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GREEN JOBS  
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PACT

# STEPPING INTO THE NEW NATURE ECONOMY

A POLICY BRIEF



JOE SAADE / UN WOMEN

## PREPARED BY

The Greenpop Foundation for the UN Environment Programme (UNEP) in support of the Green Jobs for Youth Pact (GJYP).

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# I. THE NEXT BIG JOB BOOM: NATURE-BASED SOLUTIONS



**Rising investment in Nature-based Solutions (NbS) is creating one of the most dynamic employment frontiers in the global economy.** As hundreds of millions of dollars are channeled into initiatives that protect communities, secure food systems, advance public health, and restore ecosystems, a wave of new jobs are emerging. For young people—particularly in Africa and Latin America—NbS offers a bright spot: youth representation in NbS roles is slightly higher than in the broader workforce (for example, youth make up **24%** of the NbS workforce in Africa, compared to a global average of **12%** in total employment). Equipping young job-seekers with the right skills and accredited training can help them step into these emerging jobs, advancing multiple priorities at once: from economic stability to more sustainable, resilient communities.

## WHAT ARE NATURE-BASED SOLUTIONS (NBS)?

Actions to conserve, protect, restore, or sustainably use and manage natural ecosystems to address social, economic, or environmental challenges, while benefiting both people and nature.

**The challenge:** Many early-career professionals aren't fully prepared to step into these roles. While gaps in national policy and limited cultural recognition of NbS careers create obstacles, the most immediate barrier to filling future jobs is a shortage of workers with the right mix of technical and community-facing skills. Without a well-prepared workforce, even the most substantial investments risk failing to achieve their intended impact.

A skilled workforce is central to delivering real, measurable impact. Yet Nature-based Solutions are not properly integrated into education or job training systems. Without intentional, targeted investment in critical skills, global climate initiatives risk falling short on the scale, quality, and equity the planet needs.

# THE NbS JOB OPPORTUNITY: BY THE NUMBERS

63mn

## TODAY'S WORKFORCE

Already, an estimated **60.5 - 63 million** people globally work in jobs related to NbS.

32mn

## FUTURE GROWTH

If investment needs to achieve the goals of the [three Rio Conventions](#) are met, the Nature-based Solutions sector could generate **20–32 million new jobs by 2030**.



## EMERGING ROLES

These jobs aren't just for scientists. NbS involves project managers, conservation workers, environmental specialists, engineers, and park rangers; roles that blend technical savvy with core leadership and communication skills.



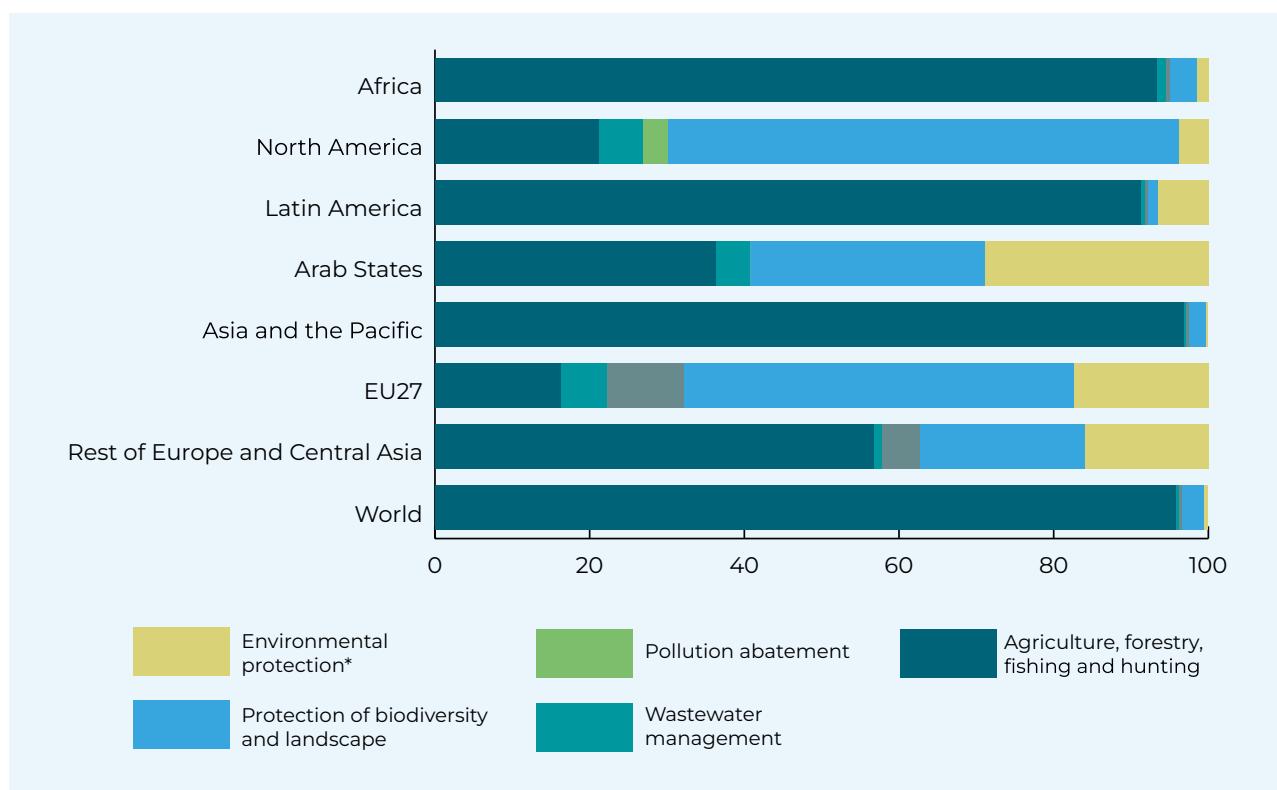
## KEY SECTORS

The fastest-growing NbS jobs will be in agriculture and forestry, making up about **44%** of the projected **20 million jobs** by 2030. Regionally, the biggest growth will be in the Arab States (**70%**) and Asia-Pacific (**53%**), while in Africa, **35%** of new roles will be in agriculture.

MARCEL CROZET / ILO



## NbS employment shares (per cent) in NbS types by region, standard scenario



**SOURCE:** Cambridge Econometrics E3ME model. \*n.e.c. not elsewhere classified.

## WHY INVESTMENT HERE MATTERS:



### YOUTH PARTICIPATION

Already, Africa reports the highest youth participation in the NbS workforce (24%).



### COMBINED EMPLOYMENT GROWTH

Current NbS employment in Africa, LAC, Arab States totals over 2.5 million people, but this is projected to surge to over 13 million by 2030.

This would increase the regions' share of global NbS employment from around 5% currently to over 40%.

## Current NbS employment by region (thousand persons)

REGION	TOTAL EMPLOYMENT (THOUSAND PERSONS)	PEPs AND PES (THOUSAND PERSONS)	EMPLOYED OUTSIDE PEPs AND PES (THOUSAND PERSONS)	SHARE OF 15-24 YEAR- OLDS IN TOTAL EMPLOYMENT (PER CENT)	SHARE OF WOMEN IN TOTAL EMPLOYMENT (PER CENT)
<b>Africa</b>	1,918–1,933	1,697	221–236	24	40
<b>North America</b>	233–706	-	233–706	11–12	34–41
<b>Latin America</b>	571–612	442	129–170	18	22–23
<b>Arab States</b>	1	-	1	14–15	21–22
<b>Asia and the Pacific</b>	57,291–58,819	52,662	4,629–6,157	13	36
<b>EU27</b>	274–398	-	274–398	6	40–44
<b>Rest of Europe and Central Asia</b>	204–337	-	204–337	11–12	35–37
<b>High income</b>	1,262–2,029	3	1,258–2,025	12	34–35
<b>Upper middle income</b>	3,184–4,649	481	2,702–4,168	18	36
<b>Lower middle income</b>	54,270–54,358	52,659	1,612–1,699	21	41
<b>Low income</b>	1,777–1,782	1,658	119–124	14	36
<b>WORLD TOTAL</b>	<b>60,518–62,839</b>	<b>54,802</b>	<b>5,717–8,038</b>	<b>14</b>	<b>36</b>

**NOTE:** Ranges represent the minimum and maximum across the three scenarios. PEPs refers to public employment programmes. PES refers to payment for ecosystems services. For PEPs and PES no ranges are presented, as these figures are added after the scenarios are modelled. Regions by income level are aligned with the classification used by the ILO (see: <https://ilo.org/methods/concepts-and-definitions/>). Source: Cambridge Econometrics E3ME model.

Current NbS employment by NbS types (thousand persons), standard scenario

REGION	SUSTAINABLE AGRICULTURE, FORESTRY, FISHING AND HUNTING	WASTEWATER MANAGEMENT	POLLUTION ABATEMENT	PROTECTION OF BIODIVERSITY AND LANDSCAPE	ENVIRONMENTAL PROTECTION*
<b>Africa</b>	1,789	24	9	67	29
<b>North America</b>	49	13	8	154	9
<b>Latin America</b>	520	3	3	7	37
<b>Arab States</b>	0	0	0	0	0
<b>Asia and the Pacific</b>	55,431	205	170	1,269	215
<b>EU27</b>	45	16	27	138	47
<b>Rest of Europe and Central Asia</b>	116	2	10	44	33
<b>High income</b>	756	36	41	338	93
<b>Upper middle income</b>	1,435	195	164	1,259	131
<b>Lower middle income</b>	54,007	28	19	74	139
<b>Low income</b>	1,753	5	3	9	7
<b>WORLD TOTAL</b>	<b>57,960</b>	<b>268</b>	<b>229</b>	<b>1,684</b>	<b>377</b>

**SOURCE:** Cambridge Econometrics E3ME model. \*n.e.c. not elsewhere classified.

BY STEPPING INTO GREEN CAREERS, JOB SEEKERS IN THESE COUNTRIES CAN DRIVE SUSTAINABLE ECONOMIC GROWTH AND HELP CONSERVE THE ENVIRONMENT FOR FUTURE GENERATIONS.

## II. THE TRAINING AND ACCREDITATION LANDSCAPE

Finding clear paths into an NbS career isn't easy. While many relevant competencies are taught across a range of programs, few offer formal accreditation or dedicated pathways for long-term career development.

This gap is one of the biggest barriers to scaling up NbS, and to helping more early career professionals step into these jobs.



### WHY ARE THINGS STUCK?

Specific barriers to growth include:



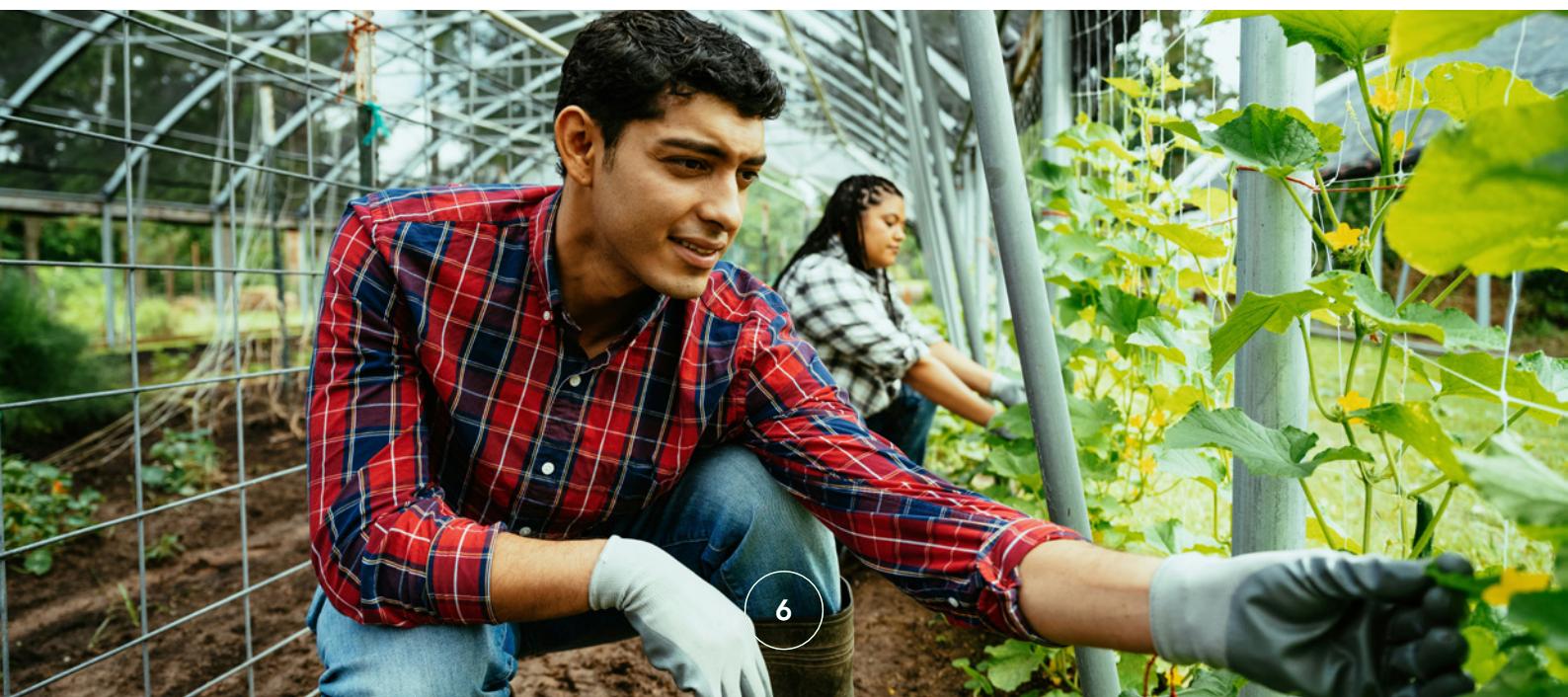
**LIMITED FUNDING** for training programs, making it hard to access quality learning.



**LOW RECOGNITION** of NbS as a viable career path, so young people and stakeholders often overlook these opportunities.



**WEAK COLLABORATION** between universities, technical schools (TVETs), and practitioners, meaning training doesn't always match the skills that real projects require.





These barriers are not unique to developing nations. Even in developed countries, NbS skills training and national assessments are still new, and don't yet have complete data on the skills most needed. According to the [\*\*2024 Global Skills for NbS Survey\*\*](#) of practitioners (like conservation workers, project managers, environmental specialists, engineers, and park rangers) **the main hindrances for young people entering the field are:**



Limited access to training and learning resources **(63% of respondents)**



Weak collaboration between schools and on-the-ground projects **(61% of respondents)**



Low recognition of NbS as a real career path **(59% of respondents)**



Not enough funding for training programs **(36% of respondents)**

**Youth networks** can play an integral role in shaping for systemic change that addresses these barriers. To advance systemic change they can:

1. **ADVOCATE FOR CURRICULUM INTEGRATION:** Encourage universities and TVET centres to include NbS principles and skills in relevant programs like architecture, social work, civil engineering, and environmental studies.
2. **PUSH FOR ACCESSIBLE ACCREDITATION:** Work with public-private-youth partnerships and national accreditation bodies to create official, recognized, and accessible NbS certifications for young professionals.
3. **FORGE PRACTICE-EDUCATION PARTNERSHIPS:** Establish formal apprenticeship and mentorship programs that link universities and TVET centres directly with NbS practitioners and community projects to ensure training is informed by, and leads to, accredited, hands-on field experience.

## III. A POLICY TOOLKIT

This is a practical tool to translate the Decent Work in Nature-Based Solutions 2024 report into unified, impactful policy requests to close the skills gap and integrate NbS into national economic and education planning.



### THE PROBLEM

Young people face rising unemployment just as demand for Nature-based Solutions (NbS) jobs is growing. Governments are investing billions in climate and nature initiatives, but without a skilled workforce, these investments risk falling short.

Many youth lack accredited training or clear pathways into NbS roles, limiting both livelihoods and the impact of these programs. Closing this gap is critical.

### WHY IT MATTERS

**ECONOMIC OPPORTUNITY:** If the investment needed to achieve the goals of the three [Rio Conventions](#) are met, the Nature-based Solutions sector could generate 20–32 million new jobs by 2030.

**CLIMATE RESILIENCE:** NbS drives essential climate action and dividends for biodiversity and resilience, but only a skilled workforce can deliver this with quality, measurable impact.

**EQUITY:** Youth are leading climate action but are undermined by a lack of enabling policies and public investment in their professional development.

## TOP THREE POLICY ASKS

Youth leadership in NbS starts in the community. Decision-makers should work with governments, universities, and civil society to create clear career pathways, fund youth-led green networks, and connect young professionals with technical and financial support to turn ideas into scalable, high-impact solutions. Specifically, we request that you:



**INVEST:** Allocate a portion of national climate and nature finance toward dedicated NbS skills training, accreditation, and capacity-building programs, helping youth prepare to fill the millions of jobs that could emerge.



**INTEGRATE:** Commit to embedding priority NbS occupations and competencies into national Technical and Vocational Education and Training (TVET) and university curricula by 2030, in collaboration with industry and community practitioners.



**INVOLVE:** Establish permanent, youth-led Green Jobs Task Forces in key ministries (Labour, Education, Environment) with dedicated budgets to ensure policy design is demand-driven and youth-centric.

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MARCEL CROZET / ILO



REMAR PABLO / ILO



## KEY MESSAGES

These are concise, impactful message buckets designed to frame the issue to policymakers as an urgent investment challenge:

“Graduates don’t just need green jobs, we need accredited skills and qualifications to professionalize the sector and ensure decent work. With the right investment, NbS could generate hundreds of thousands of new, high-quality jobs. Without clear career pathways, NbS will remain a promise, not a practice.”

“Our generation is ready to protect the planet and conserve our future. Policymakers must train us, trust us, and fund us to execute high-integrity NbS, unlocking the full potential of this growing job sector.”

“Investing in our skills is not a cost; it is the most critical investment in our nation’s long-term climate resilience, economic stability, and the creation of a massive new workforce. Failure to train the workforce is failure to meet climate targets.”



## IV. A SKILLS TOOLKIT:

Landing an NbS job isn't about what degree a candidate has; it's about the right skills they'll bring. Many roles don't and won't need a degree at all: just solid hands-on experience and training. The sector needs young professionals who can combine scientific knowledge with real-world problem-solving and people skills. This is called the Hybrid Skills Advantage, which includes two key categories:

### THE TECHNICAL SKILLS (HARD SKILLS)

These are the hands-on, knowledge-based skills needed to plan, run, and monitor NbS projects:

- **ECOSYSTEM AND BIODIVERSITY EXPERTISE:** An expert understanding of ecosystems and biodiversity.
- **RESTORATION TECHNIQUES:** Knowledge of techniques for restoring forests, wetlands, and other habitats.
- **MONITORING & EVALUATION:** Measuring and tracking the impact of NbS projects.
- **GEOSPATIAL TECHNOLOGY:** Using mapping tools and Geographic Information Systems (GIS) technology to plan projects.
- **DATA ANALYSIS:** Analyzing data and spotting trends to improve outcomes.

### THE CORE SKILLS (SOFT SKILLS)

These are the people-focused and management skills that make projects successful and sustainable. They are community-centered, ensuring projects are carried out fairly and prioritize positive impacts for locals.

- **TEAMWORK:** Collaborate effectively with stakeholders for project success.
- **PROJECT MANAGEMENT:** Manage projects, timelines, and budgets efficiently.
- **KNOWLEDGE SHARING:** Teach and train community members and key decision-makers.
- **PROBLEM SOLVING AND CREATIVITY:** Use creative thinking to solve on-the-ground problems.

NbS work isn't done in silos. Both the technical know-how and the ability to work with people, adapt to challenges, and integrate local knowledge are necessary to make projects truly effective.

Take Nature-based Infrastructure (NbI), for example: using mangroves as a natural seawall instead of, or alongside, concrete.

If you were a project manager on a project like this, you would need a mix of technical and soft skills:

- **TECHNICAL SKILLS:** understanding ecosystems, restoration techniques, and engineering principles to design solutions that work with nature.
- **SOFT SKILLS:** collaborating with communities, integrating local and Indigenous knowledge, and adapting creatively to challenges on the ground.

Most NbS jobs in developing countries today are entry-to mid-level. But as projects become more complex, higher-skilled roles will be in demand. A candidate who masters this mix of technical and people-focused skills is uniquely positioned to lead the future of NbS.

Main occupations identified in the survey by region and primary action

Main occupations by region		Main occupations by primary action	
North America and Europe	Project manager Environmental engineer Ecological restoration technician Conservation worker Environmental specialist	Restoration	Project manager Conservation worker Environmental specialist Environmental engineer Forestry technician
Africa	Conservation worker Project manager Environmental specialist Specialist in participatory approaches Community coordinator	Protection	Conservation worker Park ranger Environmental specialist Community coordinator Specialist in participatory approaches
Latin America	Conservation worker Park ranger Field facilitator Environmental specialist Project manager	Conservation	Conservation worker Park ranger Forestry technician Specialist in participatory approaches Field facilitator
Asia and Pacific	Conservation worker Park ranger Field facilitator Environmental specialist Project manager	Sustainable use and management	Project manager Environmental specialist Field facilitator Environmental engineer Conservation worker

**SOURCE:** Skills for NbS Survey (2024).

**NOTE:** The survey asked respondents to identify the three main occupations they consider key for the successful implementation of their NbS projects. For a description of the top ten occupations identified in the survey, please see the Annex.

**CAREERS IN NBS OFFER A UNIQUE REWARD:  
THE DAILY OPPORTUNITY TO WORK WITH PURPOSE, KNOWING  
YOUR EFFORTS CONTRIBUTE DIRECTLY TO A HEALTHIER PLANET  
AND MORE RESILIENT COMMUNITIES.**

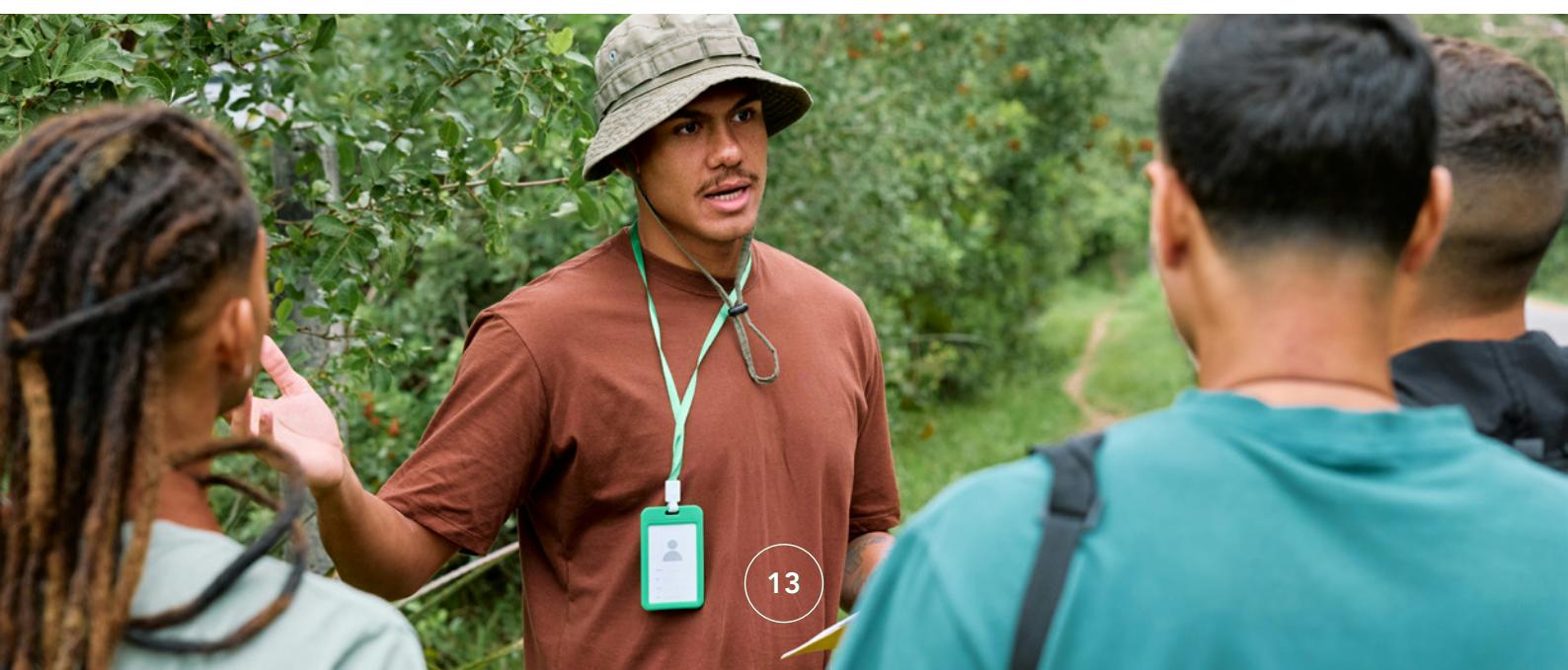
## Main technical and core skills required by top five occupations

### Main occupations by primary action

<b>Conservation worker</b>	<b>Technical skills</b>	Ecological restoration techniques Tree planting and growing Application of ecosystems/biodiversity knowledge
	<b>Core skills</b>	Collaboration with stakeholders Training of community members Effective communication
<b>Project manager</b>	<b>Technical skills</b>	Policy design and advocacy to support NbS initiatives Monitoring and evaluation of NbS benefits Data analysis
	<b>Core skills</b>	Project management Collaboration with stakeholders Effective communication
<b>Environmental specialist</b>	<b>Technical skills</b>	Data analysis Application of ecosystems/biodiversity knowledge Monitoring and evaluation of NbS benefits
	<b>Core skills</b>	Collaboration with stakeholders Effective communication Project management
<b>Park ranger</b>	<b>Technical skills</b>	Protection: supervising and guarding area Ecological restoration techniques GIS technology and remote sensing
	<b>Core skills</b>	Collaboration with stakeholders Effective communication Problem solving skills
<b>Environmental engineers</b>	<b>Technical skills</b>	Data analysis Application of ecosystems/biodiversity knowledge Monitoring and evaluation of NbS benefits
	<b>Core skills</b>	Problem solving skills Collaboration with stakeholders Project management

**SOURCE:** Skills for NbS Survey (2024).

**NOTE:** The survey asked respondents to select the two most relevant technical and core skills for each of the three main occupations reported.



# V. CASE STUDIES: NBS IN ACTION

Investing in NbS creates formal, decent work while tackling environmental challenges and creating sustainable employment. These global examples show how:

- **Kenya's 15 Billion Trees Initiative:** This project aims to restore **10.6 million hectares** by **2032**, increasing forest and tree cover while creating **0.4–1 million jobs** annually in restoration and agroforestry.
- **India's MGNREGS:** The world's largest NbS public jobs program guarantees at least **100 days of work** per household, focusing on water conservation and natural resource management. It shows how public investment plus skills training can create reliable pathways to decent green jobs for recent graduates entering the workforce.

## HOW YOUNG PROFESSIONALS ARE DRIVING CHANGE

Young people are already stepping into NbS jobs; restoring ecosystems, protecting biodiversity, and supporting communities. The key? Skills, training, and support that turn passion into a real green career.



### SHIPAKULE SHILAVEKO CLEAVEN, SOUTH AFRICA

#### CURRENT GREEN JOB: FOUNDER, ENVIRONATION NETWORK

**JOB DESCRIPTION:** EnviroNation leads community-based environmental programs—tree planting, waste management, and environmental education—protecting biodiversity while empowering youth and communities to take stewardship of nature.

**EDUCATION & PATHWAY:** Shipakule is completing a Bachelor's in Environmental Sciences (University of Venda). His leadership grew through the UGO Fellowship and an international exchange. He founded EnviroNation to apply his learning locally and strengthened his skills through a course in biomimicry, focusing on nature-inspired solutions.

**WHY NBS?** Shipakule chose a career in NbS because a healthy environment is the foundation for a thriving future, and NbS offers him meaningful, impactful work.



## AUSTINE WANDERA, KENYA

### CURRENT GREEN JOB:

**FOUNDER, JOWSH AGRITECH LTD; YOUTH INNOVATOR, HYDRO VICTORIA AFRICA**

**JOB DESCRIPTION:** Jowsh Agritech Ltd advances clean energy, organic farming, and climate-smart agriculture. Austine uses AI-driven tools—like Mkulima Alert and natural breeding site mapping—to boost resilience and biodiversity. Through Hydro Victoria Africa, he also supports youth-led renewable energy and green growth initiatives.

**EDUCATION & PATHWAY:** Austine is a second-year Agricultural Economics student at Kibabii University, with certifications in AI, Arduino, IT, social media marketing, and biodiversity. Combining academics with hands-on projects, he develops tech-driven solutions that advance Kenya's green transition.

**WHY NBS?** Austine chose a green career because protecting nature through innovation is one of the greatest investments in our future. When youth unite technology and sustainability, they create real, lasting change for people and the planet.



## TSHIWELA MUKONA KONE, SOUTH AFRICA

### CURRENT GREEN JOB:

**YOUTH AND COMMUNITY ENGAGEMENT MANAGER, VHEMBE BIOSPHERE RESERVE (VBR)**

**JOB DESCRIPTION:** Tshiwela leads community and youth engagement for the Vhembe Biosphere Reserve, working with communal and Indigenous communities under the Herding for Health Programme to restore degraded rangelands using both scientific methods and traditional knowledge. She also

supports riparian rehabilitation projects, guides erosion-control measures such as gabion installation, and coordinates youth-driven conservation initiatives across the region.

**EDUCATION & PATHWAY:** Tshiwela is an MSc candidate in Sustainable Urban Planning and Development. Her pathway blends environmental education, community facilitation, and hands-on restoration work across biosphere reserves, supported by active involvement in the South African Man and the Biosphere (SA MaB) Youth Network.

**WHY NBS?** Tshiwela chose a career in NbS because it allows communities to restore ecosystems while strengthening their livelihoods. Through rangeland restoration, riverbank rehabilitation, and youth-focused environmental programmes, Tshiwela has seen how NbS creates climate resilience, and empowers the very people who depend on these landscapes.

# VI. RESOURCES & REFERENCES

Here are the core resources that inform this brief, and platforms for ongoing engagement:

- **Decent Work in Nature-based Solutions 2024: Unlocking jobs through investment in skills and nature-based infrastructure:** This brief and its findings (including the national case-studies and global survey) are drawn from the findings of this technical report.
- **Green Jobs for Youth Pact (GJYP):** A global platform connecting youth organizations with partners to advocate for decent green jobs. Explore their website to join campaigns and initiatives.
- **UN Environment Programme (UNEP):** Provides up-to-date research, policy insights, and reports on the environment and green economy. This is perfect for staying informed and shaping your advocacy.
- **Green Jobs and Green Skills Consultations Report:** This report derives from the global youth consultations conducted in 2024 by SOS-International and the United Nations Environment Programme (UNEP) as part of the Green Jobs for Youth Pact (GYJP) aimed at exploring how youth define and understand green skills and green jobs around the world, and empowering and supporting young people to advocate for green jobs.
- **The Greenpop Foundation:** Greenpop is a South African environmental non-profit that focuses on restoration, environmental education, and sustainable community development across Southern Africa.

## GLOSSARY:

- **Nature-based Solutions (NbS) –** Actions to conserve, protect, restore, or sustainably use and manage natural ecosystems to address social, economic, or environmental challenges, while benefiting both people and nature.
- **Nature-based Infrastructure (NbI) –** Nature-based infrastructure involves the use of NbS to deliver infrastructure-related services, such as slope stabilization, coastal protection, heating and cooling, or water management, among others.
- **Decent Work –** Employment that is productive, fairly paid, safe, and provides opportunities for learning and career growth.
- **TVET (Technical and Vocational Education and Training) –** Programs that provide practical skills for specific jobs or industries, including NbS careers.
- **Rio Conventions –** Three major international environmental agreements focused on biodiversity, climate change, and desertification: UNFCCC (United Nations Framework Convention on Climate Change), CBD (Convention on Biological Diversity), UNCCD (United Nations Convention to Combat Desertification).

