CENTERING YOUTH IN GREEN WORKFORCE DEVELOPMENT

AN ACTION GUIDE

NDACIÓN DE LA COMUNIDAD "MORICHITON

SALIBA

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Acronyms

ACP	African, Caribbean and Pacific					
AFA	AgriFin Accelerate Program					
CBFE	Community-based forest enterprise					
CBF	Community business facilitator					
CCAFS	CGIAR Research Program on Climate Change, Agriculture and Food Security					
CSA	Climate-smart agriculture					
СТА	Technical Centre for Agricultural and Rural Cooperation of the African, Caribbean and Pacific Group of States and the European Union					
DYNAMIC	Driving Youth-led New Agribusiness and Microenterprise in Northern Uganda					
EEP	Energy and Environmental Partnership					
EU	European Union					
FAO	Food and Agriculture Organization					
G4AW	Geodata for Agriculture and Water					
GIZ	German Corporation for International Cooperation					
GYBN	Global Youth Biodiversity Network					
нкн	Hindu Kush Himalaya					
ІСТ	Information, communications, and technology					
IDO	International development organization					
IFAD	International Fund for Agricultural Development					
ILO	International Labor Organization					
IPCC	Intergovernmental Panel on Climate Change					
IRENA	International Renewable Energy Agency					
IUCN	International Union for Conservation of Nature					
MSMEs	Micro-, small, and medium enterprises					
NASA	National Aeronautics and Space Administration					
NbS	Nature-based solutions					
NCS	Natural climate solutions					
P&F	Paramos and Forests Activity					
PYD	Positive Youth Development					
REDD+	Reducing emissions from deforestation and forest degradation					
SDGs	Sustainable Development Goals					
SMEA	Small and Medium Size Enterprise Activity					
STEM	Science, technology, engineering and math					
TVET	Technical Vocational and Education Training					
UNEP	United Nations Environment Programme					
USAID	United States Agency for International Development					
WBCSD	World Business Council for Sustainable Development					
WWF	World Wildlife Fund for Nature					
YOUNGO	Children and Youth Constituency to United Nations Framework Convention on Climate Change					

Key Terms

Decent jobs deliver a fair income, security in the workplace, and social protection for families; better prospects for personal development and social integration; freedom for people to express their concerns, organize and participate in the decisions that affect their lives; and equality of opportunity and treatment for all women and men (International Labor Organization (ILO), accessed 2022).

Green jobs include jobs in any sector that are engaged in the production or distribution of goods and/or services that promote environmental protection, conservation, and/or restoration. Green jobs can be in traditional sectors, such as manufacturing and construction; in new and emerging sectors, like renewable energy and energy efficiency; or in social sectors, such as healthcare and education (Novello and Carlock. 2019). This Action Guide supports the expansion of the dominant definition of green jobs to include any job that contributes to the well-being and flourishment of present and future generations; upholds human rights, including women's rights and the rights of Indigenous populations and peoples of color; and supports the regeneration of the natural world, its resources, and its socioecological systems on which our human economies rely (Kwauk and Casey, 2021).

Green skills include the specific, generic, and transformative capacities needed to contribute to a socially, economically, and environmentally just human society that cares for the human and non-human world and significantly reduces or eliminates negative impacts of human activity on others (Kwauk and Casey, 2021).

Green economy is defined as an economy that is low carbon, resource efficient, and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment in social and economic activities, infrastructure, and assets that allow reduced carbon emissions and environmental pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services (United Nations Environment Programmme [UNEP], accessed 2022). **Green transition** refers to the economic, environmental, and social transitions required to achieve a low-carbon, green economy. It includes prioritizing investments in new sustainable and renewable sectors, supporting the "greening" of existing sectors, and shifting the mindsets, orientations, and practices of the workforce across all sectors of the economy.

Just transition refers to the need to secure workers' rights and livelihoods as economies shift to more sustainable modes of production to combat climate change and to protect biodiversity. It is a set of principles, processes, and practices centered on fairness and aims to ensure that workers and communities affected by these economic transitions do not bear any costs to their health, environment, jobs, or economic assets (Just Transition Alliance, accessed 2022).

Normative barriers to youth accessing green jobs include predominant attitudes, norms, and beliefs in society, including gender norms or stereotypes against particular groups, which may prevent or deter youth from seeking jobs in certain sectors.

Structural barriers include young people's lack of access to education and training, knowledge, materials, resources, and financial assets that can hinder them from entering green jobs in certain fields and from succeeding in green jobs. Structural barriers are also engrained in the way economic and political systems are set up, perpetuating policy and regulatory environments that favor the more privileged, experienced, or well-connected.

Youth and young people are defined in this Action Guide as individuals between the ages of 15 and 29 years old. Throughout the Action Guide the terms "youth climate expert" and "youth climate activist" are used to refer to young people aged 15-29 who are meaningfully engaged in climate action work either through their professional pursuits or their social and/or political actions.

Executive Summary

Why this Action Guide?

By 2050, it is estimated that at least 47 countries in Sub-Saharan Africa, Oceania, Northern Africa, and Western Asia will experience a 62 percent increase in their youth population, accounting for more than 150 million additional youth globally (United Nations Department of Economic and Social Affairs, 2019).



At the same time, governments and the private sector are mobilizing billions of dollars to shift to more sustainable economic practices to address the escalating climate crisis. These investments promise to have a substantial impact on "green job" growth and creation, with projections ranging from 6 million jobs created along the agricultural value chain on the African continent alone (Mungai et al., 2018) to 1.2 billion jobs in ecosystem services supporting farming, fishing, forestry, and tourism globally (Cook and Taylor, 2020). In addition to jobs in greening sectors, green entrepreneurship provides youth with a promising avenue to innovate new roles and create jobs we cannot yet imagine.

But what is at stake if the world's growing population of youth is unable to find decent green jobs as they enter the labor market? Today, more than 71 million youth are unemployed (Nishimura and Rowe, 2021). Tomorrow, this number could increase substantially if efforts to promote the transition to a green economy leave young people behind, especially young women, Indigenous youth, and other historically marginalized young people. To facilitate a "just transition" to a green economy, international development organizations (IDOs), including donors and implementing partners, must understand how well youth are being introduced to green job opportunities, the degree to which they are feeling prepared to pursue such opportunities, and the extent to which these opportunities are responding to their lived realities. From a Positive Youth Development (PYD) perspective, this means identifying the enabling factors that can support youth in accessing green skill-building and green job opportunities, as well as understanding the normative and structural barriers that can prevent youth from reaching their potential in a green transition. From here, IDOs can better support green workforce development among young people by responding to the priorities of youth seeking viable livelihoods and meaningful green futures.

The intended use of this Action Guide

The goal of this Action Guide is to provide practical and actionable guidance to IDOs on how to better respond to the diverse needs of young people as their countries undergo complex transitions to a greener economy. This Action Guide draws on the findings from a literature review as well as insights from consultations with 16 young people¹ (seven females, nine males — five from Latin America and the Caribbean, five from Southeast Asia, five from Sub-Saharan Africa, and one from North America), as well as project staff and youth participants from 10 Chemonics-implemented projects² (three projects based in Southeast Asia, three projects based in Latin America and the Caribbean, four projects based in Sub-Saharan Africa). The Action Guide is intended for IDOs to help inform their design and implementation of international development programs related to youth green workforce development. The Action Guide provides a youth-centered perspective on how economies and societies are changing in response to climate change, and how IDOs can better support young people's desires to build livelihoods for a more sustainable future.



16 YOUNG PEOPLE

Seven females, nine males — five from Latin America and the Caribbean, five from Southeast Asia, five from Sub-Saharan Africa, and one from North America

^{1 –} The Action Guide was informed by 16 young people, including seven females, nine males: five from Latin America and the Caribbean, five from Southeast Asia, five from Sub-Saharan Africa, and one from North America.

^{2 –} Further, Action Guide development included interviews with participants from 10 USAID-funded, Chemonics-implemented projects: three projects based in Southeast Asia, three projects based in Latin America and the Caribbean, and four projects based in Sub-Saharan Africa.

Key Messages



While green job opportunities across sectors will emerge for young people, there are many barriers to entry.

These include but are not limited to normative barriers, including restrictive gender norms, which can prevent young people from seeking green jobs, and structural gaps and roadblocks, including young people's lack of supportive services or the lack of finance and collateral for accessing loans.



A breadth of green skills will help young people navigate a greening job market and a changing climate.

Green skills range from specific technical skills required for jobs in a green economy, to more holistic "green life skills" that can help youth apply a green lens to any job, to transformative skills that can help young people tackle persistent systems of inequality that perpetuate unsustainable practices in their communities, workplace, the workforce, and society (Kwauk & Casey, 2021).



Building an enabling environment for youth to thrive during the climate crisis will require significant systemic shifts.

These include proactively introducing young people to climate change and sustainability issues, sensitizing youth to the interconnectivity of nature with all aspects of life and work and ensuring young people's early exposure to green livelihood and green entrepreneurial opportunities. Innovation hubs, funding, capacity building, resources, and social networks will be vital to support young green entrepreneurs in turning their climate and sustainability ideas into reality. Further, opportunities for youth participation in policy and decision-making will help create important feedback loops centered on youth needs and perspectives.



For youth and future generations to truly benefit from a green economy, a just transition is necessary.

A majority of the jobs created in a green transition are expected to occur in traditionally maledominated technical sectors, which means that intentional measures must be taken to ensure that women and girls are not further marginalized by a greening economy (Saget, et al., 2020). Moreover, Indigenous peoples and Indigenous knowledge and practices play an important role in promoting climate change mitigation and adaptation. It is imperative that policies and practices for protecting and rehabilitating the environment also safeguard and redistribute power and resources back to Indigenous communities.

Youth recommendations for the international development community

These recommendations are synthesized from 16 youth consultations and 10 Chemonics' project team interviews.



Improve the responsiveness of IDOs to youth needs

This not only means centering youth needs and perspectives at all stages of international development work, but also engaging young people as agents of change and not just as program participants and beneficiaries. Improving IDO responsiveness requires targeted training programs to meet youth where they are, rather than telling them where they should be.



Streamline and simplify funding mechanisms for youth

As a key barrier for young green entrepreneurs and youth-led organizations, finance must be made accessible to young people to secure funding, qualify for grants, and compete for bids. To empower young people to be change agents, IDOs must rethink how grant applications are designed, how money is distributed, and how competitive funding processes are carried out.



Intentionally integrate environmental sustainability, justice, and inclusion into project design.

These shifts will require the international donor community to establish clear monitoring and evaluation measures and IDOs to develop robust plans for measuring and reporting on activity progress in ways that include young people in the process, throughout the project life cycle.



Improve collaboration across IDOs and local government to promote sustainability.

Partnerships help avoid duplication and unnecessary conflicts and promote the redistribution of resources to address other youth needs. On a practical level, international partnerships with national and local governments also help to ensure youth ventures are supported by and comply with local laws and regulations.

Introduction

As economies and societies undergo a green transition, youth are well-positioned to benefit from job creation and opportunities for entrepreneurship and innovation. Without intentional approaches to integrate youth in green growth initiatives, however, young people are at risk of being disempowered and further burdened by the effects of climate change and the livelihood challenges that will come with it.

In addition to helping youth build the right skills, international development actors must promote enabling environments for young people to succeed in finding and creating the green jobs they want. This includes helping youth access existing programs and resources supporting their green workforce development, filling gaps where more resources and opportunities are needed, and creating cross-sectoral and multilateral partnerships to ensure the relevance, effectiveness, and sustainability of project outcomes.

This Action Guide provides a road map of the changes that are projected to take place in three areas of the economy expected to grow in a green transition and which present significant opportunities for youth: **climate-smart agriculture**

The implications of green jobs

In addition to a focus on contributing to environmental sustainability, an equity and justice lens must also be applied to the definition and creation of green jobs. Without a focus on equity and justice, the transition to a green economy risks perpetuating structures of discrimination and systems of inequality that have historically prevented the participation of underrepresented populations. Our definition of green jobs therefore expands beyond jobs that only protect, conserve, and regenerate the environment to those that also "contribute to the well-being and flourishment of present and future generations, upholding human rights, including women's rights and the rights of Indigenous populations and peoples of color" (Kwauk and Casey, 2021). With this definition, green jobs attend to the need to increase human dignity and care for others and nature.

The development of green skills among youth will be necessary to reach projected increases in green jobs. **Green skills include specific capacities (skills for green jobs), generic capacities (green life skills), and transformative capacities (skills for a green transformation), which together prepare young people to find decent green jobs, excel in their roles, and promote transitions not only to more sustainable ways of working but also more equitable and just ways of thinking and doing (Kwauk and Casey, 2021).**



(CSA), natural climate solutions (NCS), and youth entrepreneurship. The Action Guide outlines how international development organizations (IDOs), including donors and implementing partners, can play a role in supporting youth to overcome barriers and access green jobs.



GREEN LIFE SKILLS

SKILLS FOR GREEN JOBS



SKILLS FOR A GREEN TRANSFORMATION

BOX 1

Who is talking about green jobs?

Consultations with a diverse set of youth climate experts revealed that the use of the terms "green jobs" and "green skills" is far from ubiquitous among most youth populations. Even when youth have heard of these terms, they often lack the access to adequate information, education, and opportunities to meaningfully engage in a green transition, as Botswanan youth activist Kamogelo Thumankwe has described. These terms are often present in policy spaces, but are not common among the general population, as youth climate policy expert Ricardo Guzman explained. The concentration of "green terminology" in policy spaces may mean that only the most privileged youth are exposed to these concepts, creating gaps in understanding and opportunities for less privileged youth. While many youth are engaging with these terms through youth-led climate initiatives, they are often young people with more free time, resources, and privilege. To learn more about trends in youth-led climate initiatives, read the Global Discourse Analysis on Youth-Led Climate Initiatives Brief (Chemonics, 2022).



"I get a feeling that a lot of young people don't really understand what green jobs and skills are. They do use the term green jobs and green skills. They know that this is what's needed right now, but the thing that's lacking everywhere with youth is knowledge and knowing what the just transition [really] is and what's happening. They lack information. They don't know a lot about it. They know the climate is changing and we're trying to find better and more sustainable ways of doing, but they don't have a solid understanding of what it really means and how they could get there. That is the gap that is left and needs to be filled before going any further with anything."

Kamogelo Thumankwe MTE Climate Ambassador for Global Youth Climate Network, Botswana

Ensuring a just transition

In addition to achieving decarbonization, a transition to a green economy must also place equity and justice at the center of changes and transformations that occur across societies. This means that the road to net-zero emissions cannot be achieved by perpetuating old systems of inequality and privilege, which have historically marginalized groups, such as women and girls, youth, Indigenous peoples, persons with disabilities, and people of color, to name a few. Instead, a just transition to a green economy prioritizes redistributing power and resources to historically underrepresented groups by seeking to eliminate or transform unequal paradigms of the past and present.

Gender equity in a just transition

Green transitions risk exacerbating gender. geographic, and economic inequalities unless these issues are addressed directly. More than 80 percent of the new jobs being created in the transition to a green economy will occur in today's traditionally male-dominated sectors (Saget, et al., 2020). This is reinforced by current employment data from the renewable energy sector, in which women make up less than one-third of the present workforce, often holding positions with lower skill requirements than those held by men (International Renewable Energy Agency [IRENA], 2019). Gender imbalances, as well as inequalities that disadvantage youth, Indigenous peoples, persons with disabilities, and lower income individuals, will become more pronounced without intentional political and social action to ensure the inclusion, and prioritization, of historically underrepresented groups in a green transition.

Indigenous rights in a just transition



Photo credit: USAID Natural Wealth Program

Prioritizing and protecting the rights of Indigenous peoples is critical to pursuing and achieving a just transition. Violent histories of colonialism, racism, and discrimination around the world have caused Indigenous communities to be disproportionately disadvantaged in society today, making them especially vulnerable to human rights abuses and the effects of climate change. Despite contributing the least to climate change, Indigenous people are often on the frontlines of experiencing extreme weather events and environmental degradation that significantly impact their livelihoods and way of life. Achieving a just transition to a green economy necessarily means ensuring that Indigenous people, who account for an estimated 370 million individuals worldwide (Leal Filho et al., 2021), are not further disadvantaged by the changes taking place in society but are safeguarded and engaged more intentionally than ever before.

Indigenous knowledge and traditional ways of caring for the environment are often central to ecosystem-based and biodiversity-focused approaches to climate mitigation and adaptation. The participation of Indigenous people as key actors in climate solutions is vital for the success of green transitions. Many definitions of natural climate solutions (NCS), including that of the Intergovernmental Panel on Climate Change (IPCC), emphasize the protection of Indigenous communities and the valuing of Indigenous knowledge and rights. At present, Indigenous territories make up 40 percent of protected areas worldwide, and it is estimated that Indigenous peoples' stewardship of tropical and subtropical rainforests accounts for almost one-fifth of all the carbon sequestered by these ecosystems globally (Townsend et al., 2020). It is crucial, however, that engaging Indigenous peoples as equal partners in collaborative climate action programming does not become an additional burden on these communities or take advantage of their relationship with nature. Ricardo Guzman. Cofounder and Director of Sustenta Honduras a non-profit organization focused on climate change adaptation through youth empowerment - described how many people in his country have become involved in climate activism not out of choice but out of necessity.

Beyond NCS, it is important that activities across all sectors, including CSA and entrepreneurship, more intentionally consider the nuanced ways they might harm or exclude Indigenous and other minority or marginalized communities, especially the youth in these communities, and how they can better include them as agents of change and accommodate their rights in a green transition.



"Honduras has for years dealt with extractive industries and people don't really choose to be here, but rather they're forced to get into environmental matters. More than 10 percent of the population of Honduras is part of a minority or Indigenous group, and they are definitely a big proportion of those who get into climate justice or energy justice."

Ricardo Guzman Cofounder and Director of Sustenta Honduras, Honduras

BOX 2

The potential of natural climate solutions to promote youth leadership, entrepreneurship, and a just transition

Although the discourse on NCS is still developing around mitigating risks and promoting equity, **NCS can help humans and the planet flourish when applied appropriately at local levels.** One example is the USAID-funded Chemonics-implemented <u>Paramos and Forests Activity (P&F)</u> in Colombia, which works with the Government of Colombia and participating Afro-Colombian and Indigenous communities in reducing emissions from deforestation and forest degradation (REDD+) and promoting sustainable land use practices. P&F also opened a youth leadership school to support skill-building among Indigenous youth to become council leaders, increasing their capacity to engage in local and national decision-making in conservation topics such as protecting Indigenous rights and territories, preventing deforestation, and restoring and protecting ecosystems.

Site-based NCS can increase the ability of local communities to manage future climate shocks, developing their adaptive capacities, enhancing climate resilience, and empowering people to care for their local environment (World Wildlife Fund for Nature [WWF] and International Labor Organization [ILO], 2020). The youth businesses started by "ecopreneur" finalists in <u>1t.org</u> and UpLink's #GenerationRestoration Youth Challenge also exemplify the benefits of NCS. The challenge was a global call for youth ecopreneurs to submit their innovative solutions for restoring nature, and included youth ventures like the <u>Green Generation Initiative</u>, which supports local communities to plant fruit trees in Kenya to restore habitats and combat local hunger. Another venture, the <u>Ecological Food Caterpillars Company</u>, trains Indigenous youth and women to plant indigenous tree species that can promote biodiversity and allow for the harvesting of edible caterpillars to tackle food insecurity in the Democratic Republic of Congo. Yet another youth business, <u>P.I.B Global Services</u>, employs youth in harvesting water hyacinths, an invasive aquatic weed, and producing biochar seedballs that improve tree growth in Nigeria, both of which support job creation, contribute to ecosystem clean-up, and capture carbon in the process (Prowse and Ditlefsen Zanni, 2021).

Global green job projections

Photo credit: USAID Paramos and Forests Activity

1.1 Green job projections across sectors

By 2030, it is estimated that the transition to a greener economy will add 60 million new jobs globally.

By 2050, jobs created in the renewable energy sector alone could reach 42 million, accompanied by 21.3 million jobs in energy efficiency, and 14.5 jobs in energy flexibility and power grids (Nishimura and Rowe, 2021). The wider adoption of sustainable practices across other sectors could account for up to 630 million new jobs by 2050 (Nishimura and Rowe, 2021). In Latin America and the Caribbean, projections suggest a transition to a net-zero carbon economy will create 22.5 million jobs in agriculture and plantbased food production, renewable electricity, forestry, construction, and manufacturing (Saget et al., 2020). Interviews with youth climate experts and Chemonics' project staff and youth partners revealed that jobs in ecotourism, agri-photovoltaics, forest protection and rehabilitation, and hydroponics are areas of potential growth and interest for young people.

By transitioning away from less sustainable practices in core industries, such as traditional energy and manufacturing, jobs in environmentally harmful industries, such as petroleum and oil refineries, will decline. According to the ILO, the declines in these jobs will still be less than the expected increases in green jobs.

BOX 3

New and unimagined jobs, for whom?

Predicting the number and types of jobs that will be available in the future is an imperfect science. Current green job projections, while useful for conceptualizing and preparing for transitions, should be considered alongside the understanding that projections will be affected by the real impact that increasing climate shocks and stresses will have on the global economy and local livelihoods in the near- and longer-term future, not to mention the impact of economic and geopolitical shocks that we cannot predict. There will also be many green jobs we can't yet imagine that are unaccounted for in current job projections, created both out of necessity and through the entrepreneurial spirit of humans to tackle climate challenges. Finally, how researchers define the boundaries of a "green economy" also influences the scale and scope of present job projections, and while green job projections may take into consideration social and economic factors in their models, the myriad barriers that individuals from historically marginalized groups face in accessing employment opportunities can temper even the most optimistic of job projections.

FIGURE 1:

Projected job losses and job gains by 2030 in a green transition

INDUSTRIES SET TO EXPERIENCE THE HIGHEST JOB DEMAND GROWTH (Absolute)			INDUSTRIES SET TO EXPERIENCE THE STRONGEST JOB DECLINE (Absolute)		
	SECTOR	JOBS (MILLIONS)		SECTOR	JOBS (MILLIONS)
	Construction	6.5	ĺŋ	Petroleum refinery	-1.6
	Manufacture of electrical machinery and apparatus	2.5		Extraction of crude petroleum and services related to crude oil extraction, excluding surveying	-1.4
	Mining of cooper ores and concentrates	1.2		Production of electricity by coal	-0.8
Ŧ	Production of electricity by hydropower	0.8		Mining of coal and lignite, peat extraction	-0.7
*	Cultivation of vegetables, fruit, nuts	0.8		Private households with employed persons	-0.5
*	Production of electricity by solar photovoltaics	0.8	4	Manufacture of gas distribution of gaseous fuels through mains	-0.3

SOURCE:

ILO, World Employment and Social Outlook 2018 - Greening with Jobs, 2018

1.2 Spotlight on climate-smart agriculture

Young people have a clear role to play in developing and expanding the agricultural sector to adopt climate-smart technologies for climate mitigation and adaptation while also providing improved livelihoods.

Climate-smart innovations in the agricultural sector will be especially important for youth on the African continent, which possesses 65 percent of the world's remaining uncultivated arable land and the potential to feed 9 billion people by 2050 (Geodata for Agriculture and Water [G4AW], accessed 2022). Estimates of the number of young

people in Africa entering the labor market each year range from 11 million (Mungai et al., 2018) to 25 million (German Corporation for International Cooperation [GIZ], 2020). More than half of these young people will be born in rural areas where they account for 65 percent of the agricultural workforce today (Mungai et al., 2018).



What is climate-smart agriculture?

According to the Food and Agriculture Organization (FAO), CSA rests on three main pillars: 1) increasing agricultural productivity and incomes in a sustainable way, 2) building capacities for climate resilience and adaptation, and 3) promoting greenhouse gas reduction and/or sequestration (Barbon et al., 2021). CSA can also provide decent jobs and livelihoods to young people, offering an attractive and lucrative career pathway for youth entering the workforce. For example, green skills in CSA can help youth prepare for jobs such as: hydroponics, agriphotovoltaic systems, regenerative agriculture, brokering crop insurance, providing climateinformed agriculture advisory services, and distributing drought-resistant seed varieties.

What are youth experts saying about CSA?



"Adaptive smart agriculture systems, if scaled, have the greatest potential to address the climate crisis, support sustainable agriculture, and provide employment/income-earning opportunities for youth because they enhance agricultural production and ensure food security under the changing climate by developing sustainable land use tools, which also entails a need for active youth to work on the ground, thus, increasing employment opportunities for youth."

Chimfwembe Mutale Youth expert, Renewable Energy Engineer, Zambia

Estimates from the African Development Bank suggest that investments across agriculture value chains could add up to 6 million additional jobs on the continent (Mungai et al., 2018), of which the proportion of off-farm jobs in Africa's agricultural sector are projected to rise from 25 to 30 percent by 2025. The largest area of job creation, however, is still expected to be in on-farm agricultural production (GIZ, 2020). On-farm activities can greatly benefit from the adoption of climatesmart technologies and approaches to enhance productivity and diversity their livelihoods. For example, in Kenya, young farmers are engaging in the production of high-value crops through vertical farming and hydroponic techniques, in addition to raising organic chickens, rabbits, and cultivating honey, according to youth expert Dr. Dorcas Kalele.

Downstream agriculture-sector activities in processing, packaging, branding, and trading also provide promising job opportunities for youth (FAO, 2020). In addition, agricultural extension and advisory services have the potential to both employ youth as green change agents and providers and help young farmers access climate-smart technical advisory services and agricultural inputs (Davis et al., 2020; Franzel et al., 2020). For example, the Feed the Future-funded

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BOX 5

Youth as informal extension agents for their communities: Example from the Navajo Nation in Arizona, United States



Dr. Sarah Abney, Fulbright Scholar, Food, Energy, Water Nexus Consultant, United States, shared her experiences working with Indigenous youth of the Navajo Nation in the southwestern United States. While pursuing her Ph.D., Sarah helped develop a solar water treatment system to bring clean water to families who live on the Navajo reservation. While this technology had the potential to help many Navajo families who lacked access to clean water, the process of using the system was complicated and highly inaccessible to people who hadn't been trained. Sarah described how a group of Navajo youth

came to the lab where these systems were being built and commented that "This is too much, my grandma won't use this." To make the system more accessible to elders in their community, the youth learned about the system themselves and then simplified the instructions, including translating them into local languages, so that their communities could use the system effectively. Sarah describes how she thought "it was empowering that youth could come in, basically learn something on a high learning curve, and take it back and simplify it so that it could be more digestible for the greater community." Sarah's story is an important reminder of the critical role that young people can play as knowledge brokers — essentially informal extension agents in their communities — to share technical knowledge in ways that are culturally sensitive. Her experience emphasizes the need for advancements in green technologies to be made not only physically accessible and economically affordable, but also easily adoptable and understandable by the communities they are designed to help

Integrated Pest Management Program in Nepal helped facilitate a memorandum of understanding between private agricultural input suppliers and youth employed as community business facilitators (CBFs). By acting as the guarantor for the youth CBFs, Feed the Future was able to offset suppliers' risk in employing youth, who often lack access to capital and assets. The youth CBFs were therefore able to obtain improved seeds and other agricultural inputs from the suppliers, which they sell to their communities at 20 to 30 percent in commission. This model proved to be a win-win for both private sector suppliers and youth CBFs, as young people gained a stable source of income and input suppliers nearly quadrupled their sales by employing young agents (USAID, 2016).

Rural youth tend to engage in "mixed livelihoods," mixing on-farm and off-farm agricultural activities as well as non-farm activities to maximize their income and minimize their vulnerability to shocks brought on by fluctuating markets, the seasonality of agricultural work, and a changing climate (YouthPower, accessed 2022). Therefore, youth employment in agricultural "supporting markets" is an area of opportunity for expanding applications of climate-smart techniques beyond the traditional agricultural sector. These peripheral sectors include information, communications, and technology (ICT) services (Cassinath and Mercer, 2020), entrepreneurship and business support services, input and equipment supply, finance, childcare, media communication, labor market information services, and technical and vocational training (Davis et al., 2020; Franzel et al., 2020).

1.3 Spotlight on natural climate solutions

A landmark study on NCS from 2017 found that actions to protect, sustainably manage, and restore natural and modified ecosystems can contribute 37 percent of the carbon emissions reductions needed by 2030 to prevent global temperatures from rising more than 2 degrees Celsius (Griscom, et al., 2017).

Further, one-third of the NCS approaches currently implemented can cost less than \$10 per unit of CO2 averted, making NCS both an effective and cost-efficient option to improve livelihoods and climate resilience. While data on the effectiveness of NCS are being updated regularly, these landmark findings are a valuable guidepost for the importance of NCS approaches in a green economic transition. In addition, the IPCC reported with high confidence that nature-based solutions (NbS) (see box 6) have the potential to support climate change adaptation and mitigation while also contributing to other United Nations Sustainable Development Goals (<u>SDGs</u>) (Carbon Brief, 2022).

At present, nature-based livelihoods such as farming, fishing, forestry, and tourism employ 1.2 billion people worldwide (Cook and Taylor, 2020). Under the umbrella of nature-based livelihoods, millions more jobs can be created in NCSrelated sectors, such as watershed improvement, indigenous forest management, agroforestry, fire management, urban green space creation

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BOX 6

What are natural climate solutions?

NCS approaches balance efforts to protect, sustainably manage, and restore ecosystems and the critical services they provide with the need to uplift local communities and increase peoples' climate resilience. NCS, which fall under the broader umbrella of nature-based solutions (NbS), refer to the application of ecosystem-based and biodiversity-focused approaches to tackle climate change and its impacts on populations. Both NbS and NCS should prioritize local knowledge and practices for ecosystem and biodiversity protection and rehabilitation. When applied appropriately, NCS can facilitate skills and local capacity development, create jobs, and enhance the resilience of communities and ecosystems. and management, and mangrove and coastal restoration (WWF and ILO, 2020). These jobs include positions for youth as foresters, farmers, green infrastructure workers, and ecotourism guides, in addition to a wider range of jobs in administration and management that will be needed to support growing NCS sectors.

Worldwide, an estimated 1.6 billion people are reliant on forests for their food, income, and/or livelihoods. Reforestation efforts are the largest NCS pathway, accounting for more than two-thirds of cost-effective emissions mitigation (Griscom, et al., 2017). In Guatemala, community-based forestry enterprises (CBFEs) in the Multiple Use Zone of the Maya Biosphere Reserve generated \$4.75 million in annual income from timber sales and \$150,000 from non-wood forest products, with local incomes that were twice the minimum wage, while also preventing deforestation and conserving biodiversity diversity (WWF and ILO, 2020). CBFEs can also provide consistent sources of income and benefits to communities, especially when they are developed as social enterprises that prioritize equitable benefit-sharing and sustainability in forest management (USAID, 2020). In Zambia,

Chimfwembe Mutale, a youth climate expert, described how the government is creating jobs for youth as forest rangers to combat the high rates of deforestation in the country.

In addition to active forest management pathways, it is estimated that the conservation of protected areas throughout the world could create up to 1.7 million jobs for people employed as rangers (WWF and ILO, 2020). Other examples of environmental rehabilitation and protection projects that have created jobs through NCS include the USAIDfunded and Chemonics-implemented Resilient Waters Program, which tackles water and sanitation challenges along Southern Africa's Limpopo River Basin — in Botswana, Mozambique, South Africa, and Zimbabwe - with a focus on building climate resilience among communities and promoting sustainable livelihoods. The Resilient Waters Program provides grants to local organizations to protect natural habitats; offers trainings for farmers in regenerative, climatesmart and water-wise agricultural practices; and promotes ecotourism opportunities to support local livelihoods and fund mangrove conservation.

1.4 Spotlight on green youth entrepreneurship

Green entrepreneurship is growing faster than other sectors (LinkedIn, 2022) and youth entrepreneurship more generally presents a viable option for providing decent employment to the world's growing youth workforce (Nebuloni and van der Ree, 2021).

As youth have become more interested in entrepreneurship, markets have followed to support them. For example, in 2017, startup investments across Africa amounted to \$560 million, nearly double the 2015 level (United Nations Environment Programme [UNEP], 2016). The number of technology innovation hubs also grew during this time period across the region (Chawla, et al., 2019), providing valuable support to young businesses that often face barriers such as poor access to capital and technical training, and competition with larger, more established firms (Demirel et al., 2019). Increasingly, innovation hubs, such as the UNLEASH Innovation Lab (see page 24 for more information), focus specifically on supporting youth innovators in developing solutions to sustainability problems, promoting green entrepreneurship among younger generations.



"The climate crisis has brought the need to transform societies. This has raised the urgency of innovations, and youth are coming up with new ideas that are beneficial to facing the climate crisis and sustaining the livelihoods of young people"

Amos Amanubo Youth engagement expert, Uganda



"Youth are finding that green jobs aren't there. When people cannot find the job of their choice, they create one."

🖌 Raj Shah

Social Entrepreneur & Business Advisor, India

Examples of youth entrepreneurship opportunities include youth acting as "agri-preneurs" to transform the agricultural sector to be more sustainable and productive through small business ventures, such as agri-preneur Fatuma Namatosi, Founder of Byeffe Foods (see accompanying case study on Byeffe Foods). Youth can also engage in the ecotourism sector as entrepreneurs, and projects like the USAID-funded Tourism for All activity, implemented by Chemonics in Timor Leste, provide training for youth to help them understand how ecotourism can help address climate change. Green entrepreneurship opportunities also exist for youth in rural tourism, including the production and sale of local souvenir products and the development of nature-related activities (Martynova and Iaromenko, 2020).

Amos Amanubo, youth climate activist and founder of GreenTrust Africa, also noted how scaling and improving micro-, small- and medium-sized enterprises (MSMEs) in sectors like agroforestry, woodworking, and urban forestry can promote carbon sequestration and support food security while also providing jobs for young people along the forest value chain as carpentry, wood carving, and woodworking. Youth entrepreneurs are also starting social enterprises, emphasizing the potential for green entrepreneurship to pursue a "triple bottom line" of making a profit while also benefiting people and the planet (Miller, 2020). For example, <u>FabricAID</u> is a youth-led social enterprise based in Jordan and Lebanon that recycles used clothing to sell to low-income communities at affordable prices. By providing an outlet for people to donate their clothing, FabricAID is reducing waste in the fashion industry while also making the retail clothing experience more accessible to those with fewer means. FabricAID employs over 100 people in Lebanon and Jordan and is expected to expand to Egypt soon. With the help of Chemonics' USAID-funded Lebanon Enterprise Development activity, FabricAID has been able to hire a consultant to digitize their business, improving their efficiency in tracking and managing activities.

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BOX 7

Innovative technology in youth entrepreneurship: ChipSafer.

When Victoria Alonsoperez was 12, her home country of Uruguay experienced a widespread disease outbreak among livestock, causing an economic crisis given her country's reliance on livestock product exports. The impact of the outbreak left a strong impression on Victoria, and she wondered if there could be a way to prevent this from happening again. Victoria invented ChipSafer in 2012, after graduating college as an aerospace engineer. She realized that the same technology being used in the space industry could be used to monitor livestock. Using her engineering skills, she designed a wearable tracking device for cattle that can help farmers better respond to potential disease outbreaks by tracking anomalies in animal behavior and managing where their herds graze to ensure they're not encroaching on protected lands. She submitted her invention to a competition hosted by the International Telecommunications Union



"When you provide opportunities, innovation happens"

Victoria Alonsoperez Founder & CEO of Chipsafer, Uruguay

and was selected as a finalist to attend a two-week entrepreneurship workshop in Dubai, where she competed as an individual against teams of engineers from around the world. She won the competition, which helped elevate ChipSafer on the global stage. Today, ChipSafer partners with larger companies who buy her technology and sell it to farmers at a subsidized price. One of her biggest challenges is finding talented people to grow her business, and she believes that giving people opportunities to gain the skills and knowledge to make their ideas a reality is what's needed to increase innovation in sustainable entrepreneurship.

CHAPTER 2

Opportunities and challenges in filling green jobs

Young students learn about climate change at the 2019 Kenya Space Chapter. Photo Credit: Dorah, Nesoba, SERVIR Eastern and Southern Africa, Regional Centre for Mapping of Resources for Development

2.1 Outlining the challenges: Normative and structural barriers

This Action Guide applies a Positive Youth Development (PYD) framework to consider the barriers youth face in accessing green jobs in CSA, NCS, and entrepreneurship, and highlights the normative and structural aspects of young people's environments that can either support them in or prevent them from accessing services.



Structural barriers

Structural barriers include young people's lack of access to education and training, knowledge, materials, resources, and financial assets that can hinder them from entering green jobs in certain fields and from succeeding in green jobs. Structural barriers are also engrained in the way economic and political systems are set up, perpetuating policy and regulatory environments that favor the more privileged, experienced, or well-connected.



Normative Barriers

Normative barriers to youth accessing green jobs include predominant attitudes, norms, and beliefs in society, including gender norms or stereotypes against particular groups, which may prevent or deter youth from seeking jobs in certain sectors.

2.2 Normative barriers: Lessons from the agricultural sector

Many young people consider farming and agricultural work to be old fashioned and not lucrative, deterring them from considering it as a viable career path (Leavy and Hossain, 2014; FAO, 2020). Their reluctance to enter agricultural fields is often paired with a desire to work in the formal sector (Leavy and Hossain, 2014) and gain access to higher status "white collar" jobs or professional occupations (FAO, 2014).

While many youth desire livelihoods with greater opportunities for growth, job stability, and security, work in agriculture will continue to be a reality for many, especially those living in rural areas where agricultural work is the only viable option. For youth already engaged in agriculture out of necessity, framing agribusiness and CSA as a pathway to more lucrative employment down the line can help youth to take advantage of immediate opportunities in agriculture while also encouraging them to think about their longer-term goals (USAID, 2016). In addition, introducing CSA that offers better paying and higher profile jobs within the sector would capitalize on young people's aspirations and debunk outdated views of what agriculture can be. Innovative technologies and new investments in CSA have the potential to reinvigorate the sector and attract young people to it. For example, a review of 20 information, communications, and technology (ICT) -enabled youth-led agricultural startups across Africa found that youth entrepreneurs saw ICT as playing a pivotal role in promoting CSA and in reframing agriculture as an attractive career path for youth (CTA, 2016).

BOX 8

Developments in youth engagement in agriculture: A perspective from Kenya

Dr. Dorcas Kalele, a youth expert in CSA from Kenya, shared her observations on how and why young people are engaging in agriculture today. Her insights highlight how advancements in agricultural innovations and technologies have increased young people's interest in the agricultural sector and point to the need for young people to have increased access to education, training, and information related to these technologies so they can take advantage of a rapidly innovating industry.



"If we can look back maybe 10 years, agriculture was not quite interesting for young people. They felt that it's a job that should be done by the old people. But this trajectory has been changing with innovations and new technologies coming up around new approaches of farming. There has been some kind of transition. You'll find that in the last five years or so young people have been getting interested in agricultural activities. What has made this shift happen? It's because there have been some new innovations, new technologies coming up, and sensitization that there's actually money in agriculture."

Dr. Dorcas Kalele Research Fellow, African Centre for Technology Studies, Kenya

Gender norms also prevent the equitable participation of women in the agricultural sector, and advancements in the CSA sector risk perpetuating these inequities unless this issue is tackled directly. While estimates of women's share in agricultural production range from 40 to 60 percent and can be as high as 80 percent (World Bank, 2022), women are less likely to be active in higher-value agricultural activities such as contract farming, outgrowing, or producer groups, and this limits both their income generation and their access to trainings, services, and inputs (Value for Women, 2018). Gender norms regarding the types of work considered appropriate for men and women can lead to women being left out of opportunities for capacity building or accessing financial supports and services in the agricultural sector, discouraging women from seeking out higher-value agriculture sector jobs in the first place (Kinkade, 2008; Banga et al., 2021). This means that amidst advancements in CSA, women will often already be disadvantaged, as compared to men (Nelson and Huyer, 2016), and therefore a just transition in CSA must recognize and address unequal gender norms (Davis et al., 2020).

2.3 Recommendations from youth: Addressing normative barriers

Many young people consider farming and agricultural work to be old fashioned and not lucrative, deterring them from considering it as a viable career path (Leavy and Hossain, 2014; FAO, 2020). Their reluctance to enter agricultural fields is often paired with a desire to work in the formal sector (Leavy and Hossain, 2014) and gain access to higher status "white collar" jobs or professional occupations (FAO, 2014).

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Implement sensitization and awareness-raising campaigns to educate youth on the green job opportunities that exist and how they can get involved.



CSA Climate-Smart Agriculture



NCS Natural Climate Solutions



Youth entrepreneurship Many of the youth who would benefit most from CSA opportunities live in rural or remote areas. Reaching them with information and opportunities can be done through low-tech methods, such as TV or radio, or text messages, given the increasing ubiquity of cell phones. Rural youth can also be trained and employed as extension agents, serving as information and opportunity brokers for the rest of their community.

For youth to take advantage of the economic opportunities in NCS, they must first understand what it is. Providing experiential learning activities for young people, such as school gardens, community tree planting initiatives, or local habitat clean-up and restoration can engage youth directly in different examples of small-scale NCS and help them see the potential of these nature-based activities to support their environment and their own livelihoods.

Young people have ideas; what they often lack is the process-level understanding of how to refine and develop their ideas into businesses, as well as role models of youth who have successfully done so. Highlighting youth green entrepreneurs who have succeeded in scaling their ventures and sharing not only their triumphs, but also their failures along the way can demonstrate to other young people what the journey is like to becoming a green entrepreneur. This can be done through social media campaigns, competitions, and other traditional methods of mass communication, such as posters, radio, and TV.

Integrate gender-responsive and gender-transformative approaches in education and training to promote gender equality in access to information and opportunities.



CSA Climate-Smart Agriculture



NCS Natural Climate Solutions Programs that provide training on climate-smart technologies should do so in culturally sensitive ways so that both men and women can benefit. This could mean providing female facilitators, offering trainings at the village level, and providing childcare or other incentives for attending trainings to eliminate some of the barriers women often face in accessing these opportunities.

When seeking out local and Indigenous sources of knowledge for NCS activities, it is crucial to consider who is being heard and who is speaking up. Gender-responsive efforts need to be made to ensure that women and girls' perspectives are engaged from the outset. This could mean providing female-only spaces for women and girls to share their ideas or conducting gender sensitization trainings among communities. Where appropriate, it is useful to map out the different kinds of knowledge and skills that men and women traditionally hold, as well as inequalities that could be addressed to improve the whole community's ability to address and adapt to climate change. Additional measures should be taken to include people with disabilities and other marginalized populations.



Youth entrepreneurship Normative and societal barriers can often deter young women and girls from accessing or seeking out opportunities to become entrepreneurs. Challenging gender stereotypes and uplifting young women innovators is therefore crucial. Innovation hubs should ensure that their teams are gender equitable and can provide targeted training on gender equality in business to support both young men and women to become advocates for equitable ways of working.

2.4 Structural barriers: Examples from youth entrepreneurship

A lack of access to the structural inputs needed to advance entrepreneurial pursuits, such as technology, machinery, startup capital, and ongoing financing creates real barriers to young people's success as entrepreneurs (UNEP, 2016).

Access to land is also a significant barrier that youth face, especially young entrepreneurs in the agricultural sector. In addition to the general costs of starting and scaling a venture, establishing a green business may have unique and higher costs for startup and maintenance than other businesses (Demirel et al., 2019). For example, the Chemonics' team of the USAID-funded Small and Medium Enterprise Activity (SMEA) based in Pakistan (see accompanying case study on supporting green enterprises) shared their observation that young entrepreneurs see the option of "greening" their business as an additional cost in an already highcost environment rather than an investment that can make their business more competitive and profitable.

Establishing better and more explicit incentives and benefits for green entrepreneurship can be tackled at the systems level. For example, governments can play a regulatory role in supporting green entrepreneurship through policies that set goals to set aside a certain number of contract awards to small green businesses, or incentives for individuals who are starting their own business (Demirel et al., 2019). At present, however, few policies have been enacted anywhere in the world that specifically support green entrepreneurship among youth (Harsdorff et al., 2012). Advocacy at the national level can help encourage governments to support green entrepreneurship development through policies that lower young peoples' barriers to entry, including providing them better access to financing, creating more supportive markets for growing their businesses, and facilitating the development and growth of networks for connecting young entrepreneurs to one another and to institutional support (Harsdorff et al., 2012). Addressing young people's lack of access to land should also include working at the policy level through advocating for more youth representation in government decisions around land tenure and inheritance and advocating for more accessible land rental markets (Chemonics, 2017).

In countries where personal connections are extremely important for facilitating business transactions, young people's lack of social capital can also be especially limiting. For example, in an interview, youth climate activist lqbal Jamal from Pakistan described how having contacts in government was crucial for accessing not only national-level support, but also international donor funding. Iqbal elaborated that youth without contacts in government, especially those from less privileged positions in society, are poorly positioned to succeed due to the way business-asusual is conducted in his country.

2.5 Recommendations from youth: Addressing structural barriers



Support youth in accessing financing through mechanisms such as grants, competitions, and scholarships.



CSA Climate-Smart Agriculture



NCS Natural Climate Solutions



Youth entrepreneurship

For youth working in CSA, access to capital is important throughout the process of growing and scaling their operations, which can include leasing additional land, obtaining newer and more efficient equipment, updating facilities, etc. Provide opportunities for youth entrepreneurs in CSA to access grant funding beyond the startup phase to support the sustainability and scalability of their enterprises.

Many young people are already engaging in small-scale NCS activities at the local level, such as planting indigenous trees, but often these activities are limited to volunteering. Provide youth the opportunity to apply for grants and scholarships to turn their NCS activities into projects and programs that can help them build their resumes for future educational or professional pursuits.

Organizing competitions with financial incentives and rewards can help motivate young entrepreneurs and offer a valuable platform for the best and brightest innovators to access capital and networks. Make sure entry to these competitions is accessible to youth entrepreneurs across diverse geographies and with diverse socioeconomic backgrounds, abilities, and genders and that less seasoned entrepreneurs have access to trainings and bootcamps in advance of competitions to ensure that not just the most privileged young entrepreneurs are highlighted. For example, the <u>UNLEASH Plus</u> incubation program co-hosted by Chemonics offers youth entrepreneurs the chance to refine and test their innovations with the help of mentors, workshops, and networking.



Provide platforms for youth to build coalitions and engage collectively in policy and decision-making.

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CSA Climate-Smart Agriculture Young farmers are often at a disadvantage in accessing loans, land, and other resources provided by financial and government institutions because of their age, gender, lack of collateral, or limited understanding of political and economic systems. Engage youth voices in new and existing farmer collectives to increase their bargaining power to advocate for policies that affect them, as well as to promote knowledge-sharing on policies and practices that are crucial to CSA.

CENTERING YOUTH IN GREEN WORKFORCE DEVELOPMENT CHAPTER 2: OPPORTUNITIES AND CHALLENGES IN FILLING GREEN JOBS



NCS Natural Climate Solutions



Youth entrepreneurship NCS depends on the inclusion of historically underrepresented groups, such as Indigenous youth, young women, and youth from rural areas. Provide organized, formal spaces for these groups to convene and develop collective demands and plans for action to improve their visibility and increase their capacity to engage in policy and decision-making.

Youth entrepreneurs often face systemic barriers, such as inhospitable regulatory environments that include high costs for registering new businesses or require costly compliance measures. Support youth entrepreneurs to engage collectively on issues that affect them to increase their legitimacy and political capital.

Work directly with local community-based organizations and the private sector to align activities with local realities and market needs.



CSA Climate-Smart Agriculture



NCS Natural Climate Solutions



Youth entrepreneurship

CSA opportunities exist for youth across the agricultural value chain and involve a host of private sector actors. Make sure that programs are engaging the right private sector stakeholders at each stage of the value chain and identify entry points for engaging youth in the sector.

NCS rely on local knowledge and ownership to succeed. Identify and engage with community-based organizations that are already doing NCS work to improve the relevance and effectiveness of a program and to ensure the longer-term impact of program activities.

Supporting youth entrepreneurs to succeed in their own context requires a nuanced understanding of local market needs, opportunities, and challenges. Work with the private sector, including connecting youth to more developed businesses to help them refine their ideas, identify potential business collaborations, and develop a more sustainable business plan. CHAPTER 3

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Preparing young people to find jobs in a green economy

Photo credit: USAID Páramos and Forests Activity

3.1 Building the right skills to succeed in any sector

Transitioning to a greener economy will require concerted efforts to prepare young people for green jobs through building new skills, retooling existing skills, and upgrading relevant skills.

For example, in the Latin American and the Caribbean region, it is estimated that 1.3 million employees in the agriculture, forestry, and fishery sectors will have to retool or upgrade their skills due to changes in practices in favor of more green approaches, while 22.5 million additional jobs will be created in agriculture in plant-based food production, construction, and renewable electricity where there will be a critical need for CSA, NCS, and NbS. In comparison, projections are that 7.5 million jobs in fossil fuel-generated electricity exploration and extraction and animal-based food production sectors will disappear in the transition to a green economy in the region in the coming decades (Saget et al., 2020). These crosssector shifts will force a reallocation of the workforce and drive workers to adjust their skillsets.

The skills needed for a transition to a greener economy include specific skills for specialized sectors and positions (e.g., green job skills), and life skills that are transferrable across sectors and support both personal and professional development (e.g., green life skills). Transformative skills (see Figure 2 below) are also critical to support youth in promoting the issues of justice and equity in a green transition (skills for a green transformation). Taken together, green job skills, green life skills, and skills for a green transformation provide a framework to approach capacity building for a just, green transition (Kwauk and Casey, 2021). Figure 2 illustrates the continuum of skills that youth green workforce development initiatives should target to support a just transition (Kwauk & Casey, 2021).



The importance of the education system in preparing youth for green jobs

Poor quality of education, as well as lack of access, can prevent youth from establishing secure livelihoods through green jobs. Marcos Moreno, former Chief of Party for Chemonics in Uganda, described how the first step to preparing young people for meaningful work is keeping them in school for as long as possible. When young people leave school early or do not have access to formal education at all, they cannot develop skillsets and capacities in literacy and numeracy skills and conceptual thinking that are foundational in starting a successful entrepreneurial venture and adopting technological and digital tools in CSA and NCS. Quality education equips young people with foundational literacy and numeracy skills that can help them start and run a successful entrepreneurial venture, as well as adopt technological and digital changes in fields such as CSA or NCS. Similarly, climate literacy and environmental literacy are fundamental to enabling young people to consider opportunities in green entrepreneurship or green workforce development. Without quality education, young people entering the labor market are at a grave disadvantage in finding decent work, especially considering the trend in greening industries to adopt high-tech innovations, making future jobs more likely to require advanced technical and digital skills in the future.

CENTERING YOUTH IN GREEN WORKFORCE DEVELOPMENT CHAPTER 4: PREPARING YOUNG PEOPLE TO FIND JOBS IN A GREEN ECONOMY

FIGURE 2:

A Green Skills Framework



Marketing skills Sales skills Technological skills (Gender empowerment skills

INSTRUMENTAL

Collaborative thinking Communication Coping with emotions Coping with uncertainty Creativity Critical thinking and reasonin Decisionmaking Empaty Flexibility Growth mindset Higher order thinking skills Interpersonal competence Leadership Negotiation Networking Open-mindedness Participatory skills Problem-solving Resilience Strategic thinking Teamwork

TRANSFORMATIVE

Respecting diverse viewpoints

Trans-cultural, trans-spatial,

Working within complexity

trans-temporal mindsets Valuing traditional and

indigenous knowledge

Solidarity System thinking

3.2 Skills for green jobs: Spotlight on skills for climate-smart agriculture

Succeeding in CSA requires skills such as how to identify market opportunities, how to use specialized technology and machinery, and how to apply specific climate-smart techniques to various aspects of the value chain.

For example, young farmers need the knowledge and ability to identify threats to productivity, such as water shortages, soil infertility, plant pests and diseases, and price volatility, as well as the capacity to address them through adopting new technologies, employing the appropriate strategies, and accessing the right markets and networks (Mercy Corps, 2019; CTA, 1984). Skills for CSA must also be specific to the context that young people are working in, such as understanding local and regional weather patterns, soil health, and how ecosystem and biodiversity approaches can promote crop health and productivity. For example, in the USAID-funded <u>Mali Climate Change</u> <u>Adaptation Activity</u>, implemented by Chemonics, strengthening the capacity of Mali's meteorological Agency, Mali Météo, was an important means of ensuring that farmers had access to improved weather information and forecasting. Youth were also engaged in Rain Gauge Committees and as Climate Information Conduits, developing their knowledge and skills to use climate information and raise awareness in their communities on the importance of weather data for timing to know when to plant, selecting farming techniques, and village planning. Skills for acquiring land, capital, and farm inputs are also important for young people in the agricultural sector (Mungai et al., 2018). Business and financial management skills can support youth in becoming "agri-preneurs" and can help them navigate the many challenges of starting an agribusiness, including accessing and managing finance to purchase or lease land, setting up business management tools, and knowing when and where to invest in additional machinery or other inputs (International Fund for Agricultural Development [IFAD], 2020; FAO, 2014; Mastercard Foundation, 2018).

Among youth green startups in Kenya, Tanzania, and Uganda, many young people had ideas and

aspirations to engage in green businesses, but lacked the entrepreneurial skills to transition their small, often informal economic activities into sustainable businesses (Davis et al., 2020). Lacking these kinds of skills often prevents youth participation in higher-value activities, especially in the agricultural sector, and can also limit young people's success as entrepreneurs (GIZ, 2020; Mercy Corps, 2019). Greater investments in basic business, marketing, and financial management training that supplements what young people learn in school and focuses specifically on sensitizing young people toward, and preparing them for, green entrepreneurship will help them access emerging opportunities in the green economy.

BOX 10

Skill mismatches and implications for a green transition

As labor market needs continue to change with the transition to a green economy, education and training programs must also adapt quickly to better respond to heightened demands for green skills and capacities. When education and training programs are not aligned with the needs of the labor market, skill mismatches can occur, preventing young people from qualifying for the jobs available to them. Kamogelo Thumankwe, a member of the Global Youth Climate Network in Botswana, described this phenomenon well: "We go to universities and colleges, get degrees and skills and [get] trained in different fields, and we come out to apply the skills we learned, and we realize there aren't any openings for that. There's always some barrier to you applying the skills you learned." A primary cause of skill mismatching is the slow uptake of new content and approaches by education and training institutions, causing them to lag behind changes in labor markets (ILO, 2019). To address this issue, training programs as well as formal education need to be better aligned to changes in workforce demands. In USAID's Community Support Program in Lebanon, the Agency has been working with Lebanon's Technical Vocational and Education Training (TVET) sector to improve perceptions of TVET and better align and adapt TVET curricula to market needs since 2019. To encourage the uptake and success of these improved training programs, USAID provides scholarships for participants and partners with the private sector to help facilitate the school-to-workforce transition for graduates. Similar approaches to USAID's approach in Lebanon can be replicated around the world to promote the alignment of TVET sectors with greening market trends and encourage young people to enroll in green TVET programs.

3.3 Green life skills: Transferrable skill-building for young people

Young people require green life skills that can support them in succeeding as either green entrepreneurs or employees in greening fields. These include skills such as creativity, innovation, leadership, strategic planning, and communication to tackle the climate crisis and issues of sustainability in new ways (Energy and Environmental Partnership [EEP] Africa, 2019). For example, the <u>SERVIR HKH</u> project is an initiative that partners with USAID and the National Aeronautics and Space Administration (NASA) to address the impacts of climate change and environmental degradation in the Hindu Kush Himalaya (HKH) region. The initiative trained schoolteachers in Nepal in the areas of science, technology, engineering and math (STEM), earth observation, and geographic information technology, while also developing life skills in problem solving, spatial thinking, communications, and adapting to new technologies and virtual environments, empowering them to introduce these concepts to their students (Tripathi et al., 2022). This approach recognizes the importance of life skills for young people to access jobs even in highly technical fields. A review of agricultural training programs in southwest Nigeria also found that although programs tended to focus on technical skill-building, employers expressed a greater need for employees who have mastered more generic life skills, such as taking initiative, exhibiting persistence and a positive self-concept, and higherorder thinking and social skills (Adelaja et al., 2018).



School teachers participate in the first SERVIR HKH "Connecting Space to Village" training. Photo Credit: Jitendra Bajracharya/ICIMOD

3.4 Skills for a green transformation: Preparing youth to be changemakers

Transformational skills – such as the ability to work with limited resources, build on traditional and Indigenous sources of knowledge, and contemplate issues of equity and justice to help others access decent work and sustainable livelihoods (UNEP, 2016) can support young green entrepreneurs in developing socially minded new businesses. and can also help youth become "intrapreneurs," advocating for and catalyzing change in any sector and any job (Nishimura and Rowe, 2021). Youth also need skills for facilitating transformative processes, such as running workshops, engaging stakeholders, and incorporating issues of diversity, equity, and inclusion throughout these activities. These are some of the skills Dr. Nadia Sitas prioritizes developing among the youth she works with as part of the South Africa Resilient Waters

Program. Dr. Sitas also focuses on developing young people's capacity to build collective action and engage in strategic planning and future thinking. She describes how she and her colleagues use "methodologies that build on youth's existing assets - imagination, creativity, passion. Saying to youth, you've got all the answers, we just need to unlock them." Recognizing and helping young people process traumas that they have experienced is also an important part of Dr. Sitas' work. Nature-based therapy is one strategy that Dr. Sitas has found to be especially helpful, as it can help debunk harmful misconceptions rooted in the history of South Africa's apartheid policies about who nature is for and who can occupy certain spaces.

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BOX 11

The importance of addressing mental health in youth entrepreneurship and workforce initiatives

Youth social entrepreneur Raj Shah from India discussed the importance of talking about mental health in entrepreneurship.



"We should talk about the mental health of the founder [of an enterprise] and how it plays an instrumental role in everything else"

Raj Shah Social Entrepreneur & Business Advisor, India

Without mental wellness, the stressors and pressure that many young entrepreneurs face can pose significant challenges to their success and ability to sustain a business. A first step in addressing mental health issues among entrepreneurs is acknowledging the importance of mental health and giving youth entrepreneurs a space to share their experiences. CHAPTER 4

Supporting youth in a green transition

Photo credit: USAID Feed the Future Uganda Youth Leadership for Agriculture Activity

4.1 Aligning education and industry: Preparing youth for entrepreneurship

Concepts and skills related to entrepreneurship and environmental sustainability should be integrated into education curricula from primary school and throughout tertiary education.

This includes prioritizing actionable climate change education in schools and bringing in locally relevant discussions across disciplines on how action in every field will contribute to addressing climate change (Centore et al, 2021). In Ghana, for example, targeted green entrepreneurship education at the university level has had a significant impact on sensitizing and encouraging young people to pursue becoming green entrepreneurs after graduation (Amankwah and Harun, 2021).



"There is a huge gap in the skills given in Indian education. Even in premier institutions, they aren't introducing electives that can actually enable someone to imagine a future in sustainability. So, if you don't introduce these subjects at the undergraduate level, a student won't even be able to pick his brain, or pick her brain, about if that's something that they want."

Anusuiya Dev Sarmah Youth environmentalist, India

Mainstreaming climate justice and environmental issues across all education curricula, no matter the subject or grade level, also serves as a critical entry point to encouraging young people to imagine new career paths and opportunities that do not exist today. Expanding the scope of traditional job fairs to include green opportunities can also help introduce young people to the range of career paths that already exist. For example, the USAIDfunded Feed the Future Youth Leadership in Agriculture activity implemented by Chemonics supported youth in Uganda to host an agricultural career fair, "Agrikool," where nearly 2,000 youth engaged in a full-day professional development showcase highlighting the potential of agri-preneurship and sustainable farming. The Agrikool conference included more than 90 exhibitions and a "Pathway's Track" demonstration in which youth walked through different career paths in agriculture along steps in the value chain.



Pumpkin value addition exhibitor, Josmak International, interacting with in and out of school youth participants at AgriKool Youth event in Mbale

Photo credit: USAID Feed the Future Uganda Youth Leadership for Agriculture Activity.

4.2 From ideas to entrepreneurship: Mentoring talented youth through labs and hubs that foster innovation

Innovation labs and hubs invite promising youth entrepreneurs to develop and refine their business ideas with the help of institutional financial and technical support.

The UNLEASH Global Innovation Lab, of which Chemonics is a leading scale partner, offers an example of how to support talented young people to incubate and accelerate their ideas. The UNLEASH Lab partners young entrepreneurs with organizations working in innovation and global development to help develop and scale their ideas and achieve the United Nations' <u>SDGs</u>. UNLEASH also hosts local hackathons around the world and annual Innovation Labs in a different country each year, bringing together thousands of youth innovators to collaborate on solutions to address the SDGs. Chemonics also works with UNLEASH on the UNLEASH Plus pre-accelerator program, a six-month intensive experience for youth members of the UNLEASH network to work on launching and scaling their ventures through tailored business coaching, partnership matchmaking, and pitch development and competitions. The preaccelerator program also pairs participants with mentors who engage with them throughout the six-month program to offer practical feedback and ensure they are on track to launch their ventures at the end of the process.

BOX 12

Innovative technology in youth entrepreneurship: Carbon Neutral Initiative



Damani Thomas grew up in Jamaica, where the poor air quality motivated him to apply his technical skills to the task of promoting cleaner air. He hopes that through the <u>Carbon Neutral Initiative</u> he can help improve the air quality not only in his home country, but around the world. Damani invented D30 fuel, one of Carbon Neutral Initiative's two main products, when he was 16 years old. The D30 fuel is designed to be more sustainable and less costly to produce than the commonly used blend of petrol on the market today, promoting environmentally friendly and cost-effective transportation. He also invented the Carbon Attack

Filter, which is designed to capture greenhouse gas emissions from passenger vehicles' exhaust pipes, preventing these harmful gases from polluting the air. The filter cartridges are designed to be reused and can be upcycled into organic fertilizer. With the help of DIA Labs, CleanTech, and the Chemonics-supported UNLEASH incubation and accelerator hubs, Damani has been able to access the capital and resources he needed to further develop and test his inventions. He hopes to find opportunities for mentorship and partnerships to help him access international markets and scale his business. He says he wishes that he had known about programs like UNLEASH sooner: "In the past, if I'd known pitch competitions were a thing, I'd be much further along now."

In addition to independent incubation programs like UNLEASH, innovation hubs can also be housed within universities or other institutions. This was the case for Ana Patricia Ortiz Rios, a youth renewable energy consultant from Mexico and cofounder of Ligo, which seeks to provide a platform for matching private sector needs for sustainable technologies to research advancements happening in academia. Ana described how the support she and her team received from their university's Social Innovation Hub helped them develop Ligo. During the Hub's 10-month workshop, Ana's team was partnered with a mentor who specialized in academia and open innovation. They were also given guidance and support to connect with private sector companies to conduct market assessment interviews to help validate their ideas. Ana's team learned how to develop a business model template and determine pricing for their platform. The experience helped Ana and her team turn their idea into something concrete and marketable.



"Youth are looking for scholarships and internship opportunities to build skills. There is interest among young generations to find meaningful ways to make sense of their work. People are looking for ways to apply all their experiences through activism and volunteering into a meaningful career path. How can they transition to a job that allows them to contribute to these climate solutions while also getting paid?"

Kelo Uchendu Founder and Lead Strategist Gray2Green Movement, Anant Fellow for Climate Action, Nigeria

4.3 The value of social connections: Engaging youth in climate-smart agriculture

Leveraging youth social networks, both online and in-person, can help attract more young people to the agricultural sector

For example, highlighting the success of young agri-preneurs and having them serve as role models can help inspire, encourage, and provide much-needed support to young people who are still considering career paths in CSA. Peer-topeer mentorship can also help compensate for many young people's relative lack of experience in the business world compared to more seasoned professionals (Mungai, 2018). In addition to mentorship, in-person demonstrations of new climate-smart technologies (CTA, 2016), peerto-peer capacity building activities in business and financial management (IFAD, 2020), and organized farmer groups for sharing strategies and information (Mungai, 2018) can encourage youth to join and remain in the agricultural sector. Seeing people like themselves succeed in new career paths can also have a profound impact on youth who are still unsure of new sectors such as CSA. In particular, the Chemonics SMEA team discussed how demonstrating the potential and "trialability" of climate-smart approaches to be both effective and lucrative was an important enabling factor to encourage youth to adopt these strategies.

Examples of programs that support peer-to-peer social networks in the agricultural sector include USAID's Driving Youth-led New Agribusiness and Microenterprise in Northern Uganda (DYNAMIC) activity, and Mercy Corps' AgriFin Accelerate Program (AFA) in Kenya, Tanzania, and Zambia. In the DYNAMIC program, youth are trained as peer educators in business and life skills and financial literacy, and work in collaboration with local market actors to provide training services to other young people as a fee-for-service activity. This supports not only the young people who engage in the training, but also those who are trained as peer educators, some of whom found jobs as sales agents with the local companies they partnered with during the activity (Cassinath and Mercer, 2020). Experience from the AFA activity also found that engaging youth as sales agents for new technologies and facilitating support networks for youth helped promote the use of digital farming approaches (Mercy Corps, 2019). Both activities illustrate that the best ambassadors for attracting youth to the agricultural sector are youth themselves.

When engaging youth in agriculture through social networks, targeted and culturally contextualized efforts are needed to ensure that youth from different backgrounds are not left out. For example, engaging Indigenous youth, students who have left school early, or youth in rural areas in CSA will require different strategies and messaging compared to youth who have graduated secondary school or who reside in urban areas. Providing childcare (Cassinath and Mercer, 2020), promoting women-specific platforms and groups, and leveraging existing social networks where women are already active, such as village savings and loan associations or religious groups, can also help further engage women in agriculture (Mercy Corps, 2019).

BOX 13

The power of connections: Youth experts on the importance of creating networks for young people



"Social media helps to communicate what's happening. A few years back we wouldn't know about deforestation. Now, because of social media, people know and are speaking out about it. People want to work for our future and against what the norm is."

Ana Patricia Ortiz Rios CEO at Ligo, Decarbonization Lead for Apala Group, Mexico

"In our local green jobs project, we brought together a lot of local entrepreneurs from different cities and made a network to exchange experiences. As you are interacting with other people that are maybe [practicing entrepreneurship] on their own, like doing a green job, they can tell you about their experience in a practical way."



Agustin Lorenzatti Environmental Engineer, Argentina



"The biggest type of youth empowerment is for youth, by youth. I think that it is very different to have your teacher telling you to go plant a tree than to see a person who you graduated with going in for social or environmental solutions. That really fosters a different type of connection that really motivates participation."

Ricardo Guzman Cofounder and Director of Sustenta Honduras, Honduras

4.4 Policy development and participation: Engaging youth and Indigenous peoples in climate solutions

Youth climate change groups, such as the Global Youth Biodiversity Network (GYBN) describe the real risks involved with using the term "natural climate solutions" broadly and indiscriminately (see "Global Youth Position Statement on Nature-Based Solutions" (GYBN, 2021)).

They call for inclusive frameworks, safeguards, and standards to help ensure that NCS fulfills the goals of supporting local livelihoods, including those of Indigenous and local communities and private landowners, and prioritizes local and community leadership, ecosystem integrity, rightsbased approaches, and social justice (GYBN et al., 2021; Carbon Brief, 2022). Any legal framework or standards document on NCS should directly acknowledge the potentially harmful impacts that NCS can have on Indigenous, poor, and vulnerable communities, and should integrate strategies to promote social inclusion and seek free, prior, and informed consent before starting a project.

NCS are people-led, defined by communities and requiring local buy-in and inclusion to be successful (Youth4Nature and GYBN, 2021). Youth need to be meaningfully engaged and supported in their communities to promote NCS, and the participation of Indigenous peoples in decision-making spaces for climate adaptation and mitigation is also critical. Engaging Indigenousled networks and organizations is one way to give groups a seat at the table. For example, the Snowchange Cooperative, founded in 2000, works to advance traditional knowledge in environmental policy and practice and represents a network of Indigenous communities throughout the Nordic region, and around the globe. Snowchange has contributed its Indigenous perspective to the Arctic Climate Impacts Assessment, the Arctic Biodiversity Assessment, and the 2014 Fifth Assessment Report of the IPCC. For NCS to be a part of the solution to the climate crisis, the rights and contributions of youth, Indigenous people, and local communities must be recognized, protected, and promoted.

BOX 14

The role of international development in promoting and supporting Indigenous communities: Example from USAID's Natural Wealth Program

NCS require collaboration between international, national, and local actors to establish and promote supportive policies (WWF and ILO, 2020). One example of how the international development community has protected and uplifted Indigenous communities is <u>USAID's</u>. Natural Wealth Program, which supports 19 Indigenous reserves across Colombia. Through their programming, USAID helped establish a Council of Elders, composed of Indigenous leaders from the Caño Mochuelo Indigenous reserve. The Council is responsible for the Caño Mochuelo territory's governance and hosts intercultural exchanges with other Indigenous communities in Colombia. Since the Council's creation in 2018, Colombia's Land Restoration Unit has taken measures to protect the Caño Mochuelo reserve and its people from land grabbing, and the Indigenous people who reside in the territory have been officially recognized by the International Union for Conservation of Nature (IUCN). Furthermore, the communities of Caño Mochuelo have registered 440,000 hectares of land as an Indigenous and Community Conservation Area, granting them full legal rights over the natural resources it provides.

Photo credit: USAID Natural Wealth Program

UNDACIÓN DE LA COMUNIDAD

MORICHITON EL SEñor Santiago JOICEN SANKUYO UNIA EN la comunidad taFo Oso con su esposa e hisos. SALIBA

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CHAPTER 5

Youth recommendations for the international development community

a medio de transporte por el rio meta abajo

hasta Vegar a una Población Namada nueva antioquia Photo credit: USAID Natural Wealth Program

Young people, including youth climate activists, who were interviewed from across Latin America and the Caribbean, Sub-Saharan Africa, and Southeast Asia have clear calls to action for how IDOs can better support youth in accessing green skills and green jobs in a just, green transition.

These appeals include calls for IDOs to be more responsive to young people's needs; provide direct support to youth and youth-led organizations; better integrate environmental, justice, and inclusion best practices throughout the project life cycle; and enhance their collaboration and partnerships with national and local governments, the private sector, and other IDOs to avoid duplication and increase sustainability. Taking these recommendations to heart, IDOs should feel inspired and energized to reorient their work more explicitly toward centering youth experiences and responding directly to youth needs and aspirations.



YOUTH RECOMMENDATION #1

Start with and adapt to youth needs and perspectives

Youth experts and Chemonics project staff both recognized the importance of **centering youth needs and perspectives at all stages** of international development work. Youth expert Chimfwembe Mutale from Zambia recommended that organizations **tailor materials and programming** more specifically to young people's local contexts and needs, which can be achieved through focus group discussions and **engaging youth as cocreators**, or at least as reviewers, of program materials to ensure they represent young people's lived realities. Program officers

Youth expert Tendai Gracious Moyo from Zimbabwe suggested **engaging young people as active program leaders**, not just as program participants or beneficiaries. She also recommended including youth in proactive measures, such as pre-program needs assessments or scoping activities, to **increase young people's ownership over projects**. Tendai also suggested that programs focus on improving the sustainability of their activities beyond the project life cycle through **building young people's skills to carry on activities**



"Young people want to be involved in things that are more active and proactive. When we do programs we try to make them lead not just tell them what to do"

Tendai Gracious Moyo Sustainable Development Consultant, Zimbabwe

can engage youth as extension agents to

collect the perspectives and needs of their peers, reaching youth in remote areas and those who are out-of-school or harder-toreach. Youth extension agents can lead focus group discussions with their peers on the opportunities and challenges in the transition to a green economy, helping program officers design the right kind of materials and trainings that address young people's concerns and hopes for the future. independently. IDOs could partner with local, community-based, and/or youthled organizations that are tackling climate change issues and support their existing or nascent efforts, building local capacity through targeted funding as well as training, coaching, and networking to promote sustainability once the project life cycle is complete. Chief of Party Marcos Moreno also emphasized the need for international development projects to be **adaptive rather than prescriptive in design and implementation**, focusing on understanding "where youth are in their path" rather than telling them where they should be. IDOs could provide **resource hubs that offer a wide range of culturally sensitive services** that youth could seek out depending on what stage they are at in their professional development. These hubs could include introductory, intermediate, and advanced levels of training on business and financial management, offering them in different languages and at varied times throughout the day and week to make them as accessible as possible. They could also include workshops led by female facilitators to promote women and girls' participation, as well as Indigenous facilitators to help amplify local knowledge and practices. These hubs could also employ a train-the-trainer model, in which older youth are trained to act as mentors and trainers for their younger counterparts.



YOUTH RECOMMENDATION #2 Funding youth and youth-led organizations more directly

For many youth experts, financing was one of the most decisive factors in whether young people in their country were able to take advantage of the economic opportunities occurring in a green transition. Youth expert Dr. Sarah Abney described how a community's ability to address its climate change issues depends on the resources made available to them. "It's about funding communities to fix their own problems," she said. IDOs should rethink the way grants are distributed and competitions are carried out, as traditional methods requiring formal proposals and applications can be a barrier to youth in accessing critical funding and advancement opportunities. In her work with the South Africa Resilient Waters Program, Dr. Sitas described how her team provided funds to youth who applied to an art competition, recognizing that developing a proposal takes skills and resources that many youth do not have. They also made sure youth had the option to submit their proposals in their own language.

In addition to making it easier for individual young people to apply for and receive funding, international development donors can also create pathways that **make it easier for small, local organizations to accept grants and compete for bids.** Many smaller organizations do not have the

capacity to hire a financial officer who can manage funds and reporting, or a proposal development team that can compete with larger organizations for direct donor funds. Even if small organizations do have the capacity to manage the funds or submit proposals, sometimes they do not have the same access to or visibility into the process as larger, more traditional recipients of international funding. For example, the Digital CoBosques Collective in Colombia, part of the Chemonicsimplemented Natural Wealth Program (see accompanying case study on youth-led education) shared their thoughts on how they would like the opportunity to bid for international development contracts that align with their focus of promoting nature-based livelihoods in Colombia's rainforests instead of continuing to be seen as beneficiaries and participants in training activities offered by other organizations. "We have the capacity to do this work and want the opportunity to be at the same level as other institutions," they said. The IUCN also calls on the international donor community to work more closely and intentionally with Indigenous people's organizations to codesign and co-create financial mechanisms that more easily allow Indigenous communities to access direct funds to support their own climate initiatives (IUCN, 2021).



YOUTH RECOMMENDATION #3

Prioritize issues of environmental sustainability, justice, and inclusion into projects from the start

While concepts of environmental sustainability, justice, and inclusion are increasingly discussed in policy and international development decisionmaking, there is still much more work to be done to ensure that these concepts are practically integrated in project design and actively applied in project implementation. The USAID-funded and Chemonics-implemented <u>Lebanon Enterprise</u> <u>Development</u> activity team described how green topics may be included in project documents as crosscutting issues but addressing them may be left out in practice if they are not also meaningfully included in monitoring, evaluation, or reporting and accountability requirements. The international donor community should **establish clear monitoring, evaluation, and learning standards and measures** for issues related to environmental sustainability, justice, and inclusion, and support organizations in collecting and reporting this data in meaningful ways. IDOs should go beyond integrating these concepts into project proposals and develop robust plans for measuring and reporting on these aspects in ways that include **local stakeholders, especially youth, in the monitoring, evaluation, and learning process.**

Top-down mandates from international donors such as integrating crosscutting priorities like gender equity and social inclusion in project design and implementation are often not given adequate attention during project implementation because of competing and onerous priorities. Project teams should be diverse and include representation from the communities that the project seeks to serve, especially youth, as well as critically consider the kinds and sources of expertise and knowledge that are valued in the project design and implementation. To better link international development policies on sustainability and equity more closely to the practice of development on the ground, IDOs could establish **dedicated** sustainability and equity positions on project teams and fill these roles with individuals who represent a diversity of knowledge, backgrounds, and experiences, including those from the communities the projects seek to work with and benefit.



YOUTH RECOMMENDATION #4 Collaboration and partnership is key to long-term success

A final recommendation from youth experts and Chemonics project teams is for IDOs to better collaborate and partner with one another and with national and local level actors in countries where they work. It is not uncommon for many different IDOs to be working in the same place on similar, or the same, issues, and not be talking to one another. This is a lost opportunity for the cross-pollination of ideas and lessons learned, as well as the chance to avoid redundant activities that could help redistribute resources and money to address other youth needs and priorities. For example, Ken Kasera, a user engagement manager at SERVIR-Eastern and Southern Africa described how a platform for USAID implementers working on mentorship programs could help them reduce duplication and ensure resources are being allocated effectively. He described how establishing clear partnerships between projects could be a "learning experience for those engaging at all different levels." IDOs could **conduct** landscape analyses during the project proposal phase that include outreach to existing projects in their target geographies to make sure they're not designing a program that has either already been implemented or that includes aspects that have already been found ineffective.

In addition to working more effectively with fellow IDOs, implementers should also establish partnerships with national and local stakeholders at the outset of project implementation. For example, youth expert Chimfwembe Mutale from Zambia described how international organizations supporting young entrepreneurs need to work with national and local government officials to make sure their ventures comply with national and local laws and regulations. He described how "If you are funded with an innovation, but the product hasn't been accepted by local authorities or government, you're stranded." As part of a project's initial stages before implementation, development actors should acknowledge and engage the right stakeholders that can help facilitate the project, provide valuable contextual information, and ensure the sustainability of the project's intended outcomes beyond the funding cycle. Examples of how this can be done include USAID's Locally Led Development Initiatives.

Conclusion

As IDOs increasingly focus on supporting young people in a just, green transition, ensuring that these institutions are prioritizing and responding to the articulated needs of youth around the world is vital.

Globally, youth - especially those in lower and lower-middle income countries - are on the front lines of experiencing climate change and its negative effects, but can also benefit the most from changes in their countries' economies and societies in the transition to greener ways of working and living. If IDOs are serious about localization, then directly engaging and supporting youth and youth-led organizations is key. As demonstrated throughout this Action Guide by the numerous examples of youth leaders in CSA, NCS, and entrepreneurship, many of the best and most sustainable solutions to the effects of climate change are locally led, emerging from the people and communities who are closest to the problem and who will be impacted most by efforts to address it. International development resources and programming should be used to amplify and

embolden the efforts of young people on the front lines of addressing climate change, as well as to reach more youth who are at risk of being left out of a green transition. By strengthening and scaling what is already working well at the local level and expanding opportunities for youth to benefit from a greening economy, IDOs can support a just, green transition that earnestly centers young people at the heart of change and responds to their needs.

References

Adelaja, A.O., Peterson, H.C., Liverpool-Tasie, S., Me-Nsope, N., Howard, J.A., and Maredia, M.K. (2018). "Expanding Employment and Entrepreneurship Opportunities for Young Women and Men in Nigeria's Agrifood Sector: Prospects and Challenges." Global Center for Food Systems Innovation, Michigan State University.

https://gcfsi.isp.msu.edu/ files/6515/3306/8943/YEE_Series_NG_ report_FINAL.pdf

Adom, Dickson. (2019). "The place and voice of local people, culture, and traditions: A catalyst for ecotourism development in rural communities in Ghana." Scientific African, Volume 6, e00184, ISSN 2468-2276, https://doi. org/10.1016/j.sciaf.2019.e00184

Amankwah, J., and Harun S. (2021). "On the Relation between Green Entrepreneurship Intention and Behavior." Sustainability 13, no. 13: 7474. <u>https://doi.org/10.3390/su13137474</u>

Arthur, Charles. "What are green skills?" United Nations Industrial Development Organization. January 21, 2021. Accessed March 31, 2021. <u>https://www.unido.org/</u> <u>stories/what-are-green-skills</u>

Banga, K., Njambi-Szlapka, S., and Phiona, S. (2021). "Youth enterprise growth: evidence from Youth Forward in Uganda." Report. London: ODI. <u>https://www.econstor.eu/</u> <u>bitstream/10419/251127/1/1778359736.pdf</u>

Barbon WJ, Punzalan B, Wassman R, Bui VL, Vidallo R, Villanueva J, Talsma T, Bayot R, Gonsalves J. (2021). "Scaling of Climate-Smart Agriculture via Climate-Smart Villages in Southeast Asia: Insights and Lessons from Vietnam, Laos, Philippines, Cambodia and Myanmar." CCAFS Working Paper no. 376. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). https://cgspace.cgiar. org/bitstream/handle/10568/115833/ CCAFS%20WP376_Scaling%20CSA%20 via%20CSV.pdf?sequence=1&isAllowed=y

Cassinath, N., and Mercer, M. (2020). "Youth, Women, and Market Systems Development in Agriculture and Supporting Markets: Landscape Analysis and Case Studies Report." Advancing Women's Empowerment Call Order 7200AA19F50034. Rockville, MD: EnCompass LLC. <u>https://www.agrilinks.</u> org/sites/default/files/media/file/ UPDATED_AWE%20Landscape%20 Analysis_Case%20Studies_Final%20 Report_0.pdf_

Centore, K., Dougherty, H., Hill, A., Hoyt, E., Minnick, G. "All Hands on Deck: Furthering Youth Engagement in Climate Mitigation." Chemonics. August 11, 2021. <u>https://</u> chemonics.com/blog/youth-engagementin-climate/

Chawla, D., Varghese, A., and Wallisch, G. (2019). "Building the Future of TechEnabled Agriculture." Published by DAI's Sustainable Business Group. <u>https://</u> www.dai.com/uploads/kic-27672d.pdf

Chemonics. (2017). "Technical Brief: Key Considerations for Land Tenure Policies that Impact Youth." <u>https://</u> www.chemonics.com/wp-content/ uploads/2017/11/Youth-ENR-Land-Tech-Brief_FINAL.pdf

Climate Policy Initiative. (2021). "Global Landscape of Climate Finance 2021." https://www.climatepolicyinitiative. org/wp-content/uploads/2021/10/Fullreport-Global-Landscape-of-Climate-Finance-2021.pdf_

Cook, J. and Taylor, R. "Nature Is an Economic Winner for COVID-19 Recovery." World Resources Institute. July 6, 2020. https://www.wri.org/insights/natureeconomic-winner-covid-19-recovery

CTA (Technical Centre for Agricultural and Rural Cooperation of the African, Caribbean and Pacific (ACP) Group of States and the European Union (EU). (2016). "Innovate for Agriculture: Young ICT entrepreneurs overcoming challenges and transforming agriculture." Commissioned by CTA and produced by Ashoka. https://ypard.net/images/files/ file/Innovate%20for%20agriculture%20 (Young%20ICT%20entrepreneurs%20 overcoming%20challenges%20and%20 transforming%20agriculture).pdf

CTA. (1984). "An ICT Agripreneurship Guide: A Path to Success for Young ACP Entrepreneurs." <u>https://cgspace.cgiar.org/</u> bitstream/handle/10568/90136/1984_PDF. pdf?sequence=2&isAllowed=y_

Czerwinska, Domnika. "How green building can curb youth unemployment and boost green economic growth in Africa." World Green Building Council. Accessed March 31, 2021. <u>https://www. worldgbc.org/news-media/how-greenbuilding-can-curb-youth-unemploymentand-boost-green-economic-growth-africa</u>

Davis, K., Franzel, S., Luzobe, B., Miiro, R., Rurangwa, R., and Uwitonze, N. "Including Youth in Agriculture through Extension and Advisory Services." MarketLinks. July 28, 2020. https://www.marketlinks. org/blogs/including-youth-agriculturethrough-extension-and-advisory-services

Demirel, P., Li, Q.C., Rentocchini, F., and Tamvada, J.P. (2019). "Born to be green: new insights into the economics and management of green entrepreneurship." Small Bus Econ 52, 759-771. <u>https://doi.org/10.1007/s11187-017-9933-z</u>

Energy and Environmental Partnership (EEP) Africa. (2019). "Profiles of Change: Youth Employment in the clean energy sector." Published the EEP Africa and the Nordic Development Fund. https://eepafrica.org/wp-content/ uploads/2019/12/Youth-opportunitiesbrief_Digital.pdf

FAO. (2020). "Adaptation Action through Green Jobs for Youth." Policy brief developed as part of the Technical Examination Process on Adaptation. <u>http://tep-a.org/wp-content/ uploads/2020/08/TEP-A-2020-</u> Information-Note-FAO.pdf

FAO. (2014). "Youth and agriculture: Key challenges and concrete solutions." Published by FAO in collaboration with the Technical Centre for Agricultural. <u>https://</u> www.fao.org/3/i3947e/I3947E.pdf

Franzel, S., Lowicki-Zucca, J., Miiro, R., Uwitonze, N., Davis, K., Luzobe, B., and Rurangwa, R. "Demand-driven extension and advisory services catalysing opportunities for youth in agriculture." International Journal for Rural Development. July 26, 2020. <u>https://</u> www.rural21.com/english/current-issue/ detail/article/demand-driven-extensionand-advisory-services-catalysingopportunities-for-youth-in-agriculture.html

Geodata for Agriculture and Water (G4AW). "Climate-smart agriculture, the silver bullet to attract youth in Africa?" Accessed March 31, 2021. <u>https://g4aw.</u> spaceoffice.nl/en/news/134/climate-smartagriculture-the-silver-bullet-to-attractyouth-in-africa-.html.

German Corporation for International Cooperation (GIZ). (2020). "What Works in rural youth employment promotion? Good practices and lessons from GIZ Programmes on rural youth employment." Published by GIZ. <u>https://www.giz.de/en/ downloads/giz2020 eng employment</u> promotion.pdf

Global Youth Biodiversity Network (GYBN), Youth4Nature, and Children and Youth constituency to United Nations Framework Convention on Climate Change (YOUNGO). (2021). "Global youth position statement on nature-based solutions." <u>https://static1.squarespace.</u> <u>com/static/60d345a74ed9f630745b8646/</u> t/61868053f73d0949acb7dd le/1636204632840/Nature-Based+Solutions-Position+2021-Nov+C. pdf.

Gray, Ellen. "Global Climate Change Impact on Crops Expected Within 10 Years, NASA Study Finds." NASA. November 2, 2021. <u>https://climate.nasa.gov/news/3124/global-climate-change-impact-on-crops-expected-within-10-years-nasa-study-finds/</u>

Griscom, B. W., Adams, J., Ellise, P. W., Houghton, R. A., & Lomax, G. (2017). "Natural climate solutions." Proceedings of the National Academy of Sciences of the United States of America. https://www. pnas.org/doi/10.1073/pnas.1710465114 GYBN, Youth4Nature, YOUNGO. (2021). "What are Nature Based Solutions? Risks, concerns, and opportunities." https://static1.squarespace.com/ static/60d345a74ed9f630745b8646/t/ 60d6694f04e5762be1d2a4 3a/1624664405807/Nature-Based+Solutions_final.pdf Harsdorff, M., Ng'ang'a, P.K., Waigi, G., Christensen, M. (2012). "Promoting Green Entrepreneurship: First lessons from the youth entrepreneurship facility in Ghana, 2010-2011". ILO. https://www.ilo.org/ wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/ wcms_176540.pdf

International Fund for Agricultural Development (IFAD). "Green jobs for youth: What works and what's missing?" IFAD. October 27, 2020. <u>https://www.ifad.</u> org/en/web/latest/-/story/green-jobs-foryouth-what-works-and-what-s-missing-

ILO. "Decent Work." Accessed April 19, 2022. <u>https://www.ilo.org/global/topics/</u> decent-work/lang--en/index.htm_

ILO. (2019). "Skills and jobs mismatches in low- and middle-income countries." <u>https://www.ilo.org/wcmsp5/groups/</u> <u>public/---ed_emp/documents/publication/</u> <u>wcms_726816.pdf</u>

ILO (2018). "Greening with jobs – World Employment and Social Outlook 2018." <u>https://www.ilo.org/global/research/</u> global-reports/weso/greening-with-jobs/ lang--en/index.htm_

International Renewable Energy Agency (IRENA). (2019). "Renewable Energy: A Gender Perspective." <u>https://irena.</u> org/-/media/Files/IRENA/Agency/ Publication/2019/Jan/IRENA_Gender_ perspective_2019.pdf_

IPCC. "In-depth Q&A: The IPCC's sixth assessment on how climate change impacts the world." Carbon Brief. February 28, 2022. https://www.carbonbrief.org/indepth-ga-the-ipccs-sixth-assessment-onhow-climate-change-impacts-the-world

IUCN. (2021). "Global Indigenous Agenda for the Governance of Indigenous Lands, Territories, Waters, Coastal Seas and Natural Resources." <u>https://portals.iucn. org/union/sites/union/files/doc/global_ indigenous_agenda_english.pdf</u>

Just Transition Alliance. "What is Just Transition?" Accessed April 18, 2022. http://jtalliance.org/what-is-justtransition/_

Kinkade, S. (2008). "Meet the Green Generation." YOUth Magazine. <u>https://</u> iyfglobal.org/sites/default/files/library/ YOUth08_CitizenYouth.pdf Kwauk, C. and Casey, O. (2021). "A New Green Learning Agenda: Approaches to quality education for climate action." Published by the Center for Universal Education at the Brookings Institution. https://www.brookings.edu/wp-content/ uploads/2021/01/Brookings-Green-Learning-FINAL.pdf

Leal Filho, W., Matandirotya, N.R., Lütz, J.M. et al. (2021). "Impacts of climate change to African indigenous communities and examples of adaptation responses." Nat Commun 12, 6224. <u>https://doi. org/10.1038/s41467-021-26540-0</u>

Leavy, J. and Hossain, N. (2014). "Who Wants to Farm? Youth Aspirations, Opportunities and Rising Food Prices". IDS Working Paper 439. <u>https://</u> opendocs.ids.ac.uk/opendocs/bitstream/ handle/20.500.12413/3550/Wp439r. pdf?sequence=4.

LinkedIn. (2022). "An Action Plan for Climate Change: LinkedIn's Global Green Skills Report." Published by LinkedIn. https://green-economy.netlify.app/

Martynova, N. & laromenko, S. (2020). "Youth Entrepreneurial Activity in the Development of Rural Green Tourism: the Case of Ukraine." Regional Formation and Development Studies. 31. 10.15181/ rfds.v31i2.2108. https://www.researchgate. net/publication/342451048_Youth_ Entrepreneurial_Activity_in_the_ Development_of_Rural_Green_Tourism_ the_Case_of_Ukraine

Mastercard Foundation. (2018). "Building Inclusive Agricultural Technologies for Young People." <u>https://mastercardfdn.org/</u> wp-content/uploads/2018/03/Mastercard-Foundation-2017-2018-Youth-Think-Tank-Report-4-accessible.pdf

Mercy Corps. (2019). "AFA Case Study: Digital pathways for youth in agriculture." Published by Mercy Corps and Mastercard Foundation. https://mercycorpsagrifin.org/ wp-content/uploads/2018/12/230118_afayouth-final-vF-compressed.pdf

Miller, Kelsey. (2020). "The triple bottom line: What it is and why it's important." Harvard Business Review. 8 December 2020. <u>https://online.hbs.edu/blog/post/</u> <u>what-is-the-triple-bottom-line</u>

Mungai, C., Muchaba, T., Szilagyi, L., Radeny, M., Atakos, V., and Ntiokam, D. (2018). "Youth Engagement in Climate-Smart Agriculture in Africa Opportunities and Challenges." CGIAR CCAFS. <u>https://cgspace.cgiar.org/bitstream/</u> <u>handle/10568/92979/Youth_CSA_report.</u> pdf?sequence=1&isAllowed=y

Nebuloni, V. and van der Ree, K. (2021). "Green jobs and green futures for youth." ILO. <u>https://www.ilo.org/wcmsp5/</u> groups/public/---ed_emp/documents/ publication/wcms_790107.pdf

Nelson, S. and Huyer, S. (2016). "A Genderresponsive Approach to Climate-Smart Agriculture Evidence and guidance for practitioners." Published by the CCAFS and FAO. <u>https://www.fao.org/3/be879e/ be879e.pdf</u> Nishimura, M. and Rowe, D. (2021). "Global Guidance for Education on Green Jobs Connecting Higher Education and Green Opportunities for Planetary Health." Published by the United National Environmental Programme (UNEP). https://wedocs.unep.org/bitstream/ handle/20.500.11822/35070/GGEGJ.pdf

Novello, A., and Carlock, G. (2019). "Redefining Green Jobs for a Sustainable Economy." Published by The Century Foundation. <u>https://tcf.org/content/</u> <u>report/redefining-green-jobs-sustainable-</u> <u>economy/?session=1</u>

Prowse, L. and Ditlefsen Zanni, S. "14 innovations led by young ecopreneurs that are protecting and restoring our planet." World Economic Forum. September 21, 2021. <u>https://www.weforum. org/agenda/2021/09/innovationsecopreneurs-protecting-restoring-planetgeneration-restoration/</u>

Saget, C., Vogt-Schilb, A., and Luu, T. (2020)." Jobs in a Net-Zero Emissions Future in Latin America and the Caribbean." Inter-American Development Bank and ILO, Washington D.C. and Geneva. <u>https://www.ilo.org/wcmsp5/</u> groups/public/---americas/---ro-lima/ documents/publication/wcms_752069.pdf

World Bank. "Women, Agriculture and Work in Africa." Accessed March 31, 2022. https://www.worldbank.org/en/programs/ africa-myths-and-facts/publication/ women-agriculture-and-work-in-africa

Townsend, J., Moola, F., and Craig, M. (2020). "Indigenous Peoples are critical to the success of nature-based solutions to climate change." FACETS. 5(1): 551-556. https://doi.org/10.1139/facets-2019-0058

Tripathi, P., Thapa, R.B., Bajracharya, B., & Maden, U. (2022). "Closing the STEM gender gap: Training women in Earth observation and geospatial information technology." International Centre for Integrated Mountain Development. <u>https://</u> doi.org/10.53055/ICIMOD.1005

UNEP. (2016). "YouthXchange Green Skills and Lifestyles Guidebook." Published by UNEP. <u>https://wedocs.unep.org/</u> bitstream/handle/20.500.11822/8641/-YouthXchange_guidebook series_Green_skills_and_lifestyles-2016youthXchange_green_skills.pdf. pdf?sequence=2&isAllowed=y_

UNEP. "Green economy." Accessed April 18, 2022. <u>https://www.unep.org/regions/</u> asia-and-pacific/regional-initiatives/ supporting-resource-efficiency/greeneconomy

United Nations Department of Economic and Social Affairs (UN DESA). (2019). "International Youth Day, 12 August 2019." Prepared by the Population Division UN DESA. https://www.un.org/development/ desa/youth/wp-content/uploads/ sites/21/2019/08/WYP2019_10-Key-Messages_GZ_8AUG19.pdf

USAID. (2016). Youth Engagement in Agricultural Value Chains Across Feed the Future: A Synthesis Report. <u>https://</u>

www.marketlinks.org/resources/youthengagement-agricultural-value-chainsacross-feed-future-synthesis-report_

USAID. (2022). A Sourcebook for Community-Based Forestry Enterprise Programming: Evidence-based best practice and tools for design and implementation. Published by USAID. https://www.land-links.org/researchpublication/a-sourcebook-for-communitybased-forestry-enterprise-programming/

Value for Women. (2018). "Gender Inclusion for Climate-Smart Agribusinesses: A practical framework for integrating gender In climate-smart agriculture." https://v4w.org/wp-content/ uploads/2018/01/1 Gender-Inclusion-for-Climate-Smart-Agribusinesses_.pdf

Vance, E. (2021). "If We Want to Create Good Jobs and Save the World, We're Doing It Wrong." International Youth Foundation. July 15, 2021. <u>https://ivfglobal.</u> org/blog/if-we-want-create-good-jobsand-save-world-were-doing-it-wrong

World Business Council for Sustainable Development (WBCSD) and Nature4Climate. (2019). Natural climate solutions: the business perspective. Published by WBCSD. <u>https://www.wbcsd.</u> org/contentwbc/download/7530/120363/1 World Wildlife Fund (WWF) and ILO. (2020). "Nature Hires: How Naturebased Solutions can power a green jobs recovery." Published by the WWF and ILO. https://www.ilo.org/wcmsp5/groups/ public/---ed_emp/documents/publication/ wcms_757823.pdf

Youth Power. "What Works in Youth and Agriculture, Food Security, and Nutrition." Accessed March 31, 2022. <u>https://www.</u> youthpower.org/what-works-youth-andagriculture-food-security-and-nutrition

Youth4Climate. (2021). "Manifesto." https://ukcop26.org/wp-content/ uploads/2021/10/Youth4Climate-Manifesto.pdf

Youth4Nature and GYBN. (2021). "Youth Leadership in Nature-Based Solutions for Adaptation." <u>https://www.youth4nature.</u> org/blog/youth-leadership-in-naturebased-solutions-for-adaptation

YouthPower. "Positive Youth Development (PYD) Framework." Accessed March 31, 2022. <u>https://www.youthpower.</u> org/positive-youth-development-pydframework

CENTERING YOUTH IN GREEN WORKFORCE DEVELOPMENT

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