The Circular Bioeconomy Alliance (CBA)

The CBA was established by His Majesty King Charles III in 2020 to accelerate the transition towards a circular bioeconomy that is climate neutral, inclusive and prospers in harmony with nature. The CBA brings together 70 organizations (e.g. finance, food, fashion, Indigenous peoples) to drive system-wide change through efforts called ‘Living Labs’. We are guided by seven Principles for Regenerative Landscapes which offer a holistic framework to assess landscape regeneration across dimensions of sustainability, social-ecological resilience, and a harmonious relationship between people and nature. With these principles, CBA seeks to demonstrate scalable, on-the-ground 'Living Labs’ that create new business opportunities, regenerate landscapes, support resilient supply chains and local communities. We focus on our priority industries including fashion, food, built environment, and health.

The CBA principles for regenerative landscapes

CBA’s seven principles cover:

Three Sustainability Principles:

1. Natural Environment
2. Social Well-being
3. Economic Prosperity

Three Resilience Principles:

4. Diversity
5. Connectivity
6. Adaptive Capacity

One Local Context Principle:

7. Harmony

Principles have been carefully selected to cover all issues, avoid redundancy, and allow checking of compliance with measurable criteria and indicators. This standard is meant as a source of inspiration during all development phases of a regenerative project, from design and planning to implementation and evaluation.

Principles Summaries

Principle 1. Natural environment

Design for environmental sustainability, reverse Nature´s degradation and support ecosystem health.

The first principle emphasizes the need to design and implement regenerative projects and value chains that support the health of the natural environment. The regenerative project should involve renewable bio-based production, minimizing harmful fertilizers and pesticides, avoiding eutrophication, land degradation, deforestation and fragmentation of ecosystems, and protecting biodiversity. It should also adopt safeguards to avoid leakage, indirect land-use change, and greenwashing.

Principle 2. Social well-being

Involve local communities, respect indigenous peoples' rights and aim at equity, human health and happiness.

Regenerative projects should play a pivotal role in creating socially inclusive, green and healthy landscapes, as well as value chains that promote well-being. A regenerative project should advance equity among its stakeholder groups, including gender equality and indigenous peoples' rights, to ensure that benefits from regenerative do not accrue to a small elite, or conversely that costs of regenerating land are not borne disproportionately by the powerless. Effective governance arrangements and conflict management will be key for long-term social sustainability. This principle promotes co-design and co-creation of diverse business models.

Principle 3. Economic prosperity

Design in support of the circular bioeconomy and target sustainable creation of wealth.

In a concept of strong sustainability economic prosperity thrives at the service of human well-being, and always operates within the boundaries required to secure the health of the natural environment. Regenerative projects should be supported by sustainable business models and value chains generating long-term stable income from Nature's Contributions to People (NCPs), and enhancing the prosperity and economic stability of indigenous peoples and local communities. Bioeconomy activities should strive for fast phasing-out of fossil resources, promote the sustainable sourcing of renewable resources including food, feed, fibre and fuels, and should foster novel financial and governance instruments related to safeguarding climate, biodiversity and water, or generating value from recreational, spiritual or health-related services.

Principle 4. Diversity

Manage risks by diversifying species, products and markets.

Regenerative projects should enhance social and ecological diversity. Diversity is a key property of social-ecological systems that ensures system performance, insurance against risks and multifunctionality. In the face of rapid environmental change, increasing biological diversity, as well as the diversity of products and markets provides a portfolio effect that reduces the risk of system failure. In other words, diversity supports resilience. This includes value chains that rely on a large variety of green commodities and other, such as food, wood construction, biomaterials, biopharmaceuticals, bioenergy, biochemicals, nature tourism and water supply.

Principle 5. Connectivity

Promote connectivity and collective impacts among nature and people.

Regenerative projects must promote connectivity and collective impacts among nature and people. Social-ecological systems develop their complexity and stability thanks to strong connectivity and information exchange between their members. Restoring connectivity will imply safeguarding larger natural areas and indigenous peoples' lands, set-aside conservation corridors, and investing in ecological defragmentation. Restoring connectivity also implies to promote interactions and build bonds between and within communities across regenerated landscapes.

Principle 6. Adaptive capacity

Act for the long term based on monitoring and learning, keeping the social-ecological system flexible and adapted to upcoming challenges.

Regenerative projects should build resilience and adaptive capacity of the social ecological system. Overly connected systems hold risk of becoming more vulnerable. To ensure lasting success, a regenerated landscape should gain resilience to future shocks and change. This requires anticipatory action based on learning and adaptative behaviour. Continual learning and innovating enable adaptive capacity and involves capturing and sharing lessons learned from successes and failures locally and elsewhere. It also entails assimilating information from baseline assessment and holistic monitoring, and exploring how to deal with risk and uncertainty in an informed way. Building adaptive capacity involves empowering local decision-making authorities and rightsholders, to ensure that they are able to take optimal decisions on the land use

that directly affects them. Adaptative behaviour will require training to tackle unlikely events in strategic, tactical, and operational planning.

Principle 7. Harmony

Understand and embrace the local context, respecting laws and customary rights, including traditional knowledge, enhancing aesthetics and finding balance between interests.

A regenerative project aims for harmonious solutions by evaluating the project's integration into the local context, compliance with laws and customary rights, consideration of local knowledge and traditions, and finding balance and synergies in conflicts between nature and humans or trade-offs between nature's contributions to people. It is crucial for regeneration projects to initiate and support institutional and regulatory changes that promote sustainability and resilience, while also respecting all applicable laws, international treaties, and agreements of the relevant jurisdictions. To ensure the success of regeneration efforts, a deep understanding of local ecological, socio-economic, and political conditions is essential. This includes considerations such as suitable site selection, species adaptation to regeneration objectives and anticipated climate changes, existing governance structures, ongoing or potential land tenure conflicts, and the risk profile for extreme events.

The criteria underlying the CBA principles

Each principle is linked to specific criteria:

Natural environment:

1.1. Avoid ecosystem degradation

Prevent actions that lead to the deterioration of ecosystems, including soil erosion, deforestation, and pollution. Implement activities such as: active conservation, restoration and responsible land management to maintain ecological integrity.

1.2. Minimize GHG emissions and enhance sinks

Reduce greenhouse gas emissions across all landscape activities and enhance natural carbon sinks such as forests, soils, and wetlands. This contributes to climate mitigation and supports ecosystem resilience.

1.3. Shift to environmentally sustainable practices

Shift to practices that work alongside the services of natural ecosystems to ensure landscapes remain ecologically functional and resilient. Includes activities based on

principles such as minimizing soil disturbance and maintaining permanent year-round cover in agriculture.

1.4. Shift to renewable and bio-based processes

Replace fossil-based, extractive and chemical processes and inputs with renewable, circular, and bio-based alternatives. This supports the development of low-carbon economies and regenerative material cycles.

Social wellbeing:

2.1. Enhance human health and wellbeing

Enhance human health and wellbeing through access to clean environments, nutritious food, and safe livelihoods. This aligns with the One Health approach, recognising the interconnected health of people, animals, and ecosystems.

2.2. Enhance equity and inclusion

Ensure that benefits, opportunities, and decision-making processes are distributed fairly across all social groups. Special emphasis should be given to empowering women, youth, and marginalised communities.

2.3. Shift to just governance

Shift to governance systems that are transparent, inclusive, and accountable, ensuring justice and representation in decision-making. This requires building local capacity and institutional frameworks that uphold fairness and human rights.

Economic prosperity:

3.1. Enhance economic prosperity

Promote the development of economically viable and regenerative value chains that create long-term value for landscapes, communities, and ecosystems. This includes fostering circular, inclusive, and sustainable business models that align with regenerative landscape principles.

3.2. Enhance livelihoods

Support the creation of secure, dignified, and resilient jobs and incomes for local communities, ensuring fair compensation, social inclusion, and capacity development. Livelihoods should be strengthened through regenerative practices that enhance well-being and build resilience to economic and environmental shocks.

Diversity:

4.1. Conserve and restore ecological diversity

Protect existing biodiversity while restoring degraded ecosystems to their natural balance and functionality. This ensures ecosystem resilience and supports the provision of essential ecosystem services.

4.2. Support and enhance social and cultural diversity

Recognise, respect, and strengthen diverse cultural identities, knowledge systems, and traditions within landscapes. This criterion promotes social cohesion and adaptive capacity through cultural inclusion.

4.3. Enhance economic diversity

Promote a variety of sustainable economic activities and value chains that reduce dependency on single sectors or commodities. Economic diversity strengthens resilience, supports inclusive growth, and enables communities to adapt to environmental and market changes.

Connectivity:

5.1. Restore ecological connectivity

Re-establish ecological linkages and corridors that enable species movement, gene flow, and ecosystem functioning. This supports biodiversity recovery and enhances the resilience of fragmented landscapes.

5.2. Enhance social connectivity

Strengthen relationships and cooperation among communities, institutions, and networks within and across landscapes. Social connectivity should foster collaboration and knowledge exchange while avoiding dependencies or unsustainable expansion.

Adaptive capacity:

6.1. Reduce socioecological risks

Enable social and ecological systems to anticipate, absorb, and adapt to environmental and economic changes. Adaptive capacity ensures long-term resilience through learning, flexibility, and innovation. Socioecological means the interaction of biophysical and social factors.

6.2. Enhance innovation capacity

Strengthen the ability of individuals, communities, and institutions to develop and apply new ideas, technologies, and practices that enhance resilience to change. Innovation

should be inclusive, iterative, and grounded in both local experience and scientific knowledge to support continuous adaptation.

Harmony:

7.1. Enhance nature-based solutions

Implement actions that use and restore natural processes to address societal challenges while improving ecosystem health and human wellbeing - fostering harmony between people and nature through integrated solutions. Nature-based solutions are defined as actions to address societal challenges through the protection, sustainable management and restoration of ecosystems (IUCN).

7.2. Balance trade-offs between and among humans and nature

Foster balanced relationships between humans and nature to maintain ecological integrity and societal wellbeing, aligned to the One Health concept.

7.3. Harness local context, culture and knowledge

Integrate local, traditional, and cultural knowledge systems with scientific and technical understanding to guide landscape management that promotes harmony between people and nature. This approach ensures that actions are context-specific, culturally appropriate, and strengthen community ownership and long-term stewardship.

7.4. Enhance multi-level compliance

Increase adherence to local, national, and international norms, standards, and regulations that support regenerative landscapes. This includes respect for customary laws and international conventions relevant to environment and social integrity.

The CBA Monitoring and Evaluation (M&E) Framework for its Living Labs

Most immediately, the CBA M&E Framework is essential for demonstrating the performance and credibility of the Living Labs in line with the CBA's Principles of Regenerative Landscapes. From an impact perspective, the data generated through the framework will enhance the scalability of regenerative production systems – including creating replicable blueprints, informing industry, finance and policy, and supporting landscape-level decision making. Overall, the Framework will help CBA achieve its vision of strengthening and accelerating nature-based economic activities that enhance the livelihoods of local communities.

M&E Framework objectives from a Living Lab performance perspective:

The primary use case for the M&E Framework is to provide evidence that shows how the Living Labs are performing against CBA's Regenerative Principles and Criteria. Specifically, the Framework will:

- Align stakeholders in the Living Lab around a shared sense of ambition and criteria defined by the Principles.
- Inform adaptive management and decision making by using data to improve Living Lab design, strategy and implementation.
- Demonstrate proof of concept that regenerative approaches can deliver co-benefits for people and nature and strengthen the business case for regeneration.
- Contribute to science by aligning scientific assessments with the M&E framework.
- Attract new funding and collaboration with other organizations by using data & evidence to showcase success stories from the Living Labs.

The Framework will use outcomes-based indicators where possible, but in some instances, it might be appropriate (and more cost effective) to use practice-based indicators. This could be where outcomes-based indicators are too complicated (e.g. in social and governance criteria) or where the results from using outcomes-based indicators will take a long time to show (e.g. soil carbon) and therefore it's better to use practice-based indicators in the interim.

M&E Framework objectives from a wider impact perspective

Living Labs are not isolated projects; they are stepping stones in a broader scaling strategy. Here is our hypothesis for how the evidence generated by the M&E framework can drive change at scale:

1. Develop scalable blueprints.
    a. Provide evidence of successful regenerative practices which can be applied in other systems and contexts.
    b. Provide evidence on processes for stakeholder engagement and collaboration to implement regenerative production / value chains, aligned to CBA's principles and criteria.
2. Inform industry, finance and policy decision making. Provide field-based evidence of the environmental, social and economic performance of regenerative approaches that will build confidence among investors, companies

and governments to shift capital and policy incentives toward regenerative production.

3. Support landscape-level and jurisdictional planning. Provide data and evidence to support integrated land-use planning processes and financing mechanisms that move beyond individual Living Labs to entire catchments or production zones (e.g. provide data to input into existing landscape initiatives and frameworks).

Implementation Approach:

• CBA will support Living Labs in integrating the M&E framework into their design, operations and reporting systems.

• The framework will evolve through testing, learning and feedback from Living Lab implementation.

• Collaboration with research institutions, governments and industry will ensure scientific rigour and relevance to real-world decision-making.

• First and foremost, the M&E framework will be developed for the CBA Living Labs. At a later stage CBA may consider sharing the Framework publicly, once it has been tested and adapted.