

Restoration Education

Building a Pan-African curriculum on landscape restoration that works



A collaboration between

The Center for International Forestry Research (CIFOR) and:

University of Ibadan, Nigeria

University of Energy and Natural Resources, Ghana

University of Development Studies, Ghana

Centre for Applied Systems Analysis, Malawi

Integrated Polytechnic Regional College Kitabi (IPRC Kitabi), Rwanda

PREFACE

Restoration Education reflects the story of a collective journey. A journey that departed from a real need for better and more integrated education on landscape restoration. A journey that led to a full package of materials, forming the basis for a Pan-African curriculum on landscape restoration. The journey hasn't ended there, it is yet to be rolled out thorough online, offline and blended learning trajectories spread over the five education institutes that took part. It may also expand, once other African partners start joining the process. It may even expand beyond Africa, once education institutes in other continents see the value and organise something similar, tailored to their own context. It may expand even further, once international agencies start to support and fund the education innovation that is needed to restore the world's degraded forests in a sustainable and inclusive manner.

It is great to see what happens if a group of dedicated and motivated teachers and managers of education institutes join hands and build a truly integrated curriculum, based on their own disciplinary curricula, yet strengthened through stakeholder engagement, inter- and transdisciplinary curriculum design. It reflects the true meaning of an old Adinkra wisdom, as the Ashanti people in Ghana say: "Nyansapɔ wosane no badwemma", or "Wise knots can only be loosened by multiple wise people together."

1. Background

The Restoration Education program represents an initiative that aims to integrate landscape restoration into formal academic and vocational education in Africa. The initiative builds on the international momentum created by the launch of the United Nations Decade on Ecosystem Restoration¹ in June 2021. Labelling the decade 2021-2030 as Decade on Ecosystem Restoration spurred the increase of investment in landscape restoration, particularly in Africa. While increased investment has led to an increased number of restoration projects across the continent, it also led to the awareness that there is a shortage of well-trained professionals to do the job. Whereas forest management is a well-established educational domain, the concept of forest landscape restoration, which connects multiple disciplines within environmental and social sciences both, is relatively new. To build a new generation of 'restoration professionals' across the continent, a group of African education institutes, together with the Global Landscapes Forum and IUFRO launched a *Call to Action*² to develop inter- and transdisciplinary restoration related curricula across the African continent.



2. What has been done?

In order to realise these ambitious objectives, a partnership was formed with five universities in Africa: the University of Development Studies of Tamale (Ghana), the University of Natural Resources and Environmental Management in Sunyani (Ghana), the University of Ibadan (Nigeria), the Centre for Applied Systems Analysis (Malawi), and the Rwanda Polytechnic, Kitabi (Rwanda). Additional partners were CIFOR-ICRAF's Global Landscapes Forum, the International Union of Forestry Research Organisations (IUFRO) and the UN Convention to Combat Desertification (UNCCD), the latter being a strategic partner given its mandate (restoration) and its ability to fund.

At the onset of the project, we set ourselves the following objectives and deliverables:

- 1) A coherent set of principles on landscape restoration, supported by a conceptual landscape framework and the learning outcomes of a Restoration Education curriculum.
- 2) A corresponding set of capabilities and skillsets needed for restoration professionals to restore degraded landscapes in Africa.
- 3) A blueprint for a transformative Restoration Education curriculum, based on existing courses and complemented with innovative modules, short courses, summer schools and practicals to be delivered in a blended learning format.
- 4) A full package of materials, including principles, reports, powerpoints, videos and assignments, for the universities to build their respective module in detail.

3. How was it done?

The Restoration Education initiative aims to combine two new concepts of Landscape Restoration and Transformative Education. Given the newness of both concepts, we adopted an explorative approach based

¹ UN Decade on Ecosystem Restoration, information to be found on [UN Decade on Restoration](https://www.un.org/development/desa/en/news/press/2021/06/2021-2030-decade-on-ecosystem-restoration.html)

² To be found on [Restoration-Education---A-Call-to-Collective-Action.pdf \(globallandscapesforum.org\)](https://www.globallandscapesforum.org/wp-content/uploads/2021/07/Restoration-Education---A-Call-to-Collective-Action.pdf)

on *learning-by-doing*. During a first workshop we built a conceptual framework and formulate a set of underlying principles that work.

Our methodology was largely inspired by the '*Toolkit for Blended Learning Design*' (Wageningen/Bonn, 2022³) designed by Wageningen Centre for Development Innovation and Global Landscapes Forum. We partnered with CIFOR-ICRAF's Global Landscapes Forum that is founding member of the UN Decade on Ecosystems Restoration, and the International Union of Forest Research Organisations (IUFRO) that has access to a wide network of African universities. We launched a Call to Action with the Global Landscapes Forum during the launch of the UN Decade, which gave us the political mandate to get into action. Building on that mandate we started working with a group of five universities, each having expressed a high level of motivation and commitment to bring this project to a good end.

As described in the project proposal, we wanted to limit our CO₂ footprint and do all the meetings, workshops, and training online. However, we realised that to keep the motivation and the quality of the output high, some face-to-face encounters were needed. Additional resources from the GLF's funding from the Federal Ministry for Economic Cooperation and Development (Germany) and the UN Convention to Combat Desertification (UNCCD), which allowed us to organise one blueprint design workshop in 2022 and one train-the-teachers in 2023, both in Nairobi. The pilot training that we organised was entirely online. The resulting blueprint was reviewed twice, once by practitioners during the GLF event in Nairobi, and once by scholars/educators during the 2023 TRED conference in Wageningen. The outcome is a final blueprint to be operationalised as a modular blended learning trajectory, with five offline modules at each of the universities, and one online trajectory that connects them all.

4. What have been the results?

The initiative was widely embraced by partners and supporters, as the need for an interdisciplinary curriculum on landscape restoration is widely felt. The results therefore exceeded the expectations. Throughout the process there was a high level of commitment and motivation, especially at the side of the five participating African universities. The strategic combination of financial resources allowed for the organisation of activities that were not foreseen in the original proposal, but which were very much needed. A short description of each of the deliverables is provided below. The Blueprint, which is the main deliverable of the project, is added as an attachment.

³ Wageningen Centre for Development Innovation (2022), to be downloaded for free at <https://doi.org/10.18174/564863> or at www.wur.eu/cdi (under publications). ISBN: 978-94-6447-120-5

Result 1:

A coherent set of principles on landscape restoration, based on a conceptual framework on landscape restoration, to serve as a basis for the Restoration Education curriculum.

Any academic curriculum needs to be embedded in solid science. To ensure scientific soundness, a conceptual framework was built, to form the basis for defining the skill sets that need to be built. We crafted a framework built on literature as well as on restoration practice, which is summarised and visualised in figure 1.

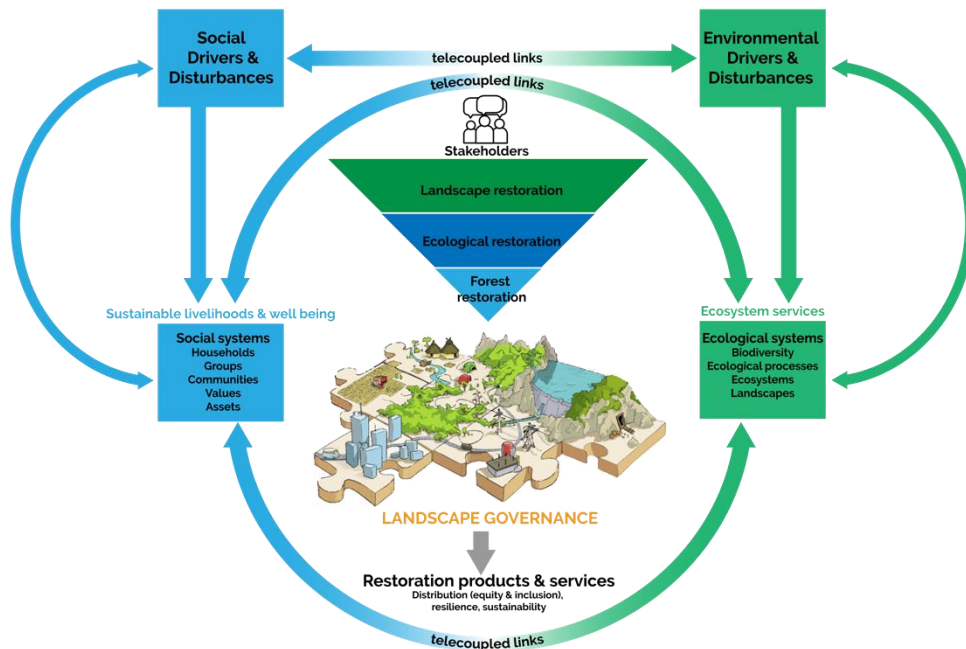


Figure 1: A conceptual framework showcasing the social-ecological basis for integrated landscape restoration, as a basis for the 10 principles for Restoration Education hereunder described.

The framework

Figure 1 illustrates how forest, ecosystem and landscape restoration are interrelated, and how it is connected to the social systems that depend on forests, ecosystems, and landscapes. It visualises restoration as a systematic and well-designed process that aims at achieving diverse landscape goals by developing mosaics of complementary, productive land uses, with the overall aim to restore ecosystems, food systems and biodiversity simultaneously. It shows that restoration represents a human activity as well as a process with multiple social and ecological goals, which can be divergent or complementary depending on the scale of analysis (forests, ecosystems, or larger geographical areas or landscapes). Based on the widely accepted assumption that the best scale for negotiating trade-offs and creating synergies is the landscape scale, we decided to focus on landscape restoration, meaning that restoration must go far beyond the act of planting trees. This implies that foresters can no longer claim to be the only ones who can restore, as additional skillsets related to different ecosystem services and benefits accruing to different stakeholders over time are required, making landscape restoration a multidisciplinary, inter-disciplinary and transdisciplinary endeavour.

The principles

Based on the framework, a set of ten principles were derived, reviewed, discussed, and compared to existing sets of principles to be found in academic and professional literature, such as the ones developed by Sayer (2023), CIFOR-ICRAF-GLF (2021), FAO and partners (FAO, IUCN, CEM, and SER, 2022). Tailored to our objective of an inter- and transdisciplinary curriculum design on restoring landscapes, we drafted an overarching set of Ten Principles that echo the multiple relevant disciplines and serve as an inter- and

transdisciplinary set of principles underpinning and guiding the curriculum. The Ten Principles are the following:

1. **Global contribution;** Landscape restoration contributes to the UN sustainable development goals (SDG's) and the goals of the Rio conventions.
2. **Broad engagement:** Landscape restoration promotes inclusive and participatory governance, social fairness and equity from the start and throughout the process and its outcomes.
3. **Address causes of degradation:** Landscape restoration addresses the direct and indirect causes of ecosystem degradation.
4. **Benefits to nature and people:** ecosystem restoration aims to achieve the highest level of recovery for biodiversity, ecosystem, and health.
5. **Many types of activities:** Landscape restoration includes a continuum of restorative activities that are complementary in nature.
6. **Local and landscape contexts:** Landscape restoration is tailored to the local ecological, cultural, and socioeconomic contexts, while considering the larger integrity of the landscape.
7. **Knowledge integration:** Landscape restoration incorporates all types of knowledge and promotes the exchange and integration throughout the process.
8. **Measurable goals:** Landscape restoration is based on well-defined short-, medium- and long-term ecological, cultural, and socio-economic objectives and goals.
9. **Monitoring and management:** Landscape restoration includes monitoring, evaluation and adaptive management throughout and beyond the lifetime of the project or programme.
10. **Policy integration:** Landscape restoration is enabled by policies and measures that promote its long-term progress, fostering replication and scaling-up. It provides an opportunity for policy integration within the geographical bounds of the landscape.

Result 2: A set of capabilities and skillsets needed for restoration professionals to restore degraded landscapes in Africa.

The skillsets

Based on the conceptual framework and the principles described in the previous section, we concluded that the skillsets required for any landscape professional needs to be a combination of multiple technical disciplines, combined with complementary social skills, and a highly motivational and inspirational mindset. Landscape professionals will need to be able to not only focus on one issue, but they need to have an integrated mindset and be able to work with multiple actors, ranging from public to private to community based. The landscape professional cannot have a single sectoral view, but she/he needs to be able to combine multiple sectors and combine the multiple interests attached. Having the ability to address complex issues requires not only academic knowledge, but also new knowledge co-created by multiple stakeholders involved. Co-designing projects, facilitating stakeholder engagement, drawing in policy makers, and working towards novel business models therefore require a cutting-edge inter-disciplinary curriculum that merges technical disciplines topics with process-oriented skills, combined into a single programme. In defining the skillsets, we used three resources that offer comprehensive capacity needs assessments based on global surveys:

1. The IUFRO led *Global Assessment of Forest Education*⁴;
2. The FAO led *Global Capacity Needs Assessment: key gaps and capacity priorities for restoration to support the UN Decade on Ecosystem Restoration 2021-2030 (2022)*⁵;
3. The article *Capable to govern landscape restoration? Exploring landscape governance capabilities, based on literature and stakeholder perceptions* (van Oosten et al., 2021)⁶.

All three capacity needs assessments confirm that the technical know-how of forest restoration is widely taught in forestry curricula around the world. Yet few are the opportunities to study *landscape* restoration, which, besides forestry, also perceives restoration from alternative disciplines such as agriculture, natural resources management, economics, and social sciences,. This means that the design skills of future restoration professionals are limited, while their process skills to drive a restoration process towards economically viable, socially just, and equitable outcomes is practically nil.



Figure 2: five core capacities required for integrated landscape restoration

We used a frequently cited article *Landscape Approaches: a State of the Art Review* (Arts et al., 2017)⁷ which presents a framework of five dimensions of landscape restoration that covers all the design skills and process skills that a restoration professional needs to have (figure 2). Figure 2 sketches these five dimensions translated into five core capacities required for successful landscape restoration: 1) the capacity to think and act from a landscape perspective, 2) the capacity to achieve coherence in landscape diversity, 3) the capacity to make institutions work for landscapes, 4) the capacity to create landscape market value, and 5) the capacity to manage landscape resources sustainably (ibid.).

From skillsets to a curriculum

⁴ Global assessment of forest education - Creation of a Global Forest Education Platform and Launch of a Joint Initiative under the Aegis of the Collaborative Partnership on Forests (FAO-ITTO-IUFRO project GCP /GLO/044/GER)

⁵ To be found at [Global capacity needs assessment \(fao.org\)](https://www.fao.org/global-capacity-needs-assessment/)

⁶ Capable to govern landscape restoration? Exploring landscape governance capabilities, based on literature and stakeholder perceptions. Van Oosten C., H. Runhaar, B. Arts, *Land Use Policy*, Volume 104, May 2021. <https://doi.org/10.1016/j.landusepol.2019.05.039>

⁷ Arts, B. & Buizer, Marleen & Horlings, Lummina & Ingram, Verina & van oosten, Cora & Opdam, Paul. (2017). *Landscape Approaches: A State of the Art Review*. Annual Review of Environment and Resources. Vol 42. 10.1146/annurev-environ-102016-060932, downloadable at [Landscape Approaches: A State of the Art Review \(researchgate.net\)](https://www.researchgate.net/publication/317111111_Landscape_Approaches_A_State_of_the_Art_Review)

We used the same article to sketch the ambition and potential of interdisciplinary education, by employing the *T-shaped interdisciplinary education model* previously developed by Oskam (2009). This model was further adapted to connect the disciplinary knowledge of the landscape professional to be found in environmental science (forestry, natural resources management) as well as in social sciences (sociology, economy, political ecology), and combined with the social and institutional skills to apply the acquired knowledge into practice.

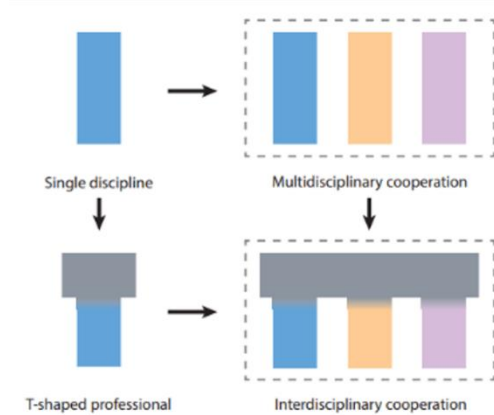


Figure 3: the single disciplinary professional shaped professional (copied from Oskam, 2009)

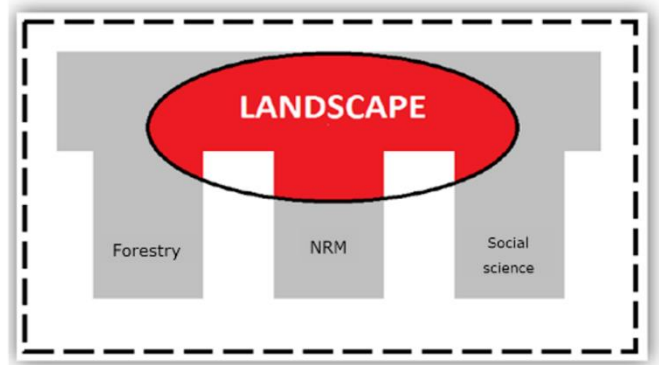


Figure 4: the T-shaped landscape restoration versus the T-professional, combining single disciplinary fields with generic landscape skills (Arts et al., 2017)

While defining the skill sets, it was realised that for an adequate delivery of an inter- or transdisciplinary curriculum more needs to be done. A truly inter- or transdisciplinary curriculum requires a totally new approach to education which allows for combining disciplinary concepts with practically oriented components, to be followed through the various stages of a person's career. Much can be learned from recent thinking on *Transformative Education*, which aligns well with the skillsets which were identified.

From curriculum to a *transformative curriculum*

Transformative education is a relatively new concept that may have different meanings and interpretations. Yet in general terms it aims to break away from the classical role of teachers as experts to teachers as facilitators and enablers of societal change. It engages both teachers and students in a joint learning process, based on the principle that learning is an interactive process from which both teachers and students learn. It demands from both teachers and students to be willing and able to question each other's values, attitudes, and behaviours, and aims to empower students to be agents of societal change. To give our own meaning to transformative education for landscape restoration we identified six principles that form the backbone of the blueprint.

1. **Transformative education** allows students to combine multiple disciplines and weave their own preferred curricula that suits them best. This requires a flexible approach to curriculum design in which students can engage in multiple disciplinary programmes and be recognised for this through credit points or micro-credentials.

2. **Competence-based learning** helps learners to not only acquire scientific knowledge, but also the practical skills and the personal attitudes that they need to enter the workforce with the right skillsets that the market demands. Strong engagement of teachers and future employers in curriculum design is needed for this, as it will strengthen the employability of graduates.

3. **Practice-based learning** departs from the belief that students not only learn from theory but also from practice. Not only by hearing about practice, but also by actively engaging in practice, reflecting on a practical learning experience, and learning from it. Practice-based learning may take place on-campus, but it also happens outside, through internships and job placements, while assessment is based on criteria that match. Practice-based learning implies that the teacher needs to change roles from teaching to facilitating and mentoring, to help students to prepare themselves for the practical context in which they will operate.

4. **Lifelong learning** departs from formal education but follows the learners throughout their careers, encouraging them to keep learning and improving their professional life. Lifelong learning happens through short professional courses (accredited or not), on-the-job learning, e-learning, mentoring, and coaching, and more. It encourages learners to continuously adapt their approach towards restoration as it changes over time due to changes in climate and other environmental conditions. Life-long learners must however be motivated to adapt and learn based on the ever-changing knowledge, capacities, stakeholder needs, and societal values that the market demands.

5. **Blended learning** is a growing practice of blending of online and face-to-face learning. Blended learning increases the flexibility of curriculum design, as it responds to the diversity of learning styles that learners may have, and to the wide diversity of restoration related jobs that may exist. It helps to connect learners from different geographies, academic backgrounds, and job positions to join in different parts of the restoration puzzle. Blended learning trajectories may comprise of tailor-made, facilitated and self-paced courses based on synchronous and asynchronous activities, blended into a trajectory that suits the workload of professionals, and can be followed either in combinations or as stand-alone courses.

6. **Flexible assessment** is a must, to effectively address the learner’s continuously evolving learning needs. Flexible assessment is needed to appropriately assess the competencies held by the learner no matter how or where they have been acquired, drawing from a range of assessment methods appropriate to the context, the unit of competency and associated assessments, and the individual to be assessed.

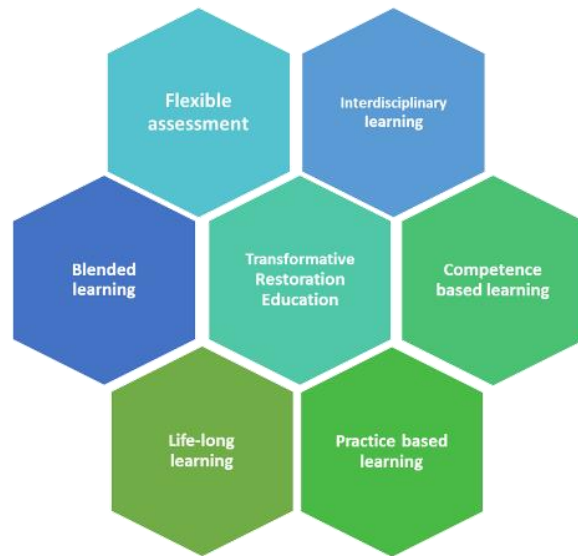


Figure 5: The Six Principles of Transformative Restoration Education

Result 3: A blueprint for a transformative Restoration Education curriculum, based on existing courses and complemented with innovative modules, short courses, summer schools and practicals to be delivered in a blended learning format.

The purpose of writing a curriculum's blueprint is to define the main learning parameters that form the basis of its courses. For developing the blueprint we used the *Toolkit for Blended Learning Design prepared by Wageningen Centre for Development Innovation and GLF*⁸. This methodology is based on the so-called 'blended learning jukebox framework' (figure 6) which guides the blueprinting process by laying out the essential aspects of what one aims to achieve in the course; who is the target audience of learners and what are their needs; what are the key learning outcomes and topics; which are the delivery mechanism and learning modalities, the expected duration and the rhythm of the course; and wraps it up with a summative assessment. Two online workshops and one face-to-face workshop were organised, to familiarise the team with this methodology, and to build the blueprint for restoration education together.

Overall learning outcomes

Based on the identified capacity needs from result 2 (see the core capacities framework presented in figure 2) five overall learning outcomes were identified. Within the blueprint, each of the learning outcomes represent one course. The duration, study load and rhythm for each course were defined, which were then translated into sub-learning outcomes, topics and learning activities. For identifying the learning activities, we used the so-called 'Bloom's taxonomy' and the 'PIAF process' of designing, developing, and delivering the learning pathway (both presented in the Blended Learning Toolkit). The full blueprint detailing each learning outcome can be found in Annex 1.

Target audience

The restoration education curriculum was designed to specifically address the following three groups: decision and policy makers, practitioners and early career individuals and students, and all envisioned to play a key role in the design and implementation of restoration initiatives. The restoration education curriculum therefore addresses the some of the technical and the process-related capacities to analyse landscape dynamics and contexts, co-create, and strengthen inclusive landscape partnerships for restoration, while catalysing opportunities to enhance landscape governance crucial for the success of landscape restoration activities. The curriculum further addresses the design and application of adaptive and resilient landscape restoration initiatives that are economically viable and contribute to the social development strategies within the landscape.

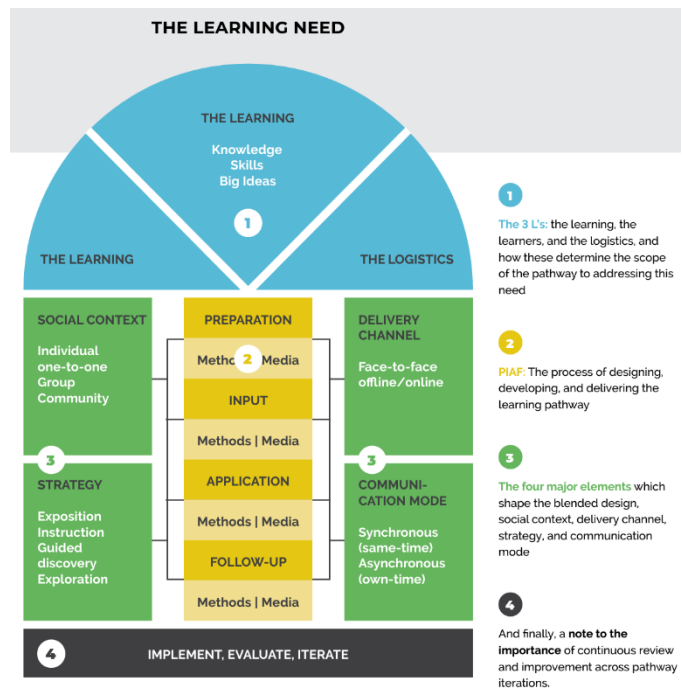


Figure 6: Blended Learning Jukebox Framework for blended curriculum design (WCDI, 2022)

⁸ Wageningen Centre for Development Innovation (2022), to be downloaded for free at <https://doi.org/10.18174/564863> or at www.wur.eu/cdi (under publications). ISBN: 978-94-6447-120-5

Delivery of the curriculum

During the blueprinting process ample attention was paid to the ability of teachers to facilitate the courses and enable the learners to apply restoration on-the-ground. A preliminary outline for a toolkit for landscape restoration was developed to complement the restoration curriculum. The tools defined ranged from tools to facilitate multi-stakeholder processes, to communication and advocacy tools, project planning tools, and implementation tools. In addition, a toolkit on innovative teaching methods was developed, to help teachers move away from teaching existing knowledge towards facilitation and co-creation of new knowledge. We organised sessions on the principles of transformative education that facilitates the on-the-ground practice and process of restoration and builds the transdisciplinary mindset that is needed for this. The overall blueprint, which is the main deliverable of this project, is presented in figure 7.

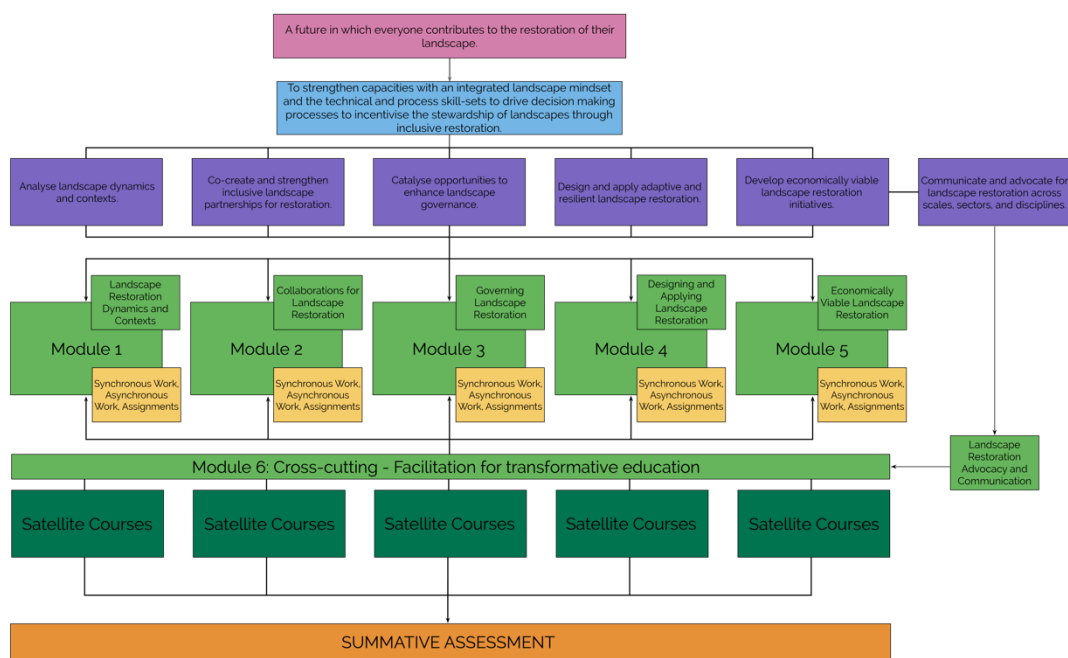


Figure 7: a blueprint for integrated Restoration Education

Based on the above sketched blueprint a full modular curriculum was developed, as reflected in Table 1, showing all the six modules, the learning objectives, the topics and the learning activities in detail.

| Module 1 | | | |
|---|---|---|--|
| LANDSCAPE RESTORATION DYNAMICS AND CONTEXTS | | | |
| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
| The basics of landscape restoration | LO 1.1: To describe the principles and distinguish the scales of landscape restoration. | 1.1.1: Principles of landscape restoration. 1.1.2: Different scales of landscape restoration. | <ul style="list-style-type: none"> Essays Sustainability matrix Puzzle learning |
| Complexities of landscape systems | LO 1.2: To explain and explore the social, ecological, economic, and cultural interactions of landscape systems. | 1.2.1: Social-ecological models for landscapes. 1.2.2: Drivers of land degradation and climate change. | <ul style="list-style-type: none"> Debates Drama Pictograms |
| Actors in landscapes | LO 1.3: To identify and categorize the actors involved in landscape restoration. | 1.3.1: Social Ecological Systems (SES) framework. 1.3.2: Actors and their roles. | <ul style="list-style-type: none"> Role play Interviews Guest lectures |
| Landscapes and their functions | LO 1.4: To analyze the dynamics nature of landscape structure and appraise their functions. | 1.4.1: Introduction to landscape contexts. 1.4.2: Introduction to landscape interactions and innovations in landscape restoration. | <ul style="list-style-type: none"> Simulation (videos and discussions) |

Module 2

COLLABORATIONS FOR LANDSCAPE RESTORATION

| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
|---|--|---|--|
| Understanding landscape partnerships | LO 2.1: To understand landscape partnerships and partnership dynamics. | 2.1.1: Collaborations in restoration. 2.1.2: Stakeholders and landscapes. 2.1.3: Principles of stakeholder collaboration. 2.1.4: Building landscape partnership | <ul style="list-style-type: none"> • Brainstorming • Group discussions • Case studies |
| Stakeholder collaborations | LO 2.2: To explore methods of stakeholder collaborations and relationships in landscapes. | 2.2.1: Types of collaborations 2.2.2: Mapping relationships. 2.2.3: Power dynamics in landscapes (gender & inclusivity) 2.2.4: Conflict and conflict resolution. | <ul style="list-style-type: none"> • Case Studies • Debates • Lectures • Problem Solving Tasks |
| Stakeholder analyses | LO 2.3: To be equipped with skills of stakeholder mapping and analyses. | 2.3.1: Stakeholder process analysis 2.3.2: Stakeholder roles 2.3.3: Interest and influence 2.3.4: Facilitating restoration practices | <ul style="list-style-type: none"> • Stakeholder tools • Role play • Chess/Checkers |
| Facilitating landscape partnerships | LO 2.4: To understand and illustrate methods to facilitate partnerships | 2.4.1: Power of landscape partnerships 2.4.2: Culturally appropriate collaborations 2.4.3: Consultations and engagement | <ul style="list-style-type: none"> • Games (telephone link, spin the wheel) • Role plays and Drama • Debates • Videos and Lecture snippets |

Module 3

GOVERNING LANDSCAPE RESTORATION

| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
|---|---|---|--|
| Understanding landscape institutions | LO 3.1: To evaluate institutional dynamics governing landscape restoration. | 3.1.1: Defining landscape governance 3.1.2: Role of governance in restoration 3.1.3: Navigating issues in governance institutions | <ul style="list-style-type: none"> • SWOT & entry point identification • Group reflection • Case studies • Success stories |
| Policy analysis | LO 3.2: To list, describe, and evaluate policies, rules, and norms in landscape restoration. | 3.2.1: Identify policies governing restoration 3.2.2: Analyse local, national, and global restoration policies | <ul style="list-style-type: none"> • Policy analysis tools • Group work |
| Institutes governing landscapes | LO 3.3: To analyse institutional arrangements governing landscapes. | 3.3.1: Institutional arrangements for landscape governance 3.3.2: Ownership and rights to resources 3.3.3: Land tenure & land restoration nexus 3.3.4: Challenges of resource rights | <ul style="list-style-type: none"> • Policy analysis tools (power, incentives, disincentives, etc.) • Group work (identifying gaps, knowledge sharing) |
| Understanding institutional change | LO 3.4: To assess factors associated with institutional change. | 3.4.1: Defining institutional change and change processes 3.4.2: Sources and causes of institutional change 3.4.3: Relevance of institutional change 3.4.4: Barriers to institutional change | <ul style="list-style-type: none"> • Case studies • Institution mapping and analysis |

Module 4

DESIGNING AND APPLYING LANDSCAPE RESTORATION

| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
|--|---|--|--|
| Context-based restoration | LO 4.1: To understand and analyse context-based restoration techniques and methods | 4.1.1: Landscape baselines 4.1.2: Integrated and resilient restoration frameworks (agroecology, sustainable forest wetlands, coasts, drylands, etc. management) | <ul style="list-style-type: none"> • Case studies • Lectures • Group and Guided discussions • Surveys |
| Restoration design | LO 4.2: To design relevant restoration techniques and methods | 4.2.1: Restoration design frameworks 4.2.2: Project lifecycle management frameworks | <ul style="list-style-type: none"> • Group/Individual projects • Seminars, workshops, elevator pitches • Lectures • Data collection and analysis |
| Applying restoration techniques | LO 4.3: To apply relevant restoration techniques and methods | 4.3.1: Field implementation 4.3.2: Combining design frameworks with multi-stakeholder processes, negotiations, and conflict management. | <ul style="list-style-type: none"> • Role play • Field-trips and internships • Data collection • Innovation competitions |
| MELIA | LO 4.4: To conduct MELIA on applied restoration techniques and methods | 4.4.1: Monitoring and evaluation frameworks. | |

Module 5

| ECONOMICALLY VIABLE LANDSCAPE RESTORATION | | | |
|---|---|---|--|
| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
| Economic evaluations | LO 5.1: To identify and apply appropriate economic evaluation methods to landscapes | 5.1.1: Economic evaluation methods 5.1.2: Cost-benefit analysis 5.1.3: Evidence-based approaches | <ul style="list-style-type: none"> • Guided discussions • Case studies • Projects (posters, surveys) • Field trips |
| Financial flows | LO 5.2: To understand and examine the diversity of financial flows for landscape restoration | 5.2.1: Financing (climate, public, co-development, private) 5.2.2: Incentive structure 5.2.3: Financial analysis, mapping tools, and revenue modelling | <ul style="list-style-type: none"> • Case studies • Seminars • Role plays |
| Business Models | LO 5.3: To design and apply context based business models for landscape restoration | 5.3.1: Social and environmental justice 5.3.2: Blended finance 5.3.3: Entrepreneurial skills 5.3.4: Business model understanding | <ul style="list-style-type: none"> • Business model canvas • Projects • Role play • Entrepreneurial activities |

Module 6

| (CROSS-CUTTING) LANDSCAPE RESTORATION ADVOCACY AND COMMUNICATION | | | |
|--|---|---|---|
| Learning Objective Title | Learning Objective | Key Topics | Learning Activities |
| Identifying audience | LO 6.1: To identify and define the audience and appropriate communication channels | 6.1.1: Landscape, stakeholder, institution mapping | <ul style="list-style-type: none"> • Mapping exercises • Discussions and self-reflections • Drama and role play |
| Developing communication strategies | LO 6.2: To understand and develop communication strategies and plans | 6.2.1: Communication vehicles 6.2.2: Diverse communication strategies | <ul style="list-style-type: none"> • Brainstorming • Group work • Presentation and discussions |
| Applying communication strategies | LO 6.3: To demonstrate and evaluate communication skills and strategies | 6.3.1: Diverse communication strategies 6.3.2: Evaluating communication effectiveness 6.3.3: Knowledge synthesis | <ul style="list-style-type: none"> • Role playing, conflict resolution • Deep listening |
| Refining and Re-applying communications | LO 6.4: To refine, choose, and apply context specific communication tools, channels, and platforms | 6.4.1: Diverse communication strategies | <ul style="list-style-type: none"> • Brainstorming • Self-reflection and evaluation • Role plays, drama, and peer-review |

Result 4: A full package of materials, including principles, reports, powerpoints, videos and assignments, for the universities to build their respective module in detail.

[Pan-African Restoration Education Modular Blueprint](#)

[Pan-African Restoration Education Modular Blueprint, Story-boards and Content](#)

Content by Modules:

- [RE MODULE 1 CONTENT 2023 Dec.docx](#)
- [RE MODULE 2 CONTENT 2023Dec.docx](#)
- [RE MODULE 3 CONTENT 2023Dec](#)
- [RE Module 4 Content Dec 2023.docx](#)
- [RE MODULE 5 CONTENT 2023 Dec.docx](#)

Moreover, a set of articles and blogs were written and published online:

- [Restoration Education - Landscape academy \(globallandscapesforum.org\)](#)
- [Restoration-education-concept-note.pdf \(globallandscapesforum.org\)](#)
- [Restoration Education Summit - Events at Global Landscapes Forum](#)
- [Restoration-Education-Workshop-report.pdf \(globallandscapesforum.org\)](#)
- <https://www.wur.nl/en/article/educating-a-new-generation-of-landscape-restoration-professionals-in-africa.htm>

In December 2023 a pilot course was organised to test the first module (Landscape Dynamics) online, the module was facilitated by the team from the University of Ibadan, which was responsible for the design of Module 1. The participants were recruited through a short global recruitment process which attracted over 250 candidates in just five days. Thirty students and young professionals which were selected, 20 out of which deserved and received a Certificate of Completion. Subsequent pilot courses for the additional five modules will be organised in 2024. The report of the pilot course can be accessed [here](#).

4. The next steps to be taken

Despite the great work done, this is not the end of the process. There are many more steps to be taken, as sketched in Table 1. This list of potential actions will be turned into a strategy for 2024, based on which the Restoration Education can be embedded in the curricula of African education institutes, and further scaled to be implemented throughout Africa and beyond.

| no | Action | Responsible |
|-----------|--|---|
| 1 | Critical review of the blueprint | Internal and external reviewers |
| 2 | Contextualised content development for each of the modules | Universities involved |
| 3 | Development of a Learning Management System and a professional learning platform to support the delivery of courses | CIFOR-ICRAF-GLF |
| 4 | Further the support of teachers through train-the-teachers and the development of toolkits in support of transformative education design and delivery | CIFOR-ICRAF-GLF with Universities involved |
| 5 | Creation of a repository of tools and methods for transformative education, including innovative modalities for competence-based learning, practice-based learning, life-long learning, and flexible assignment | CIFOR-ICRAF-GLF with universities involved |
| 6 | Mutual accreditation of the curriculum by the five implementing universities | Universities involved |
| 7 | Creation of a start-up fund to invest in innovative education (learning labs, project-based learning, field trips, exchange visits | External donor (tbd) |
| 8 | Creation of a fund for scholarships, for joint operation of the curriculum, allowing students and scholars to travel across Africa accessing the five country-based courses and gain continental experience | External donor (tbd) |
| 9 | Scale out by bringing in more universities in Africa and beyond to join the initiative, and develop more modules and courses | All |
| 10 | Mainstream Restoration Education throughout formal and informal education, to create a new generation of restoration professionals having an inter- and transdisciplinary mindset | All |

Annex: Images of the process

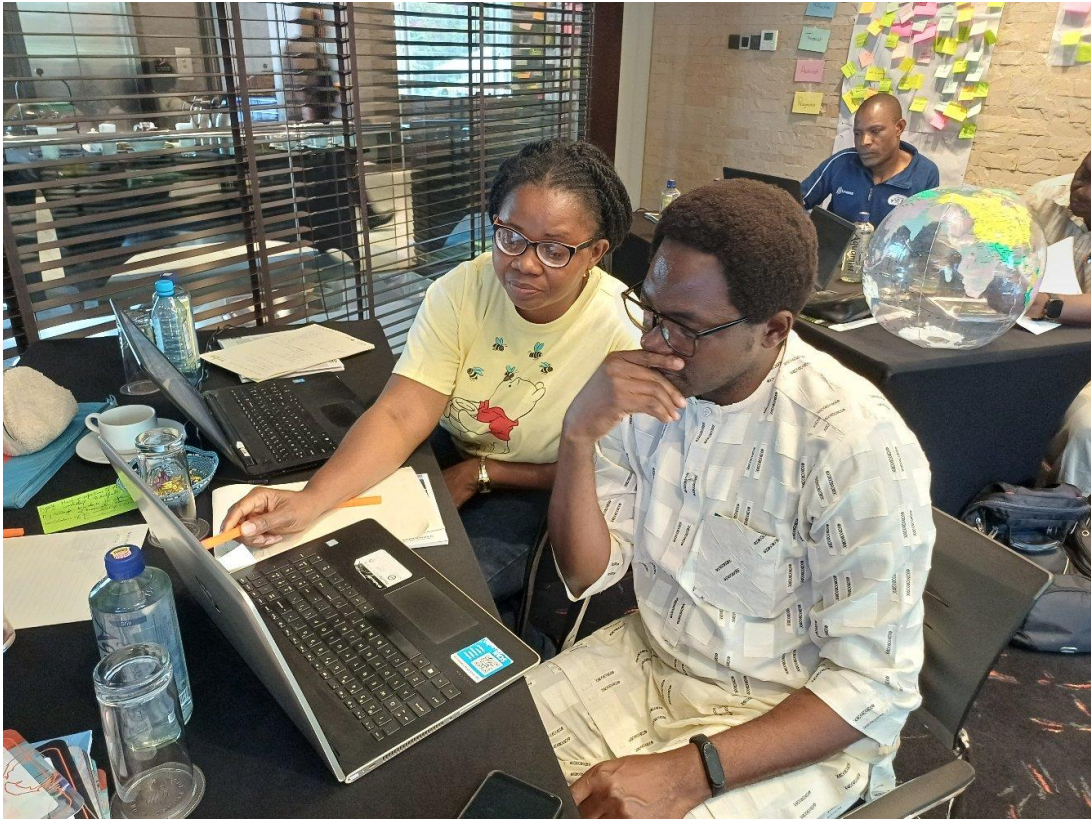
The design of the blueprint (at CIFOR-ICRAF in Nairobi)



The review of the blueprint (at CIFOR-ICRAF in Nairobi)



The Train-the-Teachers (at CIFOR-ICRAF in Nairobi)



The piloting of the first module (online)

Course information

Section 1 | 2 / 2 completed ✔
Pre-course Survey

Section 2 | 5 / 6 completed ✔
Chapter 1 📄: The Basics of Landscape Restoration

Section 3 | 1 / 6 completed ✔
Chapter 2: Complexities of Landscape Systems

✔ Introduction

- Pre- Session Activity: Causes and Effects of Land Degradation
- 📄 Assignment: Drivers of degradation and suitable SES models for restoration
- Final Assessment Group Activity: Landscape Dynamics Photo Competition 📷
- 🏠 The Landscape Approach: A Case Study


🔄 Recap and Reflect: Live Session 2 Journey!

🔄 Recap and Reflect: Live Session 2 Journey!

Before we embark on this chapter, let's revisit the rich insights from our recent synchronous session 1. The presentation slides are ready for your review, offering a comprehensive recap. Additionally, catch the recording of the completed live session to reinforce your understanding.

📄 **Recap Presentation:**

Revisit the presentation from our live session attached at the bottom or on the link below.




📺 **Session Recording:**

For those who couldn't make it or want a replay, the recorded session is available below. Catch up on the valuable discussions and shared knowledge.

[🔗 Access Session Recording Here](#)

Social, Ecological, cultural and economic factors



01 Ecological Factor

Mangrove ecosystem services :

- Store the carbon
- Nursery for fishes & invertebrates
- Prevent the big wave

02 Economic Factor

Mangrove forest were converted to fish ponds for food security purpose

03 Socio-cultural Factor

People's daily lives connect with mangroves. Mangrove forest is their food resources too.

Landscape Restoration Dy

Jacinta Mwanzia 15:39

Great presentation Levis and Adamu 🌟

❤️ 2

Jacinta Mwanzia left

Solomon Ogudo left

Enomfon Etem 15:40

Weldone Adamu

Thank you Emmanuel

Varun Tumuluru left

Adejoke Akinyele 15:42

Many thank to Group 2 for the enlightenment about Ghana landscape and restoration.

Varun's Notetaker left

Samuel Olajuyigbe 15:43

SO How do the projects in the Philippines cope with the need for urbanization and population growth?

Who can see your messages? Recording On

To: Varun Tumuluru (Direct Message)

Message Landscape Restoration Dy

