mainstreamed by state agencies and industry associations.



- **Lack of inclusion for persons with disability:** OSY with a disability are restricted to support functions only, like warehouse jobs or clerical roles, due to the inherent risk involved due to the nature of other jobs like those at shop floors.
- **Focus on inclusion for indigenous groups is low:** While the private sector is increasingly focused on social inclusion, including women's employment, there is limited evidence of significant programs or trends that prioritize the inclusion of indigenous groups.



- **Increase in women's employment:** There has been a gradual increase in women's participation, especially in MSMEs. Enterprises are encouraging female youth to undergo training and enroll for jobs as machine operators, shop floor supervisors, and team leaders. In our interviews, we heard that *"We strongly encourage more women to come into the sector. Green Manufacturing has primarily been male-dominated, so it is a challenging and exciting job setting where women can become successful if they have the passion and the right mentoring and training."*
- **Lack of workplace safety for all genders:** Ensuring workplace safety is still a concern. Female factory workers face severe health risks from exposure to hazardous byproducts in the chemicals industry.



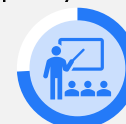
Sector Spotlight – Renewable Energy

Overview

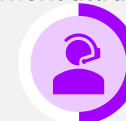
- It consists of energy generation, transmission, or storage technology that has low or zero carbon emissions. This can include solar energy, wind energy, bioenergy, hydropower, geothermal energy, marine energy, or any other renewable energy source.
- **Capacity Building:** The key issue within capacity building is the lack of TVET offerings that are oriented exclusively to the Renewable Energy sub-sectors. Most of the TVETs that renewable energy workers go through are aligned only with construction or manufacturing roles. The general knowledge of sustainability topics and renewable energy in relation to the climate agenda is low, thereby attracting fewer youth.
- **Employment Attractiveness:** The National Renewable Energy Program (NREP) 2020-2040 is setting a target of a 35% share of Renewable Energy in the power generation mix by 2030 and a 50% share by 2040, which means that there would be more jobs related to Renewable Energy jobs in the future.¹⁵ However, one of the challenges lies in the lack of knowledge of the technical aspects of renewable energy, which currently makes it less attractive to OSYs. However, with proper guidance and direction, OSYs have the potential for sustained involvement in this sector, considering the long-term nature of renewable energy projects.
- **Ecosystem Enablers:** Some private corporations are working towards providing training to young individuals to prepare them for future employment. The government is also offering fiscal incentives to expedite the growth of renewable energy initiatives. However, it is essential to extend the focus to the rural communities, enabling collaboration with the private sector on renewable energy solutions while also facilitating youth participation.
- **Inclusive Growth Parameters:** There has been progress in increasing the participation of women in science and technical roles. However, OSYs with disability are still restricted to clerical jobs in corporate offices due to the inherent risk involved in other jobs such as masonry, solar panel installation, electrical equipment handling, etc.

Sector Performance

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



¹⁵ Alexander Chipman Koty. "Philippines Opens Renewable Energy to Full Foreign Ownership." ASEAN Briefing, January 11, 2023. <https://www.aseanbriefing.com/news/philippines-opens-renewable-energy-to-full-foreign-ownership/#:~:text=According%20to%20the%20Philippines'%20National,more%20accessible%20to%20the%20public>

Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 6: Potential Jobs in Renewable Energy

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Solar Assembly/Installer	Short-term on-the-job training	Contractual	Contributing directly to a renewable energy project	Solar 101 Seminar; Solar 202 Workshop; Solar Professional Orientation Training
Masonry Workers	Medium-term on-the-job training or vocational training	Contractual		Masonry NC II
Electricians	Long-term on-the-job training or vocational training	Contractual		Electrical Installation and Maintenance NCII
Project managers and project site supervisors	Tertiary education degree	Contractual/Permanent		N/A
Project designers	Tertiary education degree	Contractual/Permanent		N/A
Insulation Workers	Medium-term on-the-job training or vocational training	Contractual		Masonry NCII; Electrical Installation and Maintenance NC II
Solar Photovoltaic Installers		Contractual		Photovoltaic Systems Installation NC II
Inventory Attendant	Vocational Training	Contractual		Warehousing Services NCII
Roofers	Short-term on-the-job training	Contractual		Masonry NC II
Welders	Vocational training	Contractual		Gas Metal Arc Welding (GMAW) NC II
Other Construction Machinery Operators	Vocational training	Contractual		Machining NC II

Capacity Building



- **Awareness about opportunities in Renewable Energy projects has to be increased:** The renewable energy sector offers significant employment opportunities, with an average of 3000-5000 youth employed during project initiation. Awareness and collaboration between the private sector and LGU employment divisions are crucial for highlighting accessible low-skill jobs.
- **Awareness about the role of Renewable Energy in climate mitigation:** OSY prioritizes poverty reduction, leading to limited awareness of renewable energy's climate impact and low interest in climate initiatives.



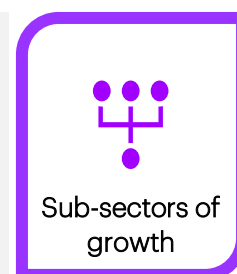
- **Leveraging the decentralization of Renewable Energy sub-sectors:** OSY can leverage the decentralization of Renewable Energy subsectors to operate as independent service providers. They can undergo vocational training in discrete courses such as solar panel installation. They can then act as local installers of rooftop panels for a small region or a residential area and work in conjunction with a private sector organization like the Philippines Solar and Storage Energy Alliance to obtain the goods.



- **Lack of training catering to the Renewable Energy sub-sectors:** There is a need for TESDA to develop courses catering specifically to the sub-sectors in renewable energy due to a lack of training programs and providers.
- **Complex logistics in obtaining training:** There is a lack of testing and certification opportunities from TESDA across regions. For example, if a worker has to obtain a certification for a welding course, he has to travel to Cebu for testing while the project site is in Mindanao.

Employment Attractiveness

- **State of Renewable Energy:** Currently, Renewable Energy only contributes ~20% to the total energy mix, and among this, geothermal comprises the biggest share of 53.2% of the total renewable energy supply, followed by biomass at 33.3% and hydro at 12.1%.¹⁶ The National Renewable Energy Program (NREP) seeks to increase the country's RE-based capacity to an estimated 15,304 MW by the year 2030, almost triple its 2010 level.¹⁷
- **Job potential in Renewable Energy:** IEEFA estimates that the Philippines will generate some 350,177 renewable energy jobs if all capacity in the current pipeline is successfully deployed by 2030.¹⁸ There is huge potential, specifically in solar power, as the costs of solar power are getting cheaper, and it will eventually be more accessible, leading to more jobs.



¹⁶ Executive Summary | Department of Energy Philippines. "Executive Summary | Department of Energy Philippines," n.d. <https://www.doe.gov.ph/executive-summary>.

¹⁷ NREP. "Renewable Energy Plans and Programs (2011-2030)," n.d. https://policy.asiapacificenergy.org/sites/default/files/NREP_red.pdf.

¹⁸ Hannah Alcoseba Fernandez. "How the Philippines' Low-Carbon Plans May Fuel a Switch to Green Jobs." Eco-Business, April 30, 2021. <https://www.eco-business.com/news/how-the-philippines-low-carbon-plans-may-fuel-a-switch-to-green-jobs/>.

- **Lack of awareness of the Renewable Energy sector:** Renewable Energy is not yet a top-of-the-mind sector for OSY beyond masonry/electrical jobs. This can be attributed to a lack of knowledge of how Renewable Energy contributes to climate mitigation efforts. We heard in our interviews that *“With more financing, renewables will be the big thing in the next ten years, especially due to high cost of power generation from fossil fuels. Once more jobs are generated in the sector and OSY knows more about climate change, the interest will grow.”*
- **Limited understanding of the Renewable Energy sector:** Among the OSY, there is a lack of understanding of how technical aspects of renewable energy work. There is a potential to develop opportunities in sectors like solar technology, which are simpler and do not require an advanced level of education.
- **Jobs are primarily contractual in nature:** Various entry-level opportunities for manual labor are available for OSY, such as solar panel installers, electricians, and instrumentation technicians. Despite being contractual in nature, since renewable energy projects are not short-term in nature, these livelihood opportunities have the potential to last between 1 and 3 years. During this time, OSYs are encouraged to enroll in TVET or tertiary education courses to prepare themselves for other jobs after their contract, which could be more permanent in nature (versus the current contractual opportunities). We also heard in our interviews that *“High levels of education are not needed to get into the renewables sector right now. Most jobs are project-based, and projects will employ youth with experience. These are contractual, but renewable energy projects last from 1 to 3 years, and for youth with experience, there is a large pipeline of opportunities.”*



Ecosystem Enablers



- **Fiscal incentives to the private sector:** To accelerate the development of the country’s renewable energy resources and the participation of the private sector, the state provides fiscal & non-fiscal incentives to private sector investors and equipment manufacturers/suppliers.
- **Foster Smart Grid technology to accelerate decentralization:** The government needs to support renewable energy generation and foster smart grid technology to also counter the high electricity prices by reducing dependence on imported fossil fuels and possible energy scarcity.



- **Skilling youth for accelerating projects:** Corporations like GE are working to involve youth in RE-related training and education, thus making them ready once RE projects are fully operational and demand for workers increases.¹⁹
- **Collaborate with the private sector to adapt TVET offerings:** There is a need for TESDA to collaborate with the private sector to bring out new offerings in RE courses that focus more on the technical aspects and thereby enable OSY to move from contractual to permanent roles.

¹⁹ Technical Education and Skills Development Authority. “Sustaining the Future: Powering Individuals and Communities through RE,” 2021. <https://tesda.gov.ph/Uploads/File/LMIR/2021/LMIR%20on%20Renewable%20Energy.pdf>.



- **Facilitate funding flows on electrification in rural areas:** Implementing organizations will have to attract international donor funding for solar home systems in unelectrified areas and develop a business case for developers to provide RE solutions in partnership with local communities.
- **Community involvement:** RE infrastructures being built in communities could also explore partnerships with the locality. The goal for social enterprises working in climate action should be centered around training community residents hosting the projects and thus helping them acquire the needed skills and qualifications for employment.

Inclusive Growth Parameters

- **Pathway to higher education:** Gaining experience in a Renewable Energy project can be a pathway to professional degrees in engineering courses as well. There is also potential for OSY to become a contractor if they have some management and entrepreneurial skills.
- **Pay is fixed by the government and, most often, minimum wage:** The current jobs do not attract OSY due to low fixed pay fixed by the Department of Labor, which is majorly minimum wages.



- **Lack of inclusion for persons with disability:** OSY with disability are restricted to clerical jobs in corporate offices due to the inherent risk involved in the nature of other jobs such as masonry, solar panel installation, electrical equipment handling, etc.
- **Focus on inclusion for indigenous groups is low:** While the private sector is increasingly focused on social inclusion, there is limited evidence of significant CSR programs or trends that prioritize the inclusion of indigenous groups.



- **Sensitizing project sites for inclusion of other genders:** While LGBTQ+ employees are still in the minority, some private sector organizations are taking steps to foster a culture of respect for other genders.
- **Increase in women's employment:** The sector is becoming more gender diverse but male-dominated due to the nature of physically intensive and labor-oriented jobs. Women's participation in the power and electricity sector is increasing on the project site in roles such as Engineering and Planning due to the expansion of science and technical education.



Sector Spotlight – Sustainable Tourism

Overview

Sector Performance

- **Capacity Building:** TESDA provides various tourism courses, but the lack of hands-on experience is a drawback for B2B companies when recruiting out-of-school youth (OSY). Additionally, to ensure a well-rounded education and keep up with the evolving job market, it's essential to integrate green skills into TESDA programs.
- **Employment Attractiveness:** The sector offers many opportunities for both skilled and unskilled labor. The field captivates young individuals because it is seen as an exciting and dynamic career choice, especially with the added allure of potentially high-paying jobs overseas. The demand for sustainable accommodations is also increasing. Travelers are seeking accommodations that minimize their environmental impact, such as eco-lodges, sustainable resorts, and green hotels that implement energy and water conservation practices. This practice will enable more jobs in the future and is poised to make this sector attractive.
- **Ecosystem Enablers:** There is a limited push by private sector companies to promote green tourism for OSYs. There are some initiatives where that provide on-the-job training in collaboration with TESDA. However, large corporations need to be more open in accepting OSY into the industry. There is also a need for social enterprises to participate in the green tourism sector and encourage public participation in green tourism.
- **Inclusive Growth Parameters:** Out-of-school youth with disabilities are confined to desk-based roles because of the extensive physical demands and travel requirements associated with other positions. There is more diversity and gender inclusion in the tourism sector than in other sectors. The Department of Tourism aims to empower women by generating additional employment prospects and transforming the tourism industry into one that is both responsive to gender issues and supportive of women and communities.

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 7: Potential Jobs in Sustainable Tourism

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Housekeeper	Short-term on-the-job training or vocational training	Permanent	Contributing directly to a tourism project	Housekeeping NC II
Janitorial Services	Short-term on-the-job training	Permanent/ Contractual		N/A
Tour Guide	Medium-term on-the-job training or vocational training	Permanent/ Freelance		Tour Guiding Services NC II, Tourism Promotion Services NC II, Travel Services NC II

Capacity Building



- **Correcting the misconception:** Youth interviewed have a perception that TESDA and certification courses are short-term and not of value as many careers in tourism require specialization. This is, however, not the case, as TESDA provides several certification courses focused on grooming and soft skills.
- **Immersion programs for OSY:** These can be started to get an actual feel for the industry and to match youth to the tourism category in which they prefer to work.



- **Needs for identification and proper training:** It is essential that the youth have business coaches to help them navigate the troubles in the business process and manage their cash flow. Lack of coaching and emotional maturity is the reason why most entrepreneurs give up.
- **Leveraging DTI's Youth Entrepreneurship Program:** It aims to stir the entrepreneurial mindset by focusing on business models, concepts, and strategies. It helps connect youth to the right network and aims to give them wider access to markets and resources.

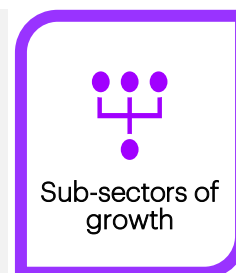


- **Lack of practical experience and green skills in TESDA courses:** While TESDA offers several courses in tourism, the lack of practical experiences poses a disadvantage for Business-to-business (B2B) corporations when hiring OSY. Moreover, to make learning holistic and maintain sustainability in the growing job market, there is a need to incorporate green skills in TESDA courses. We also heard in our interviews that *"Government should improve the learning curriculums because the B2B corporations feel that the TESDA graduates don't have as much real-world experience, although they have a few on-the-job trainings. As opposed to experiencing real-life examples of how it is in the industry from their Day 1 in training."*
- **Decline in quality of training:** CHED oversaw 75 accredited maritime institutions and identified shortcomings in various areas, including facilities and training equipment, examination and assessment processes, quality standard compliance, and the quality of shipboard training.²⁰

²⁰ Patricia B. Mirasol. "Demand for Filipino Seafarers Still High, but Quality of Training Is Dipping." BusinessWorld, May 27, 2022. <https://www.bworldonline.com/sparkup/2022/05/27/451254/demand-for-filipino-seafarers-still-high-but-quality-of-training-is-dipping/?amp=&noamp=mobile>.

Employment Attractiveness

- **Digital transformation and sustainability in the tourism sector:** The tourism industry has embraced digital tools and platforms for business continuity, providing opportunities for farmers, fishermen, and artisans to reach customers while also implementing sustainability measures to reduce environmental impact.
- **Green corridors for sustainable tourism:** The development of green corridors promotes biodiversity preservation, environmental improvement, economic resilience, cultural heritage protection, and the revival of tourism activities, contributing to a more sustainable and inclusive tourism sector.



- **The inclination of youth towards tourism:** This sector is one of the leading providers of youth empowerment, regardless of their backgrounds or academic attainment. The industry attracts youth due to its perceived appeal as a dynamic and thrilling career option, further enhanced by the prospect of lucrative employment opportunities abroad. In our interview, we heard that, *"The industry, in terms of green jobs, I think it's a very niche term that not everyone is familiar with. Hyping up the awareness that there are possible jobs currently enforced, we make it more popular and more people, especially the youth. Developing and upgrading the Filipino brand of service – bowing gesture with hands on the chest. Those facets are really important, something that TESDA can put out there."*



- **Lack of basic skills:** The OSY lacks essential skills for the sector, but these deficiencies can be easily addressed through appropriate training. These fundamental skills encompass effective communication, telephone etiquette, and adherence to proper grooming standards.

- **Contractualization and labor practices:** Short-term contracts dominate the job market, aiming to avoid full employee benefits, while the government is working towards banning unfair labor practices.

- **Diverse tourism opportunities:** The tourism sector offers a range of job opportunities, including salaried positions and self-employment, spanning various sub-sectors, such as ecotourism, health and wellness, MICE, adventure, and cultural tourism. Filipino seafarers remain highly sought after in the international maritime industry.



Ecosystem Enablers



- **Local tourism industry:** The Philippines has been ranked 94th among countries promoting sustainable tourism, as tracked by global business intelligence and market analysis provider Euromonitor International²¹. DOT is aiming to rebuild the local tourism industry to be more resilient and continue to push for the vaccination of its tourism workers, the enforcement of health and safety guidelines, and the development of "tourism products and circuits" for the changing preferences of tourists. LGUs have a profound influence on the local tourism industry and play a part in natural resource management and the tourism plan for the community.
- **Digital tourism:** Philippine tourism department has embarked on a digital tourism campaign to promote its tourist attractions and encourage local and foreign visitor arrivals.
- **Policies and regulations:** Within the National Tourism Development Plan (NTDP) 2016-2022,

²¹ Ben O.de Vera. "PH Ranks Poorly in Tourism Sustainability, Resilience Indices." Inquirer.Net, March 15, 2021. <https://business.inquirer.net/319499/ph-ranks-poorly-in-tourism-sustainability-resilience-indices>

there are strategies geared toward sustainable tourism development, with a particular focus on advancing eco-cultural tourism, community-based tourism, and sustainable coastal and marine tourism. Also, proposed under the Sustainable Tourism Act of 2019, the Sustainable Tourism Development Levy is designed to generate funds dedicated to sustainable tourism development and conservation endeavors. Such initiatives would likely create more out-of-school youth job opportunities in the future.



Private sector programs

- **Partnerships with TESDA:** The private sector partners with TESDA and LGU's PESO to provide the youth with on-the-job training in various roles such as admin, front office, food and beverage, housekeeping, IT, and HR. Moreover, job fairs in partnership with LGUs are conducted regularly.
- **Need for corporations to accept OSY:** Private sectors, especially big corporations, need to be more open to accepting OSY into the industry. It would open a massive equal opportunity for the youth and create a precedence for smaller business owners as well.



Social Enterprises

- **Lack of participation of Social Enterprises in the tourism sector:** More businesses with specific social objectives to create positive change for the environment to encourage public participation in green tourism.
- **Make A Difference Travel:** It is a social enterprise on sustainable tourism and an educational travel platform that inspires communities and guests by making a lasting difference through fun, authentic travel experiences. MAD Travel partners with marginalized communities and provides them with livelihood opportunities to help them uplift their lives.

Inclusive Growth Parameters

- **Child labor is still prevalent:** Children in the cities work on the streets, in marketplaces and food stalls, in small-scale industries, and in tourism industries. Working children are exposed to specific health risks by the nature of the work they do. Many children engaged in prostitution, on the other hand, are vulnerable to physical pain and injury, especially when maltreated by customers.
- **ASEAN Gender and Development Framework for Tourism:** It aims to strengthen the gender institutional capacity of ASEAN Member States, including the Philippines, by focusing on key issues regarding inclusion.



Favorable work criteria

- **Lack of inclusion for persons with disability:** OSY with disabilities are restricted to back-office jobs due to the high physical activities and traveling involved in the nature of other jobs.
- **Focus on inclusion for indigenous groups is low:** While the private sector is increasingly focused on social inclusion, there is limited evidence of significant CSR programs or trends that prioritize the inclusion of indigenous groups.



Social inclusion

- **High gender inclusion:** There is more diversity and gender inclusion in the tourism sector. The Department of Tourism envisions empowering women by creating more job opportunities and making the tourism industry a gender-responsive community that is empowered by women.
- **Gender-role stereotyping:** Gender bias in the tourism industry results in sex stereotyping, sex segregation, and limited job opportunities for women. Horizontal and vertical gender segregation persists, influencing the type and quality of work available to women.



Diversity & Gender Inclusion

Sector Spotlight – Green Transportation

Overview

Sector Performance

- **Capacity Building:** Limited awareness of green transport job opportunities exists due to the slow growth of the EV manufacturing sector. Many supply chain jobs require tertiary degrees, highlighting the need for updated TVET programs to focus on EV technology assembly and repair.
- **Employment Attractiveness:** Most people still prefer traditional transportation options over EVs due to familiarity. However, the younger generation is seen to be more open to new technology, potentially impacting the attractiveness of green jobs. However, currently, there are only a few companies in the Philippines hiring out-of-school youth for EV and sustainable transport roles.
- **Ecosystem Enablers:** While the government runs a few initiatives to boost green transportation, it's important for capacity-building organizations and social enterprises to work together to train individuals for EV maintenance and manufacturing. The government should also offer assistance, such as equipment and compensation, to support employees and promote green jobs in this sector.
- **Inclusive Growth Parameters:** Challenges in the transport sector encompass the absence of social security and inadequate wages. Out-of-school youth with disabilities often have access to desk jobs due to physical limitations in other parts of the jobs. The electric vehicle industry also offers more accessible opportunities for women, requiring less physical effort to upskill

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to the growth of the Blue and Green economy. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 8: Potential Jobs in Transport

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Driver/ Delivery men/Messenger	Short-term training or vocational course	Contractual/ Permanent	Contributing directly to a transport project	Driving NCII
Parcel Packer or Maker	Short-term training	Contractual/ Permanent		N/A
Automotive Mechanic	Medium-term training or vocational course	Contractual/ Permanent		Automotive Servicing NC II
Battery Dismantler or Re-packer	Short-term training or vocational course	Contractual/ Permanent		Electronic Products Assembly Servicing NC I

Capacity Building



- **Need to increase awareness about opportunities in green transport:** There is little awareness about employment in the green transport sector, primarily due to the slow growth of the EV manufacturing sector. Additionally, all the current jobs within the supply chain require tertiary degrees due to the lack of adequate TVET programs.
- **Need to abolish the boundary system:** Drivers of jeepneys and buses pay a fixed amount ("boundary") to the vehicle owner for a 12-hour shift. Due to stiff competition, drivers are violating traffic rules to earn more money.



- **OSY programs by Microfinance Council institution:** Programs such as "Alalay sa Kaunlaran" promote the development of MSMEs to build their startup enterprise in BGE and deliver social services. ASKI also started its OSY training operations in Cabanatuan City in partnership with TESDA and Universities in North Luzon.
- **Establish LTFRB academies:** The Land Transportation Franchising and Regulatory Board (LTFRB) academy would teach the technical aspects along with safety measures and proper etiquette in operating PUVs and dealing with passengers.



- **Need to focus on supply chain courses:** TESDA should partner with private corporations in the EV and transport sector for supply chain-focused courses and training, adapting the curriculum to the shift from conventional to EV manufacturing along with considering supply chain digitalization in the Fourth Industrial Revolution.
- **Need for EV trainers:** The requirement for EV Mechanical Assembly Personnel to have the Automotive Mechanical Assembly NC II certification poses challenges due to the absence of a registered program, qualified trainers, and assessors.

Employment Attractiveness

- **Philippines transport sector:** The sector has the following focus areas for a green transition: Promotion of Non-Motorized Transport (NMT) Systems, Public Utility Vehicle Modernization Program, introduction of efficient low-carbon technologies for transport and industries, Support to developments of transit-oriented developments (TOD), Development of mass transit systems, Highlight Information, and communications technology through smart cities technologies in support of the above.



- **Technology inertia:** There is a tendency to stick with familiar options, leading to a preference for diesel and gas engines despite better performance and lower cost of EVs, which also have reduced engine combustion. However, the younger generation is more open to embracing new technology, which, in turn, would impact the openness for green jobs as well.
- **Lack of EV or sustainable transport companies:** Currently, there are very few companies who are operating in the EV or sustainable transport sector within the Philippines and are willing to hire OSY.



- **Roles available:** Low-skill roles like deliverymen, messengers, assemblers, Public Utility Vehicle (PUV) drivers, and conductors are available in the sector.
- **EV sector roles:** In the EV manufacturing industry, OSY can work within the maintenance and assembly functions. The electric scooters and bike sub-sector has higher opportunities for OSY due to the presence of small businesses.
- **Roles in battery dismantling:** OSY can be engaged in battery dismantling jobs where 30% of the disposed battery cells are sorted, tested, and segregated for other activities.



Ecosystem Enablers



- **Initiatives by DENR to promote EV:** DENR implements Euro 4 fuel standards to reduce sulfur emissions, installs an Electric Vehicle Quick Charging Station donated by Mitsubishi Motors Philippine Corporation, and maintains 104 air quality monitoring stations to ensure clean air.
- **Anti-poor phaseout of PUVs:** The cost of a new EV jeepney unit is estimated at ₱1.8 million, but the ₱80,000 government assistance falls short, leaving drivers and operators burdened with debt. Furthermore, the program requires operators to have a fleet of at least ten units, totaling ₱14-16 million, which is unaffordable for many small operators.



- **Grab Philippines Program:** Grab, together with DOLE, TESDA, and LTO, launches the “Daang Natigil” Program, which will provide OSY access to livelihood opportunities and upskilling initiatives. OSY will receive a bike from Grab and will be onboarded as a delivery partner.
- **Lalamove micro-entrepreneur community:** Lalamove has built a community of micro-entrepreneur partner drivers who help with the logistics needs of MSME enterprises across Luzon and Cebu. With the goal of driver empowerment, Lalamove is re-introducing its partner drivers, from partners to Lalamove's ‘Bossings.’
- **Opportunities with small enterprises:** We heard in our interviews that “*The most sustainably conscious companies are the big conglomerates because investors are looking into it. However, if the gap that we are trying to address is with the OSY, which usually would get the jobs NOT from the big conglomerates but usually from the smaller enterprises, that is the gap, the smaller conglomerates, which are not required by investors to report on environmental stuff, but that’s where the opportunity for the OSY is.*”



- **Facilitation of a ‘Just Transition’:** Capacity-building organizations and social enterprises must collaborate to train individuals in EV maintenance and manufacturing. The government should provide support, including equipment and compensation, to sector employees as part of the “just transition.” Social enterprises can foster cross-sector collaboration to position the Philippines as a global hub for EV repair and maintenance.
- **Active transportation:** UP Bike Share and Super Scouts, a student-run NGO, aim to promote biking as a long-term lifestyle choice rather than a temporary response to the pandemic.

Inclusive Growth Parameters

- **Lack of social security:** Due to no social security mechanisms such as sick pay within the transport sector, it is observed that workers face severe financial insecurity in periods when they fall ill or suffer accidents that stop them from working for extended periods.
- **Fixed pay by the government:** The transportation sector often fails to provide workers with the basic local minimum daily wage after considering the costs they bear for work-related tasks, leading to job creation under inhumane conditions.



- **Lack of inclusion for people with disabilities:** OSY with disabilities are restricted to clerical jobs in corporate offices due to the high physical activities and traveling involved in the nature of other jobs such as manufacturing, driving, and maintenance.
- **Lack of Inclusion of Indigenous People:** While the private sector is increasingly focused on social inclusion, there is limited evidence of significant CSR programs or trends that prioritize the inclusion of indigenous groups.



- **Need to accelerate women's participation in the sustainable transport sector:** Efforts to make the transportation sector safer and more inclusive need to be accelerated as women remain "overlooked" in this sector.
- **Scope for women's employment in the EV sector:** The EV industry presents a higher opportunity for women's participation due to the relatively lower effort required to upskill them, making it a more accessible sector for individuals who are unable to engage in physically demanding jobs or those with limited time availability.



Sector Spotlight – Sustainable Waste Management

Overview

- **Capacity Building:** Decentralization in the Philippines' waste management system underscores the importance of local organizers in raising awareness among out-of-school youth (OSY) about sector opportunities and climate co-benefits. The need for increased awareness among out-of-school youth (OSY) about opportunities in the solid waste management sector is underscored by the limited availability of formal education programs. An opportunity for OSY lies in entrepreneurship, as sustainable waste management plays a vital role in the broader green transition plan, and initiatives like hackathons provide a pathway to support OSY-led ventures.
- **Employment Attractiveness:** While jobs can be generated across all points of the waste management value chain, the sector lags behind other fields, such as manufacturing or construction, in terms of employment generation for OSY. A significant number of out-of-school youth display a low interest in careers related to waste management because of unsafe working conditions and associated health risks.
- **Ecosystem Enablers:** There is a need to strengthen the overall ecosystem of a circular economy across the Philippines. This includes the popularization of Extended Producer Responsibility schemes, the introduction of reuse and upcycling programs, buy-back mechanisms, the development of markets for recycled products, and innovation in circular business models.
- **Inclusive Growth Parameters:** With limited social inclusion, there is also a distinct lack of quality of life for workers, especially when it comes to wages, improved health and safety measures, or even the legitimacy of employment, which might improve the formalization of jobs. The participation of women in the sector is growing, but it is restricted to menial and labor-oriented tasks such as sorting or segregation.

Sector Performance

Capacity Building



Employment attractiveness



Ecosystem Enablers



Inclusive Growth Parameters



Potential jobs available for OSY

Following is the summary of key roles uncovered within the sector that contribute to blue and green economy growth. The roles are defined based on the jobs, skillsets, nature of the job, contribution to greening, and the available TVET courses.

Table 9: Potential jobs in Sustainable Waste Management

Role	Skill Level	Nature of Job	Contribution to greening	TVET Courses Available
Waste collectors	Short-term on-the-job training	Informal	Direct contribution to waste reduction and circular systems	Garbage Collector NC I
Waste segregation	Short-term on-the-job training	Informal		N/A
Materials separation plant technician	Medium-term on-the-job training	Permanent		N/A
Materials separation plant supervisor	Long-term on-the-job training	Permanent		N/A
Product up cyclers	Medium-term on-the-job training or vocational training	Informal		Varies depending on the product category
Electronics goods refurbishment	Medium-term on-the-job training or vocational training	Informal		Electronics Products Assembly and Servicing NC II
Recycling plant technicians	Medium-term on-the-job training	Permanent		N/A
Recycling plant supervisor	Long-term on-the-job training	Permanent		N/A
Landfill Operators	Medium-term on-the-job training or vocational training	Permanent		Sanitary Landfill Operations NC II

Capacity Building



- Need for grassroots level community mobilization:** Due to the decentralization of the Philippines waste management system, local organizers need to bring awareness to OSY about the opportunities in the sector and the co-benefits to climate adaptation.
- Hackathons for climate funds are gaining popularity:** Startups that participate in these receive training in management, business development, and enterprise design, are connected with mentors, and become eligible for private-sector investment.
- Involvement of OSY in enforcing a nationwide circular economy:** While the Philippines has endeavored to improve its management and operation of solid waste, there are gaps in the value chain across a majority of the regions. This is a good opportunity to encourage OSY to invest in waste management micro- or nano-enterprises by providing them financing.
- Involvement of Microfinance Council:** There is a rising need for the Microfinance Council to train OSY for business development and startup management and provide loans for entrepreneurial ventures in the sector.
- Capacity development in designing SWM facilities:** Some LGUs lack the technical expertise in designing and constructing SWM facilities, necessitating personnel with TESDA training in construction to support these activities.
- Lack of TVET courses covering solid waste management topics:** Currently, there is little to no offerings from TESDA or other capacity-building organizations on solid waste management as a formal occupation, while there are avenues to incorporate elements of

Extended Producer Responsibility (EPR), Environmental, Social, and Governance (ESG) metrics and even knowledge of materials which can be useful for OSY led enterprises. We also heard in our interviews that *“TESDA would have the capacity to create new courses on sustainable waste management, but I don’t think they know what courses would be relevant in the current state with so much of the system being highly informal. Wider ESG requirements have to change.”*

Employment Attractiveness

- **A potential source of employment:** Upcycling waste materials into household items, refurbished electronics, and upcycled clothes and home goods has seen traction in regions such as Angeles City, Cebu City, Pasig City, Legazpi City, and Valenzuela City, and it is a potential source of employment through collaboration with LGUs.
- **Barangay-Level Waste Management Growth:** Enterprise-based sustainable waste management in which individual entrepreneurs, NGOs, and cooperatives in barangays have turned composting and recycling into business ventures is growing.



- **Lack of interest due to non-integration of sustainable waste management within formal employment:** Many OSY lack interest in sustainable waste management-focused occupations as informal waste collection is subject to livelihood insecurity, unsafe working conditions, and health hazards. LGUs have to work towards the formalization of their jobs (collection, segregation, repair) to accelerate the sector’s growth. It is seen from developing economies that the quality of life for informal waste workers dramatically improves through integration into the formal economy.



- **Generation of jobs in sustainable waste management value chains:** With a substantial amount of waste generation in the Philippines (44 million kilograms of solid waste accumulated daily in 2021²²), this sector offers significant potential for high and increasing demand for sustainable waste management jobs. Several sustainable waste management value chains present opportunities for job creation, particularly through recycling and upcycling. Exploring options like composting can also provide avenues for OSY to participate in organic solid waste management.
- **Product repair is a key component of skills training as well as circularity:** The repair and refurbishment sector provides important opportunities for skill development. Benefits include learning skills to craft new items, low economic and technical barriers to entry, and autonomy for small businesses. PESO Valenzuela runs a very successful Scrap to Crafts program for OSY.



²² Miguel, Mariclaire. “Cimatu Encourages Filipinos to Practice Sustainable Lifestyle to Help Reduce Waste.” Cimatu encourages Filipinos to practice sustainable lifestyle to help reduce waste, January 25, 2022. <https://www.denr.gov.ph/index.php/news-events/press-releases/3492-cimatu-encourages-filipinos-to-practice-sustainable-lifestyle-to-help-reduce-waste>

Ecosystem Enablers



- **Recycling infrastructure:** The recycling infrastructure of the Philippines is weak. Centralized systems have not fared well at a national level. There is a need to take initiatives at an island level to invest in the sector, which would then create opportunities to involve OSY.
- **Low priority on market creation for recycled goods:** Limited markets & low recycling plants discourage LGUs from investing in Segregation at Source (SAS), reducing job creation opportunities in recycling. Recovered recyclable materials are of no value if they will eventually go.



- **Extended producer responsibility and establishment of a reuse economy:** Government-driven sustainability efforts engage consumer goods companies and social enterprises to enhance circular supply chains and reduce single-use plastics. Many corporations have launched programs to reduce trash and promote recycling. A few examples are Unilever Philippines' "Project Eliminate," Nestlé Philippines' "Waste to Resource," and Coca-Cola Bottlers Philippines' "Give a Can, Give a Hope."²³ A few companies are also working with social enterprises like Greenpeace to strengthen SWM activities, including the involvement of OSY in formal roles.
- **Enabling buy-back mechanisms from consumer goods companies:** This encourages circularity and is a revenue source for OSY, who are engaged in waste collection & upcycling programs. In one of our interviews, we heard that *"If companies were to invest in reuse and refill systems or reverse logistics- this would generate areas where they need to fill in or create infrastructure. This would, in turn, become a means of generating meaningful jobs."*



- **Non-profits and social enterprises can also be job generators:** OSY's reluctance to join the sector is attributed to on-field health and safety risks. Collaboration with civil society, like Greenpeace, provides a pathway for their involvement and potential full-time employment. Greenpeace has partnered with recruitment firms to raise OSY's awareness of development roles in the sector.
- **Innovative circular business models:** Environmental NGOs lead business development and incubation of sustainable waste management enterprises along with campaigning for circular systems.

Inclusive Growth Parameters

- **Human rights and workplace safety:** Occupational health and safety in the waste sector remain an important concern, particularly in the electronics repair sector. Multiple studies document instances of hazardous working conditions in waste electronics repair and recycling.
- **Focus on safer e-waste recycling:** There is a focus on safer e-waste recycling training workshops. For instance, the United Nations Industrial Development Organization (UNIDO), the Department of Environment and Natural Resources (DENR), and the Global Environment Facility (GEF) have started to support safe and informal recycling of electronic devices.



²³ Environmental Management Bureau - Department of Environment and Natural Resources, Philippines. "Guidelines on Municipal Solid Waste Management in the Philippines," September 2018. <https://emb.gov.ph/wp-content/uploads/2018/09/3-Solid-Waste-1.8.pdf>.

- **Lack of inclusion for people with disabilities:** The inclusion for persons with disabilities is still lagging. However, some LGUs have been involving persons with disability in the materials segregation process.
- **Focus on inclusion for indigenous groups is low:** Despite increased attention to social inclusion in the sector, there is a notable absence of programs implemented by LGUs, private sector entities, or social enterprises that demonstrate a shift in the inclusion of indigenous groups.



Social
inclusion

- **Increase in women's employment:** Women's participation in the picking of recyclables from municipal waste, dumpsites, or landfills has significantly increased. There are even discrete examples of women-owned or women-led enterprises in sustainable waste management.
- **The presence of women employees is limited to menial jobs:** Women are mainly employed in menial tasks at processing companies, where they are involved in sorting, cleaning, and separating recyclable materials. They have limited access to formal roles and educational opportunities within the sector.



Diversity
and gender
inclusion



05

City
Assessments

Assessment of Key Cities for Growth of the Blue Green Economy

Prioritization of Cities

Following the sector analyses, the research team sought a more in-depth look at green job trends for OSY by examining what was happening at the local level. This localized approach was adopted because we knew that opportunities for OSY were largely driven by the local actors—public and private—that shaped the policies, programs, and investments in their immediate area. The team decided to prioritize 7 cities among the top 15 cities across the three hubs prioritized by the Opportunity 2.0 program (NCR hub, Cebu hub, Davao hub). To do so, the following framework offered a lens for understanding the potential of each city for generating inclusive jobs in BGE for out-of-school youth.

Parameter	Lever Weight
OSY population	20%
LGU Development Priorities	15%
BGE job potential in the municipal area	20%
Evidence of GOP or donor investments, programs, policies supporting BGE in the area	20%
Physical presence of lead firms innovating in livelihoods within BGE sectors	5%
Offers a base level of infrastructure and/or natural resources needed for sector performance	5%
Conducive partnership environment for Opportunity 2.0	5%
Cost-effectiveness due to geographic access, security, and other enablers	5%
Digital Penetration and Tech Infrastructure	5%

Table 10: City Prioritization Framework

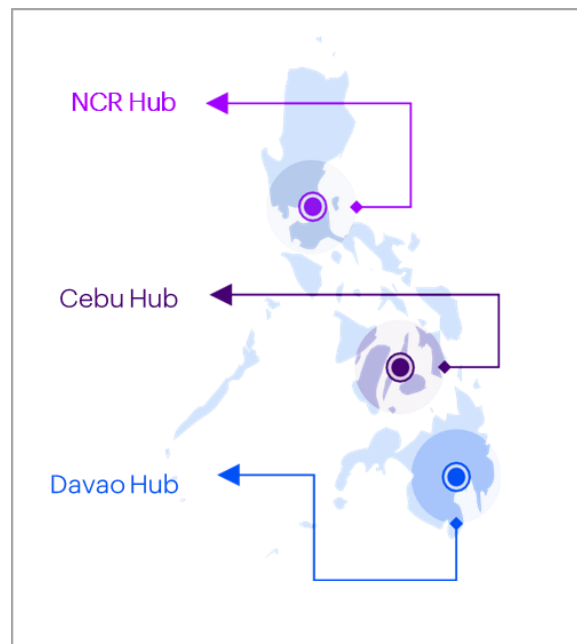


Figure 5: Hubs in Philippines

Similar to the sector prioritization, through the framework-based prioritization, we arrived at the following cities:

Green economy –

- Quezon City
- Legazpi City
- Tagbilaran City

Blue Economy –

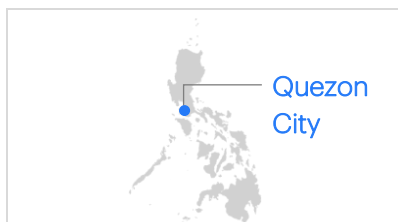
- General Santos City
- Davao City
- Zamboanga City
- Cotabato City



Figure 6: Prioritized Cities in Philippines

These cities were studied to examine the key sectors, policies, and current state of OSY. A comprehensive gap assessment was conducted, resulting in the identification of key observations, which are outlined in the following section.

City Assessment – Quezon City (QC)



Key Sectors

Construction

Agriculture

Manufacturing
(MSME – trade)

What is working well?

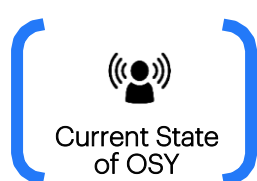
Key Programs & Policies

Sector Highlights

- ✓ LGU and PESO now directly reach communities for awareness and livelihood training programs.
- ✓ Joy of Farming, Quezon City University, PESO, and Sustainable Development Affairs have teamed up to form a partnership which is SAGIP OSY. Four offices have joined forces to ensure the continuity of the program.
- ✓ Electives in schools focused on farming, “Gulayan sa paraalan” are now part of the student curriculum.
- ✓ USAID supports Barangay leaders in crafting project proposals, while PESO offers special programs for temporary youth employment during summers.
- ✓ LGU provides Internship training programs to students, and YDA provides training for entrepreneurship programs.
- ✓ City Council passed a resolution urging TESDA to expand its skills training programs for OSY.
- ✓ The government provides seeds, tools, and training to address the impact of natural calamities on agriculture.

- ✓ QC, the largest city in the Philippines (population - 2.68M), is the hub of the IT and entertainment industry.
- ✓ Wholesale and retail trade, construction, transport and logistics, health and wellness, and tourism are among the 6 emerging industries.
- ✓ Build Build Build programs were put on hold during the pandemic. Hence, the continuity of establishments being built brings back demand in the construction sector.
- ✓ Community-based MSME, such as food, ukay-ukay, or live-selling thrift shops, is one way people cope with job loss spikes during the pandemic.

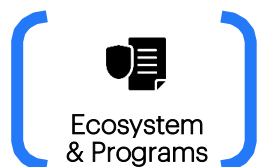
Gaps Assessment



- ✓ There is a reported lack of interest from the youth in attending training programs, which can be partly attributed to their immediate need for income to meet their daily necessities.
- ✓ There is a lack of awareness by OSYs on training programs despite high endorsement during Barangay and LGU meetings.

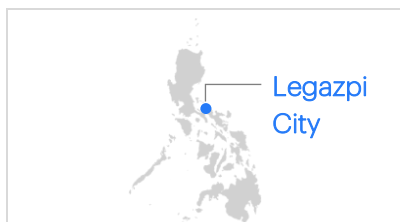


- ✓ Lack of availability of trainees from QC LGU to serve all interested youth per batch.
- ✓ The University of Quezon does not offer formal agricultural courses.
- ✓ There is often a lack of family support and encouragement when joining training programs, necessitating the need to involve the family in spreading awareness related to the benefits post programs.



- ✓ The construction sector is a major employer in Quezon City across both the formal and informal sectors. However, there is an emerging skill gap in this sector, especially for OSY.
- ✓ The city is grappling with several challenges linked to a growing population, climate resilience, informality, and wealth inequality.

City Assessment – Legazpi City



Key Sectors

- Tourism
- Agriculture
- Fisheries

What is working well?

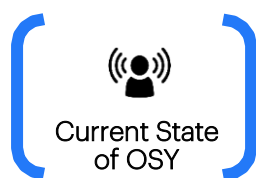
Key Programs & Policies

Sector Highlights

- ✓ Expansion of Opportunity 2.0 initiated work-based learning and Be Your Own Boss Training through the Sangguniang Kabataan (SK); the Work plan for the youth engagement has been finalized.
- ✓ The city aims to reduce plastic waste by implementing a 'plastic for rice program' wherein citizens can exchange five kilos of residual plastic waste for a kilo of rice.
- ✓ Aside from selling abaca products, there are stations in park walkways where you can watch them create their products live to boost educational tourism.
- ✓ It has adopted the "City Plan of Action on Marine Litter" (CPOA-ML) 2021-2025, making it the first city to develop and promulgate a local government action plan on marine litter supporting the national goal of "zero waste to Philippine waters by 2040".
- ✓ More OSY are having the chance to learn and earn through the SPES program by DOLE and Opportunity 2.0 supported by USAID.

- ✓ Legazpi City has the tourism tagline the "City of Fun and Adventure," with several adventure tourism activities, including riding an All-Terrain Vehicle around Mt. Mayon, zip-lining, skydiving, scuba diving, and water sports.
- ✓ Major sources of income include rice, root crops, and coconut farming due to the wide land areas available.
- ✓ Eco-tourism is a well-accepted informal career for the youth, whether as wage employment or self-employment. They partner with various parks and leisure businesses, restaurants, and fishermen to rent boats to tour nearby cities such as Sorsogon.

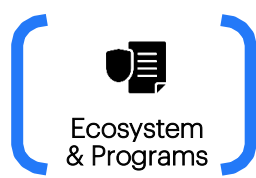
Gaps Assessment



- ✓ Youth interviewed in the city consider capacity-building activities as time-consuming and not aligned with their priorities, such as earning money by babysitting siblings instead of participating in development programs.
- ✓ OSY interviewed believe in practical knowledge and hence prefer to work without engaging themselves in training

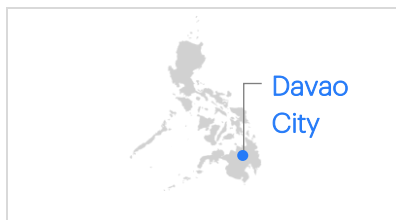


- ✓ There is limited support provided to the youth leaders due to limited allies. There is a lack of strong OSY organizations, youth empowerment, and funding to sustain OSY activities.
- ✓ The city also faces resource constraints due to its susceptibility to the impacts of typhoons from the Pacific Ocean, which in the past have triggered floods, storms, severe winds, rain-induced landslides, and lahar flows.



- ✓ Approximately one-third of the city population is susceptible to calamities (floods, storm surges, and sea-level rise), which may compel LGUs to redirect investments for financial aid and rehabilitation. This can consequently delay the implementation of OSY's crucial development programs.

City Assessment – Davao City



Key Sectors

Construction

Agriculture

Tourism

What is working well?

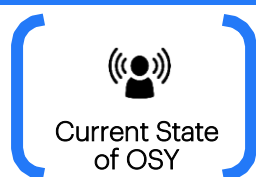
Key Programs & Policies

Sector Highlights

- ✓ Training and associations for the tourism board are based in Davao City, and the YDA is part of its 'Be Your Own Boss,' or BYOB, which is already incorporated in these training programs.
- ✓ Further skill-level competencies are provided by TESDA, such as food processing and agri-entrepreneurship.
- ✓ DOLE's youth employment-bridging program aims to provide temporary employment to poor but deserving students, OSY, and dependents of displaced workers to augment the family's income to enable them to pursue their education.
- ✓ DOLE Davao's JobStart program provides an allowance to trainees for the whole duration, after which they are employed as interns (along with a stipend) in companies for a maximum of 3 months.
- ✓ The Joint Management Committee, the Department of City Agriculture, and the Office of the Sangguniang Kabataan for Youth Development have signed an agreement to create opportunities for OSY to improve their education, skills, and employability.

- ✓ There are opportunities in agribusiness due to the presence of large coconut oil mills, activated carbon plants, commercial dressing and meat plants, and large feed mills in the city.
- ✓ Davao City presents prime tourism prospects by involving youth in biodiversity conservation, emphasizing the significance of Philippine Eagles, and fostering a sustainable environment.
- ✓ Agri tourism is a growing segment where farms are enhanced into tourist spots with branding and educational activities.
- ✓ The city has been in focus for works of the Department of Public Works and Highways (DPWH), leading to opportunities in the construction sector.

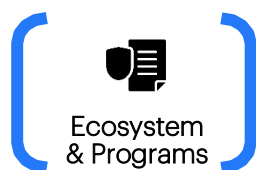
Gaps Assessment



- ✓ Only 1.1% of students are affiliated with environmental groups in Davao City.²⁴ The low interest and involvement of the youth in tackling environmental problems has been a recurring concern raised in the meetings of the Sustainable Davao Movement.



- ✓ Problems that need to be immediately addressed are the poor public transport system, the worsening traffic situation in the city, flooding in many portions, etc.
- ✓ Davao's main issues and problems in infrastructure and transportation are the results of inadequate investment in road development and maintenance and poor management.



- ✓ There is a lack of coordination, information sharing, and monitoring of Youth programs.
- ✓ There is a lack of skills development programming and OSY employment suppliers/providers.

²⁴ Bantay Kinaiyahan. "YOUNG PEOPLE AS LEADERS IN ENVIRONMENTAL ACTION," 2019. <https://idisphil.org/wp-content/uploads/2019/02/BK-on-Youth-Series-2-of-2019.pdf>.

City Assessment – Tagbilaran City



Key Sectors

Tourism

Agriculture

Fisheries

What is working well?

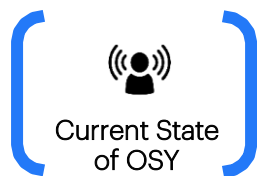
Key Programs & Policies

Sector Highlights

- ✓ Youth Development Alliance supports youth in the city by providing training and developing skills to operate business services, market products and leverage social media, design/develop products, run food processing as entrepreneurs, and packaging/labeling production.
- ✓ NGOs, YDA circle, and LGU are assisting in streamlining the tourism industry, which can be explored by YDA through the OWOW – Work Ready Now of Opportunity 2.0 project.
- ✓ The Public Employment Service Office (PESO) links to both the labor and business communities in the city to address employment mismatch and institutionalize workforce development programs.
- ✓ The city complies with national government governance mandates. While supportive, it can enhance linkages with available programs and resources, including TESDA, DOLE, and DOH projects for critical skills development.

- ✓ As a Tourism gateway of the province of Bohol, the city provides youth employment opportunities at hotels and restaurants such as hotel staff, receptionists, travel agents, tour guides, chefs, etc.
- ✓ Opportunities in agriculture are available as it is the main industry in the province, and it produces products such as rice, coconut, and corn.
- ✓ Fishing can be found in the northern towns.
- ✓ Some youths are engaged in entrepreneurial/ self-employment activities such as online selling, home-based food production, small enterprises, and delivery services.

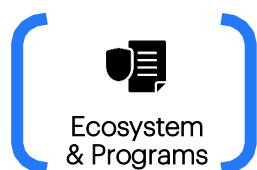
Gaps Assessment



- ✓ Some youth employees are not aware of the minimum wage or aren't paid at least the minimum wage, leading them to migrate to other cities (Cebu, Manila, overseas).
- ✓ Gender biases in the workplace hamper the chances of young women getting hired or accessing training despite their own interests.

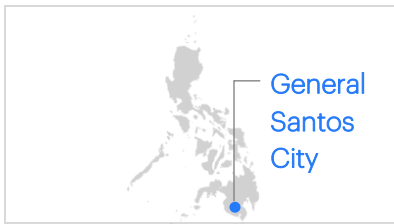


- ✓ Youth engage in informal work, e.g., food vending online selling, and need financial support and training to strengthen/scale up their business.
- ✓ The city is prone to earthquakes, landslides, flooding, and tsunamis, impacting livelihoods and hence opportunities for OSY.
- ✓ The city needs to develop its long-term comprehensive infrastructure master plan to continue to be a gateway to Bohol province and retain opportunities in tourism.



- ✓ Despite the city government's efforts to implement skills development programs, OSY faces barriers in accessing these opportunities due to financial constraints. Closing this policy gap and providing additional support can enhance inclusivity and ensure equitable access to skills training for all youth in the community.
- ✓ There is a shortage or the lack of specialized training in ICT heavy construction and automotive due to limited training providers in the city.

City Assessment – General Santos City



Key Sectors

Construction

Agriculture

Fisheries

What is working well?

Key Programs & Policies

- ✓ The YDA offers a comprehensive agricultural opportunity program for youth, which includes providing training and technical skills, linking youth to OCA for DA programs, providing facilities for farming, training in creating business proposals, and funding programs.
- ✓ YouthWorks offers technical-vocational training courses with on-the-job learning opportunities in fields such as masonry, carpentry, refrigeration, cookery, etc.
- ✓ Gensan is the only area among YDA with a harmonized hub for OSY data management, POSY-GEN.
- ✓ Kidlikasan facilitates youth participation in environmental activities, which thousands of youths have reached.
- ✓ GenSan Music Scholarship Program offered a scholarship to musically inclined OSY.

Sector Highlights

- ✓ Fisheries and Agriculture are the main drivers of the city's economy.
- ✓ It is home to the 2nd largest fish port in the country. It has the most significant fish landing site for the high-value tuna (also known as the "Tuna Capital of the Philippines").
- ✓ The city produces export-quality crops such as corn, coconut, pineapple, asparagus, banana, and rice, yielding quality exotic fruits, vegetables, and cut flowers. The city is also a top producer and exporter of quality livestock such as poultry, hogs, and cattle.

Gaps Assessment

Current State of OSY

- ✓ Key reasons for the reluctance of out-of-school youth (OSY) to attend schools include a lack of motivation or interest, the high expenses associated with education, and the distant location of schools.
- ✓ Education programs in the city aim for a zero drop-out rate, but inconsistency arises in coastal areas where the reported near-zero drop-out rate in formal schools does not match the increasing population of OSY.

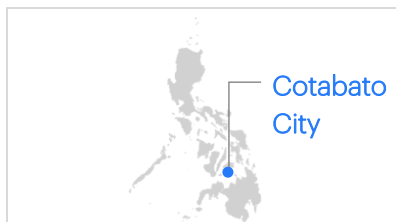
Resources

- ✓ There are issues related to human welfare concerns both on large and small scales, and the impact is felt in local villages and fisheries communities.
- ✓ Unregulated fishing, use of illegal gear, unsustainable fishing practices, overfishing, and climate change, in particular, prolonged dry seasons, affect fishing grounds and marine habitats, impacting employment opportunities in these areas.

Ecosystem & Programs

- ✓ There is a lack of coordination, information sharing, and monitoring of youth programs.
- ✓ There is a lack of skills development programming and employment suppliers/providers.
- ✓ There are issues in the tuna industry attributed to the complexity of law enforcement, inconsistent policies, and the overlapping mandates of government agencies.

City Assessment – Cotabato City



Key Sectors

Manufacturing

Agriculture

Fisheries

What is working well?

Key Programs & Policies

Sector Highlights

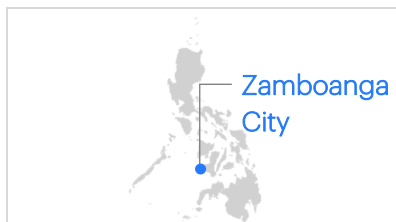
- ✓ The city has regularly benefited from Universal Access to Quality Tertiary Education Act, which provides free higher education, free TVET, tertiary education subsidies, and student loan programs.
- ✓ Cotabato City LGU provides training, livelihood programs, and financial support from Cotabato PESO.
- ✓ The LGU, national agencies, and other stakeholders had five special projects under the HDAP project for skills and entrepreneurial training.
- ✓ TESDA's Tulong-Trabaho Fund provides free training fees and additional financial aid, such as transportation allowances for qualified beneficiaries enrolling in selected training programs.
- ✓ DSWD provides livelihood skills training, capital support, and internship programs for OSY.
- ✓ The Metro Cotabato Chamber of Commerce (MCCC) provides information on the gaps in the skill requirements of chamber members to the Out-of-School Youth Development Alliance for program design.

- ✓ Agriculture-based industry with a production of rice, corn, coconuts, sugarcane, coffee, and bananas.
- ✓ The city has large fishponds that produce mangrove crabs, prawns, and milkfish.
- ✓ It's also an Eco Tourism Corridor. The primary industries that shall be promoted in this corridor are agri-industrial and eco-tourism development.
- ✓ Cotabato City is a regional hub for the BARMM areas, where most financial transactions are catered.
- ✓ Local businesses in the city include food businesses, franchises of national companies, department stores, retail industries, local malls, food hubs, etc.

Gaps Assessment

<p>Current State of OSY</p>	<ul style="list-style-type: none"> ✓ Some employers noted that youth lack the right attitude, willingness to learn, and critical thinking skills and may not understand the importance of documentation needed. ✓ OSY is aware of their lack of skills and experience, which causes them to lack confidence. ✓ Some challenges faced by OSY include a lack of awareness of the basic documentary requirements for job applications and a lack of money to pay for job-hunting essentials such as transportation, food, securing application requirements, and medical clearance.
<p>Resources</p>	<ul style="list-style-type: none"> ✓ The city has several issues concerning economic development that impact OSY opportunities, such as low production of primary sector industry (agriculture and fishery), limited secondary sector industry (food processing by SMEs), insufficient transport and infrastructure services against demands (e.g., power supply, water supply, logistic services) and insufficient tertiary sector industry (e.g., lack of efficient logistic function, insufficient tourism infrastructure against demand).
<p>Ecosystem & Programs</p>	<ul style="list-style-type: none"> ✓ There is a lack of information sharing with local communities about youth programs. ✓ There is a lack of skills development programming and OSY employment suppliers. ✓ There is a need to strengthen LGUs' influence in humanitarian development action planning and improve organizational capability for community services.

City Assessment – Zamboanga City



Key Sectors

- Manufacturing
- MSME (Food and Trade)
- Fisheries

What is working well?

Key Programs & Policies

Sector Highlights

- ✓ Zamboanga City LGU provides scholarship programs for the youth. PESO and DOLE have placement centers active.
- ✓ Initiatives were established to address skills mismatch with current labor demands.
- ✓ DTI Zamboanga offers efforts to train and coach entrepreneurs, and LYDC is being integrated with the YDA.
- ✓ DOST provides OSY and "Pantawid Pamilyang Pilipino Program" members with Science and Technology courses scholarships.
- ✓ SUGPAT implements UNICEF's project "Power for Youth." which aims to strengthen and improve the implementation of the ALS.
- ✓ In partnership with the National Youth Commission and UNICEF, SUGPAT also implements the Masters in Arts in Governance and Development Major in Youth Development Work. This program focuses on the foundations of youth development in local government units, program development, emerging issues, etc.

- ✓ Sardine fishing and processing account for about 70% of the city's economy.²⁵
- ✓ Processing plants/facilities like Coca-Cola Femsa, rubber processing plants, coconut oil mills, coconut oil refineries, and seaweed processing plants employ around 10k-15k skilled and unskilled employees.
- ✓ The rise of restaurants and cafes presents an opportunity for youth to be employed in producing supplies and working at these food centers.

Gaps Assessment

Current State of OSY

- ✓ Employers observed that OSY Skills, learning, and training do not meet labor market standards, and young workers are not ready for the job.
- ✓ There is a shortage of labor in the agriculture sector because youth are more interested in college jobs, and those who are interested lack financing and technologies.
- ✓ There is competition among job seekers due to over-supply partly due to the impact of COVID-19, in which OSY had less employment advantage than college graduates.

Resources

- ✓ There is a lack of data and monitoring on OSY in Zamboanga City that provides employment information, education/training attended, and follow-through activities.
- ✓ Some DICT Tech4Ed Centers are not fully maximized due to a lack of internet connection.

Ecosystem & Programs

- ✓ The limited access to employment and training in rural areas pushes youth to migrate.
- ✓ There are unsynchronized services for OSY among LGU offices, and there are concerns regarding the separate leadership and structure of the YDA and the Local YDC.
- ✓ There is not much focus on the role of civil society organizations (CSOs) or non-governmental organizations (NGOs) in supporting OSY employment.

²⁵ Manila Bulletin. "Open Fishing Season for Sardines Starts in Zamboanga Peninsula," September 22, 2023. <https://mb.com.ph/2022/3/1/open-fishing-season-for-sardines-starts-in-zamboanga-peninsula>.



06

Recommendations

Gap Analysis on Priority Sectors

The market gaps across all eight prioritized sectors have been organized into four distinct categories representing the key research priorities and market needs. The capacity-building category comprises gaps that constrict the ability of the upskilling and capacity-building institutions and infrastructure to provide meaningful interventions for the OSY job market. The ecosystem enablers category comprises gaps in the overall ecosystem that contribute to OSY's poor job market, such as government policy, outflow of skilled labor, and market linkages.









Table 10: Gaps Assessment (1/2)

Category	Barriers								
Capability Building	CB1: TVET courses to undergo greening	X	X	X					X
	CB2: TVET courses to be updated to correlate better to industry trends	X			X	X	X		
	CB3: Lack of 'work immersion' in TVET curriculum	X	X	X	X	X	X	X	X
	CB4: Tertiary Education is a 'must have'		X		X	X	X		
	CB5: Need for scholarships and stipend programs		X		X	X	X		
	CB6: Lack of skillsets and business acumen among OSY for entrepreneurship	X	X		X	X	X		X
	CB7: Limited drive of OSYs for sustainability-related education due to lack of awareness on climate action	X	X	X	X	X	X	X	X
	CB8: Lack of financing and training available for OSY for entrepreneurship		X		X	X	X	X	
	CB9: Complex logistics in obtaining certifications		X		X	X	X	X	
Ecosystem enablers	EE1: Regulation and policies are slow to adapt to industry practices	X			X	X		X	
	EE2: Low private sector participation in driving programs for OSY training and hiring	X		X	X			X	
	EE3: Low financing for scholarships		X		X	X	X		X
	EE4: Insufficient government focus on Blue and Green job generation			X	X			X	
	EE5: High attrition rates to overseas roles		X		X	X	X		X
	EE6: Fiscal incentives, policies, and innovation for acceleration of green growth limited to specific sub-sectors				X	X	X		X
	EE7: Insufficient government and private sector focus on market and demand creation for sustainably produced goods	X		X			X	X	X
	EE8: Low priority to scale up local programs	X		X					
	EE9: Lack of improvement of linkages to enable access to markets for sustainable farming practitioners, green manufacturers	X		X				X	









Sustainable Agriculture and Forestry		Sustainable Waste Management		Green Manufacturing		Sustainable Fisheries and Aquaculture	
Renewable Energy		Green Construction		Green Transport		Sustainable Tourism	

The employment attractiveness category comprises gaps that reduce the attractiveness to OSY of jobs in the relevant sectors due to various factors such as the nature of jobs or lack of awareness. The inclusive growth parameters category comprises gaps from an inclusive growth perspective, including human rights, disability inclusion, and diversity.

Table 11: Gaps Assessment (2/2)

Category	Barriers								
Employment Attractiveness	EA1: Lack of desirability of existing BGE roles among OSY	X		X	X	X	X	X	
	EA2: Lack of OSY knowledge of BGE roles in the sector	X	X		X	X	X	X	X
	EA3: Influence of larger societal elements (e.g., presence of family dependents, parents who do not have the means to encourage education)	X			X				
	EA4: Jobs are contractual or seasonal in nature		X		X			X	X
	EA5: Jobs are not 'direct green jobs'		X		X	X	X		
	EA6: The primary focus is survival through jobs rather than building a career		X	X	X	X	X	X	X
	EA7: A significant percentage of employees are informal workers without any social security net	X		X				X	X
	EA8: Lack of awareness of OSYs about advancements in the sector	X	X			X	X	X	
Inclusive Growth Parameters	IG1: Low wages from employment	X	X	X				X	
	IG2: Human rights issues such as child labor	X		X				X	X
	IG3: Low inclusion of Persons with Disabilities	X	X	X	X	X	X	X	X
	iG4: Low inclusion of Indigenous Groups	X	X	X	X	X	X	X	X
	IG5: Need higher representation of women and other genders		X	X	X		X		
	IG6: Lack of access to financial and capacity-building resources targeted toward women	X		X					
	iG7: Need to involve women in more meaningful roles	X	X	X	X		X	X	
	IG8: Health and safety concerns in physically intensive roles		X	X	X	X	X	X	








Legend

Sustainable Agriculture and Forestry		Sustainable Waste Management		Green Manufacturing		Sustainable Fisheries and Aquaculture	
Renewable Energy		Green Construction		Green Transport		Sustainable Tourism	

Recommendations

The research team identified several important efforts that could advance local blue and green job growth in the Philippines while also strengthening the engagement of out-of-school youth (OSY) to take advantage of those opportunities. For each recommendation, we present the key gaps that the research revealed, and we propose a stakeholder (or stakeholders) as the natural actor(s) to address the recommendation.

Table 12: Recommendations - Capability Building

CAPACITY BUILDING			
S.no.	Recommendations	How does this help OSY or ecosystem players	Gaps Targeted
1	Engage the private sector (HR managers from large corporations, MSMEs, and industry associations) to work together with TESDA and improve systems for determining and anticipating the demand for green job skills.	<ul style="list-style-type: none"> Enhancing TESDA skills assessment surveys through sector-based skills councils, leveraging insights from private sector actors, and incorporating best practices from case studies in other developing economies is crucial for developing skill development instruments relevant to a green transition. Key to Implementation: Bring together a sector-based skills council with participants from the private sector and labor agencies (TESDA, CHED, DepEd). 	 
2	Convene industry associations and thought leaders on green jobs and climate adaptation to work together with TESDA and CHED on curriculum design for the greening of Training Regulations.	<ul style="list-style-type: none"> Engage industry associations such as the Electric Vehicle Association of the Philippines (EVAP), Renewable Energy Association of the Philippines (REAP), etc., and leading organizations to work together with TESDA on overall curriculum design and for making education and training systems more responsive and hands-on for rapidly changing needs within the sectors when it comes to greening the value chains. Key to implementation: Bring together thought leaders and education focused organizations to support TESDA in the curriculum design. 	
3	TVET programs have to focus on work immersion to show how sectors can be greened in a practical scenario.	<ul style="list-style-type: none"> Equip students with opportunities to apply skills and knowledge necessary to pursue green careers via real-world projects connected to communities and employers by including green entrepreneurship skills and green work immersion modules in the curriculum. Key to implementation: Bring together private sector organizations and industry associations to work with TESDA and other TVET institutions, such as Don Bosco University, to explore how work immersion programs can be implemented in partnership with private enterprises. 	  
4	Explore alternative learning systems to overcome complex logistics for availing training and testing offerings.	<ul style="list-style-type: none"> Increase TESDA learning and testing facilities for courses relevant to Blue and Green jobs to the online interface, especially for mobiles, as it is the most common device owned by the youth who already have experience and 	






		<p>knowledge of using it. Currently, only limited courses are available on an online interface.</p> <ul style="list-style-type: none"> ▪ Key to implementation: The participation of multiple actors- TVET organizations, ed-tech ecosystem players, and livelihoods organizations- is needed to explore the feasibility of implementing digital learning platforms. 	
5	<p>Draw clear linkages to academia (i.e., tertiary education) while marketing existing TVET programs showcasing how apprenticeships or training programs can enable OSY to return to education.</p>	<ul style="list-style-type: none"> ▪ Focus on work immersion, technological innovation, and sustainability aspects in TVET offerings to allow youth to engage in meaningful employment, garner more experience, and eventually pursue a tertiary education degree once financial sustainability has been achieved. ▪ Key to implementation: Make the case to corporate foundations for more stipend programs or scholarships for OSY in apprenticeships or training. 	

Table 13: Recommendations - Ecosystem Enablers

ECOSYSTEM ENABLERS			
S.no.	Recommendations	How does this help OSY or ecosystem players	Gaps Targeted
1	<p>Develop knowledge products and a knowledge-sharing system based on market analyses of key sectors within the Philippines so that public and private sector actors stay updated on the trends in BGE.</p>	<ul style="list-style-type: none"> ▪ Information and knowledge on blue and green economy markets, green technology, sustainable production methods, and green products is changing rapidly. There is a need for knowledge products that can help the public and private sectors keep abreast of the latest developments so that they can adapt skilling and employment programs as well as hiring strategies for OSY. This especially includes an understanding of the policies and fiscal incentives being brought into place by the Philippines government for developing and growing an inclusive blue and green economy. ▪ Key to implementation: Organizations with green jobs as a focus area can engage with stakeholders from the government, LGUs, civil society, and the private sector for data collection and dissemination. 	
2	<p>Develop a sustainability accelerator program to encourage OSY entrepreneurs and MSMEs to start their ventures in the BGE sectors.</p>	<ul style="list-style-type: none"> ▪ Enable market creation for green goods and services to promote opportunities for OSY-led entrepreneurs and MSMEs operating in sectors such as sustainable agriculture, sustainable fisheries, green manufacturing, refurbishment, and upcycling from waste. ▪ Connect OSY entrepreneurs to the right financiers and knowledge to help them grow their green businesses and go to market with financial sustainability. ▪ Key to implementation: Analyze the ecosystem of current accelerator programs within the Philippines and conduct workshops with the program team, TVET organizations, and other project developers to understand the needs of OSY entrepreneurs, help develop curriculum and accelerator activities, 	  












		and connect participants to the funders/programs providing financial assistance.	
3	Encourage green procurement and development of responsible value chains through institutional mechanisms (such as policy fiscal incentives) in sub-sectors showing a slow rate of transition to sustainable development.	<ul style="list-style-type: none"> ▪ Create a dedicated Green Action Plan for Small and Medium-Sized Enterprises and promote the growth of MSMEs, entrepreneurship, and social enterprises in expanding green sectors. ▪ Promote green public procurement, assisted by regulations on certification and life cycle costing approaches and supported by capacity-building for public sector managers and private sector enterprises. This will help grow direct green job opportunities, including for OSY. ▪ Key to implementation: This needs to be led by government actors such as DTI in coordination with industry. 	 
4	Build strong Monitoring and Evaluation systems to improve data collection on OSY engaged in BGE pathways and understand where private sector participation is required.	<ul style="list-style-type: none"> ▪ Adapt existing data collection mechanisms, such as the Annual Poverty Survey, that are a key source of information for Government-led OSY programs to include an element of OSY involved in the blue and green economy. ▪ Need to harmonize other discrete data collection initiatives undertaken by civil society actors, industry associations, and research organizations to feed back into one Monitoring, Evaluation, and Learning (MEL) system. This will help understand where there are gaps and where the private sector can be plugged in for investing in OSY employability, resulting in direct job creation for OSY in BGE sectors. ▪ Key to implementation: This needs to be owned by a central government body to ensure the continuity of the initiative. 	
5	Develop analysis and outline recommendations on how the policy and macro-economic environment can work to accelerate the just transition to a low-carbon economy.	<ul style="list-style-type: none"> ▪ There is a need to have explicit strategies in place that accelerate the growth of green and blue economic activities in priority sectors. These sector strategies should include investments and incentives from governments at various levels. The more comprehensive strategies combine fiscal incentives (pull factors) with research and development activities, innovation support, and public procurement (push factors). ▪ Key to implementation: This needs to be led by government actors such as DTI and supported by civil society actors such as EDC, who can bring in the perspective of underserved communities so as to facilitate a just transition 	

Table 14: Recommendations - Employment Attractiveness

Employment Attractiveness			
S.no.	Recommendations	How does this help OSY or ecosystem players	Gaps Targeted
1	Strengthen coordination with key actors in the OSY employment ecosystem to agree upon and socialize a uniform definition of blue and green jobs.	<ul style="list-style-type: none"> Needs a common definition of Blue and Green jobs, with additional contextualization on how it applies to the Philippines and socialized among state agencies, LGUs, civil society actors, private sector players, and industry associations to avoid greenwashing and align all green transition activities to a common frame of reference. Key to implementation: We need to test and socialize the definition with other ecosystem players such as state agencies, TVET organizations, the private sector, and social enterprises. 	 
2	Identify green products or services via certification schemes to analyze which value chains or organizations OSY can be plugged into for blue and green jobs.	<ul style="list-style-type: none"> Leverage certification schemes in each sector to identify where direct green jobs opportunities for OSY can be created, e.g., green packaging, green chemicals with NELP GCP certification, Global Good Agricultural Practices (G.A.P.) certified farms, etc., to ensure that OSY is placed in direct green jobs to create measurable impact on the green transition process. Key to implementation: Leverage existing research to create a map of the products, services, and value chains that have been ratified by global or local certification bodies that the Philippines government has recognized. 	 
3	Invest in community mobilization to spread awareness among OSY on climate action and the need to engage in Blue and Green jobs.	<ul style="list-style-type: none"> Bring together the youth leaders, civil society organizations, and PESO offices to educate OSY as well as their families about the impact of climate change on the Philippines and why BGE jobs have the dual opportunity of providing both resilient livelihoods as well as driving climate action to accelerate engagement. Key to implementation: Need to work in partnership with other livelihoods/environmental organizations focused via an exchange of knowledge, products, and best practices. 	
4	Establish a platform where social dialogue can be used to promote interest and awareness of blue and green jobs.	<ul style="list-style-type: none"> Bring together key actors in employment development for OSY, such as trade unions, PESO offices, and employers' associations, on a common platform to discuss skills development strategies to strengthen Blue and Green training systems, improve career opportunities for OSY in BGE and mobilization of on-ground resources to engage OSY in BGE pathways. Key to implementation: Interventions to be supported by a multilateral body that can convene organizations across sectors and geographies. 	 













5	Strengthen the efforts of LGUs to legitimize informal workers in sectors such as waste management.	<ul style="list-style-type: none"> Provide occupational identity cards to waste workers, provide protective gear, and establish a higher number of solid waste management plants to centralize operations in a region, thereby contributing to formalizing these jobs, which can lead to higher wages as well. Key to implementation: Intervention is to be owned by LGUs, given that the employment systems for such sectors operate in a decentralized manner. 	 
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Table 15: Inclusive Growth Parameters

Inclusive growth parameters			
S.no.	Recommendations	How does this help OSY or ecosystem players	Gaps Targeted
1	Conduct a programmatic analysis of gender mainstreaming and equity integration within programmatic delivery and policy (especially with regard to women, persons with disability, and indigenous groups).	<ul style="list-style-type: none"> Encourage MSMEs and the wider section of corporates to invest in gender and social inclusion either via policy mechanisms or through advocacy from industry associations. Key to implementation: Need to conduct market studies to identify and assess barriers to inclusivity and equity, especially in the MSME sector, stakeholder consultations with the private sector, government agencies, and LGUs for developing solutions and develop a strategy to promote practices for improving equity for OSY within the key sectors of focus. 	  
2	Strengthen industry action towards increasing adherence to Environmental, Health, and Safety (EHS) regulations and reduction in exploitative practices such as child labor and unfair wages.	<ul style="list-style-type: none"> Target health and safety issues through advocacy from industry associations, environmental, health, and safety (EHS) management and compliance schemes, and strong whistleblower protection mechanisms to ensure transparent governance. Target child labor practices through stronger LGU monitoring for regulatory violations, certification systems for sustainable agriculture and fisheries, and coordinated efforts of communities and social enterprises. Key to implementation: Need coordination and consensus-building among many different market actors. It needs to be owned by a government body or an industry association/chamber of commerce to increase effectiveness. 	  
3	Strengthen the participation of women through award-giving mechanisms and develop networks for female entrepreneurs.	<ul style="list-style-type: none"> Target award programs such as - The Search for Outstanding Rural Women (SOWR) by the Department of Agriculture (DA), financing, and micro-grant programs more effectively towards women to encourage participation in more meaningful roles across sectors. Key to implementation: Setting up a network of donors and funders who could be brought together for such a program. 	 

4	Development of inclusive training modules in TVET programs	<ul style="list-style-type: none">▪ Customize and contextualize TESDA or other TVET training to be inclusive of persons with disabilities, indigenous communities, or other vulnerable populations.▪ Key to implementation: This needs to be owned by a government body such as TESDA to ensure an effective scale.	 
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USAID’s Opportunity 2.0 (O2) is a five-year program designed to strengthen national and local capability in the Philippines to provide out-of-school youth (OSY) with quality education and learning experiences, inspire life-long-learning, and lead to improved education, livelihood, or employment opportunities. Through the establishment of partnerships and the strengthening of networks in 15 cities across the country, O2 will reach 180,000 out-of-school youth, train over 2,000 teachers and engage 2,200 companies.

www.opportunity.org.ph