

Colombia is recognized as one of the most biodiverse countries in the world. This means that it has significant potential to consolidate its bioeconomy as a strategic pillar of sustainable, inclusive, and competitive development. This sector has been supported by public policies such as the National Bioeconomy Strategy and the Bioeconomy and Territory Mission, which promote the efficient and sustainable management of biodiversity and biomass to generate value-added products, processes and services based on knowledge and innovation.

In this context, a plan has been developed to build a business support ecosystem that strengthens incubation and growth capacities for entrepreneurial initiatives in the bioeconomy sector. This plan aims to bring together key actors and generate enabling conditions in the territories in alignment with the recommendations and guidelines established in the aforementioned policies.

A recent assessment of the current state of the bioeconomy in Colombia (Latimpacto 2025) reveals both significant progress and challenges for the consolidation of a dynamic business environment that draws on the country's biodiversity, traditional knowledge and innovation. With the goal of guiding the construction of this ecosystem, Latimpacto has created five mind maps based on the priority recommendations that were made following the evaluation of the current actors, opportunities, and barriers facing the bioeconomy in Colombia.

The mind maps present the key actors in this ecosystem and are accompanied by a list of specific actions these actors must take in order to strengthen the bioeconomy at the national level. The tools described in the mind maps are the technical, financial, and methodological requirements that will facilitate the implementation of these actions. The relationships shown between the different actors describe how they interact with each other and what actions they can jointly implement to achieve an increased territorial impact.

These recommendations have led to the design of a roadmap for future actions that will be carried out by Latimpacto and its partners. Each of the mind maps are presented below:



Territorial training and capacity building with an environmental, social, and economic approach that promotes sustainable business models

One of the fundamental pillars for strengthening the bioeconomy's ecosystem in Colombia is the implementation of territorial training that combine environmental, social, and economic knowledge. This approach must respond to local conditions, strengthening capacities for the design and implementation of sustainable business models and promoting the participation of diverse actors.

The following chart presents a comprehensive approach to strengthening territorial capacities in the bioeconomy that is designed to promote sustainable business models and has an emphasis on the environmental, social, and economic sectors. It highlights the key tasks that different actors (governments, academia, anchor companies, community organizations, the financial sector and international cooperation) must carry out in the areas of training, coordination, co-financing and knowledge generation processes. This involves the use of tools such as knowledge certification, technical support, applied research, business incubation and innovative financial product design.

Strategic alliances between actors and territories are highlighted as a means of achieving transformative and sustainable impacts in communities, particularly in rural contexts and using a differential approach.

Territorial training/education in bioeconomy with an environmental, social, and economic approach that promotes sustainable business models

Local and national governments

- Funding for training programs in the territory.
- Integrate the Bioeconomy into territorial and educational development plans.

Tools

- Certification pathways for indigenous and ancestral knowledge.
- Scholarships and incentive funding.

Academia

- Design and deliver educational content.
- Training of trainers.
- Conduct applied research on business models.

Tools

- Training programs.
- Contextualized educational materials (in indigenous languages and with a local focus).
- Agreements with regional training centers.

International cooperation

- Support the design and implementation of educational programs, technical assistance and pilot projects in the territory.
- Co-finance incubators and sustainable business accelerators.

Anchor companies

- Integrate the bioeconomy into the production chains of small-scale producers and entrepreneurs, ensuring traceability, volume and quality.
- Support technical and business training in the territories where they operate.
- Design and validate sustainable business models, sharing lessons learned.
- Support co-financing processes and attract private capital interested in inclusive and sustainable chains.

Tools

- Training programs in the field.
- Mentoring programs.
 Training infrastructure in the
- field.

 Support for boot camps

Civil society/community organizations

- Accompany processes in the field.
- Facilitate coordination and dialogue between actors (bridging).
- Ensure an inclusive and participatory approach (women, young people, ethnic populations).

Tools

- Action-participation research.
- Community schools.

 Participatory mapping of
- local resources and knowledge.

Financial sector/impact investors

- Create financial products tailored to bioeconomic businesses.
- Establish ecosystems that support businesses with resources to operate and scale initiatives.
- Promote risk financing mechanisms, patient investment and payments for results.
- Participate as partners in programs that evaluate training and business models.

Tools

- Impact grants for communities.
- Investment in territorial accelerators.
- Seed capital tied to successful completion of training.

Relationship between actors and actions

ACADEMIA-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

Co-design content to incorporate a cultural and regional approach (adapt language and methodologies to local contexts and ancestral knowledge).

GOVERNMENT - ANCHOR COMPANIES GOVERNMENT-ACADEMIA

Agreements for productive chains.

ANCHOR COMPANIES-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

Tools

International

exchanges.

Partnerships.

- Provide facilities for visits internships and apprenticeships.
- Work with local organizations to ensure that training leads to sustainable projects.

GOVERNMENT-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

articipatory assessments, consultations and pilot projects.

GOVERNMENT-INTERNATION AL COOPERATION

Technical and financia cooperation agreemen

INTERNATIONAL COOPERATION-FINANCIAL SECTOR/IMPACT INVESTORS

Joint thematic funds (seed capital, guarantee funds and patient investment).

GOVERNMENT-FINANCIAL SECTOR

Design of joint financial incentives

FINANCIAL SECTOR-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

- Support training in business skills, management and financial education.
- Investment in accessible educational technology for rural areas and areas with low internet and cell phone coverage.



Adapt regulatory frameworks for the bioeconomy: Review and relax regulations for bio-based enterprises and products, provide training to public officials on new technologies and business models and promote the provision of guidance and support tools in regions

The current regulatory environment presents significant challenges for developing sustainable businesses, especially community-led initiatives. There is an urgent need to review and relax existing regulations in order to consolidate a functional business ecosystem. This will also require the use of support tools that facilitate regulatory compliance in the territories.

A roadmap has been designed for adapting regulatory frameworks that promotes the bioeconomy in the territories with an emphasis on regulatory flexibility for bio-based products, training public officials on new technologies and business models and promoting guidance and support tools.

Key actors play important roles such as reviewing regulations, designing digital platforms, creating pilot projects, providing technical support and generating legal and scientific evidence. It is proposed that differential criteria are included for these processes, which will contribute to formalizing businesses and promoting innovative regulatory frameworks, particularly for community-based products that use a territorial approach.



Adapt regulatory frameworks for the bioeconomy: review and relax regulations for bio-based enterprises and products, provide training to public officials on new technologies and business models and promote guidance and support tools in the regions

Local and national government

- Review and update regulations to incorporate differentiated criteria for bio-based products with a specific focus on community enterprises.
- Design flexible regulatory frameworks that recognize the diversity of territories and products.
- Provide training to public officials on the bioeconomy, emerging technologies and sustainable business models.
- Establish one-stop shops and digital platforms to facilitate procedures in the regions.

Tools

- Digital platforms that provide guidance on procedures.
- Regulatory guides adapted to territorial contexts.
- Observatory for Monitoring and Regulatory Adjustment

Academia

- Conduct legal and technical research to inform adaptive regulatory proposals for bio-based products.
- Provide training to public servants and entrepreneurs on applicable regulations and regulatory trends in the bioeconomy.
- Generate technical evidence on the risks, benefits and characteristics of bio-based products to inform the design of regulations.

Tools

 Training programs for public officials and producers

International cooperation

- Fund technical assistance for a regulatory review and the design of flexible frameworks.
- Facilitate exchanges of good regulatory practices with countries that have made progress with the bioeconomy.
- Support institutional

Anchor companies

- Participate in technical roundtables to co-design regulations with the State and other actors.
- Transfer technical knowledge about processes, certifications and regulations for bio-based products.
- Support community suppliers to achieve regulatory compliance through mentoring and training.

Tools

 Pilot projects and proof of concept in the territory

Civil society/community organizations

- Identify and highlight local regulatory barriers that affect market access.
- Influence regulatory development through networks and dialogue platforms.
- Participate in training programs and replicate knowledge in communities.
- Provide territorial inputs and
 experiences to inform the design of adapted regulations.

Tools

- Partnerships with anchor companies
- Participate in consultation processes on regulations

Financial sector/impact investors

- Promote financial schemes that take into account the costs of regulatory compliance.
- Finance technical support for entrepreneurs to formalize their businesses.
- Include regulatory criteria in risk assessments and feasibility studies for bioeconomic enterprises.
- Support pilot projects or proof of concept that demonstrate the regulatory and commercial viability of bio-based products.

Tools

- Territorial impact funds
- Investment with comprehensive technical assistance
- Payment by results (PbR)
- Microcredits and financing using a differentiated approach

Relationship between actors and actions

GOVERNMENT-ACADEMIA

Inter-institutional agreements, multisectoral technical roundtables: generation of technical and scientific evidence to support new regulations

GOVERNMENT-ANCHOR COMPANIES

Public-private advisory councils: co-creation of regulations with a productiv and commercial focus

ACADEMIA-INTERNATIONAL COOPERATION

International academic networks, knowledge transfer, joint research and internships

ANCHOR COMPANIES-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

- · Technical support and training
- Contracts that include a territorial development component
- Shared oversight platform

FINANCIAL SECTOR/IMPACT INVESTORS

Support formalization and regulatory compliance: provide advice on certifications, standards and blended finance investment

FINANCIAL SECTOR/IMPACT INVESTORS-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

- Facilitate access to financing for community enterprises that are facing regulatory barriers.
- Support formalization and regulatory compliance processes using a social and territorial approach.
- Promote investments that have a social and environmental impact.



Promote the consumption of biodiversity-based products through educational campaigns, sustainable public procurement and short supply chains that boost local economies and benefit rural communities

Strengthening domestic demand is essential for consolidating a dynamic ecosystem. Promoting the consumption of biodiversity-derived products through educational campaigns, marketing strategies and sustainable public procurement mechanisms will generate income for rural communities while strengthening local economies.

The complementary roles of government, academia, anchor companies, civil society, the financial sector and international cooperation are notable in this area, given that these actors can create enabling environments through a number of actions: formulating favorable public policy; highlighting the technical and environmental benefits of biodiversity-derived products; stimulating demand through the provision of infrastructure, credit, and narratives; and strengthening local capacities in the areas of commercialization and marketing.



Promote the consumption of biodiversity-derived products through educational campaigns, sustainable public procurement and short supply chains that boost local economies and benefit rural communities

Local and national government

- Design and implement sustainable public procurement policies.
- Finance and lead awareness campaigns that highlight the value of biodiversity.
- Create tax and regulatory incentives to strengthen short marketing channels.
- Include biodiversity-derived products in social programs (school meals, nutritional assistance, etc.).

Tools

- Compras públicas sostenibles
- Campañas institucionales
- Incentivos tributarios
- Programas alimentación escolar (PAE)

Academia

International cooperation

Financiar campañas de comunicación y

Apoyar la construcción de capacidades

locales en comercialización y marketing

visibilización a nivel nacional v

Facilitar intercambios de buenas prácticas internacionales en promoción de los productos derivados de la

Tools

Methodologies to analyze the

social, environmental and

nutritional impact of the

Innovation laboratories

Academic networks

hioeconomy

- Generate and disseminate evidence about the nutritional. cultural and environmental benefits of biodiversity-derived products.
- Develop methodologies that identify the impact of responsible consumption.
- Support innovation in sustainable packaging and green marketing practices.

territorial.

sostenible.

biodiversidad.

Anchor companies

- Include products derived from the sustainable use of biodiversity in portfolios and value chains.
- Support small-scale producers with direct purchasing mechanisms, visibility and logistics.
- Invest in joint campaigns with communities and territories to position products in the domestic market.

Tools

- Distribution channels and market positioning Experience in marketing strategies
- Inclusive purchasing agreements
- Product dissemination platforms

Civil society/community organizations

- Organize fairs, local markets and direct sales strategies.
- Educate communities about the benefits of local and responsible consumption.
- Generate cultural content and narratives that value traditional knowledge.

Tools

- Local markets/fairs
- Community communication
- Storytelling for products
- Ancestral knowledge

Financial sector/impact investors

- · Finance logistics infrastructure and platforms for short marketing channels.
- Create preferential credit lines for enterprises that promote products derived from the sustainable use of biodiversity.
- · Invest in positioning and commercial scale-up campaigns for these products.

Tools

- Blended finance and impact-based results.
- Crowdfunding.
- Green funds.
- Seed capital.

Relationship between actors and actions

GOVERNMENT-ACADEMIA

- Innovation laboratories
- Methodologies to analyze the social, environmental and nutritional impact of the bioeconomy
- Academic networks

GOVERNMENT-ANCHOR COMPANIES

Participate in public procurement

ACADEMIA-FINANCIAL SECTOR/IMPACT **INVESTORS**

Identify socio-environmental impact and return using scientific methodologies.

FINANCIAL SECTOR/IMPACT INVESTORS-INTERNATIONAL COOPERATION

Co-invest in innovative financial instruments

ACADEMIA-ANCHOR COMPANIES

Co-develop innovative products

ANCHOR COMPANIES-CIVIL SOCIETY/COMMUNITY **ORGANIZATIONS**

Incorporate local producers in supply chains.

FINANCIAL SECTOR/IMPACT **INVESTORS-ANCHOR COMPANIES**

Strengthen international sales. Develop supply chains using a territorial approach.

FINANCIAL SECTOR/IMPACT **INVESTORS-CIVIL** SOCIETY/COMMUNITY **ORGANIZATIONS**

Support sustainable community enterprises.



Strengthen governance through intersectoral dialogue, joint planning, public-private partnerships and decisions based on territorial evidence for the effective implementation of the bioeconomy

Strong and coordinated governance is essential for the effective implementation of the bioeconomy in Colombia. This involves establishing spaces for intersectoral dialogue, joint planning, public-private partnerships and decisions based on territorial evidence. Coordination among actors is essential for designing policies, allocating resources and managing processes with a participatory approach.

Colombia is currently developing or planning a number of strategic tools for this purpose including the Bioeconomy Observatory, which is currently being consolidated, the Joint Inter-Trade Chamber envisaged by the Ministry of Environment and Sustainable Development and the Satellite Account operated by the National Department of Statistics, which is expected to be launched this year.

Academia plays a key role in generating territorial evidence, designing methodologies for analysis (such as information and foresight systems) and building local capacities. Anchor companies contribute valuable information for decision-making while leading interregional spaces.

Civil society contributes to this area through the sharing of territorial knowledge, procurement exercises and the co-creation of solutions based on local knowledge. The financial sector incorporates territorial governance criteria into its evaluations and promotes multi-actor coordination platforms. Finally, international cooperation provides technical and financial support for these actions and promotes the exchange of lessons learnt between countries.

Combined, these tools promote solid, responsive and inclusive governance based on territorial and cultural diversity.



Strengthen governance through intersectoral dialogue, joint planning, public-private partnerships and territorial evidence-based decision to achieve the effective implementation of the bioeconomy

Local and national government

- Promote regulatory frameworks that include multisectoral and territorial participation.
- Institutionalize governance spaces such as the Bioeconomy Observatory and Inter-Sector Chambers.
- Convene regional roundtables for joint planning.
- · Provide technical and financial resources to support the coordination of actions by stakeholders and the use of evidence.

Tools

- Public policies (Conpes,
- Development Plans, Mission Oriented Policies - PIIOM).
- National budget
- Information systems
- Bioeconomy Satellite Account

Academia

- Generate and systematize territorial evidence to inform public policies.
- Design/strengthen analysis tools (satellite accounts) and forecasting in the bioeconomy.

International cooperation

Provide technical assistance to support

the creation or strengthening of

Finance participatory processes

experiences between countries with

successful bioeconomy models.

 Promote multilevel partnerships that bring together diverse actors.

and regional pilot projects on

bioeconomy governance.

Facilitate the exchange of

Tools

Trade association forums

Provide technical assistance for the design of regulations

Capacity to convene

Regional bioeconomy

- Participate in governance networks as technical and impartial actors.
- Build local capacities in collaborative ' management and innovation.

governance platforms.

Anchor companies

- Represent the needs of the territory in governance spaces.
- Strengthen community
- organizations so that they can participate in decision-making processes.
- Promote accountability mechanisms and social oversight.
- · Participate in the co-design of policies and solutions based on local knowledge.

Tools

- Saberes tradicionales Traditional knowledge
- Community organizations
- Mechanisms for participation and social oversight

Civil society/community organizations

- · Representar las necesidades del territorio en los espacios de gobernanza.
- Fortalecer la organización comunitaria para participar en procesos decisorios.
- Promover mecanismos de rendición de cuentas v veeduría social.
- Colaborar en la co-creación de políticas y soluciones basadas en saberes locales.

Tools

- Saberes tradicionales
- Organizaciones comunitarias
- Mecanismos de participación y control social

Financial sector/impact investors

- Represent the needs of the territory in governance spaces.
- Strengthen community organizations so that they can participate in decision-making processes.
- Promote accountability mechanisms and social oversight.
- · Participate in the co-design of policies and solutions based on local knowledge.

Tools

- Include territorial governance criteria in investment assessments.
- Finance multi-stakeholder coordination platforms and processes.
- Support case studies and the systematization of successful experiences.
- Participate as strategic allies in collaborative governance schemes.

Relationship between actors and actions

GOVERNMENT-ACADEMIA

ACADEMIA-INTERNATIONAL

GOVERNMENT-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

Tools

Co-creation methodologies

Technical assistance

 Global roundtables Co-financing of projects

INTERNATIONAL COOPERATION-FINANCIAL SECTOR/IMPACT

CIVIL SOCIETY/COMMUNITY ORGANIZATIONS-INTERNA TIONAL COOPERATION

ANCHOR COMPANIES-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS



Identify strategic niches in the bioeconomy aligned with territorial contexts and the market that will contribute to prioritizing investments, training talent and attracting capital

Identifying strategic niches in the bioeconomy that are aligned with the productive contexts in the territories and the demands of the market makes it possible to prioritize investments, train talent and attract capital. This roadmap highlights the need for coordination between public, private, community, academic, and international cooperation actors in the design of strategic routes that will boost emerging sectors.

In terms of tools, this proposal focuses on smart specialization exercises in each region, bioeconomic potential studies, capacity maps and tax incentive mechanisms for investments in the bioeconomy. The academic sector promotes research using a differentiated approach, the design of co-creation platforms and training on territorial foresight.

Anchor companies provide infrastructure, guarantee markets and lead applied research processes to identify product development opportunities. Community organizations identify priorities, manage traditional knowledge and co-lead ventures. The financial sector supports public-private investment funds for strategic niches and applies social, environmental, and economic impact metrics. Finally, international cooperation acts as an enabling agent by promoting participatory studies, consolidating learning networks and supporting risk reduction for new investments.



Identify strategic niches in the bioeconomy aligned with territorial vocations and the market to prioritize investments, train talent and attract capital

Local and national **Financial** Civil society/community **Anchor companies** Academia sector/impact investors government organizations Research and identify Identify product development Participate in territorial Create investment instruments bioeconomic niches Coordinate smart specialization opportunities. evaluation and prioritization tailored to territories and using environmental, exercises in each region. processes. bio-enterprises. Invest in processing infrastructure technical and social Promote territorial bioeconomy Share traditional knowledge Tools and proximity logistics. Finance prioritized value chains that perspectives. Bioeconomy territorial research agendas that incorporate a and sustainable practices. are aligned with territorial contexts. Establish partnerships with differentiated approach. Systematize and centers Co-creation platforms with communities and academia to Support public-private Receive technical. validate ancestral and · Finance studies on bioeconomic co-investment funds in strategic co-design solutions. organizational and commercial community knowledge. Technology transfer potential and local productive Regional knowledge generation training. niches. • Strengthen markets for products Create think tanks and capacity. derived from prioritized niches. Manage and co-lead community · Apply social, environmental and multi-stakeholder Establish tax and regulatory ventures in strategic niches. economic impact metrics. co-creation platforms. Conduct R&D&I processes to incentives for investments in identify priorities. prioritized niches. Tools International cooperation Community agreements on Tools Tools sustainable use Impact investment funds In-house R&D units or Tools Knowledge dialogue partnerships with universities. Support local innovation Finance participatory studies in Safeguarding traditional Prospective agendas by Sustainable certifications the regions. Financial products tailored to Quality control region local realities Support institutional and Information systems Local infrastructure Tools community strengthening Development plans Technical cooperation processes. Agreements Promote bioeconomy learning Regional bioeconomy networks and global alliances. Participatory methodologies Leverage venture capital to explore new strategic niches.

Relationship between actors and actions

ACADEMIA-ANCHOR COMPANIES

Design technological solutions and innovation

GOVERNMENT-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

Involve communities in participatory territorial planning processes.

CIVIL SOCIETY/COMMUNITY ORGANIZATIONS-ANCHOR COMPANIES

se local community suppliers for the provision of raw naterials and/or sustainable tourism services.

INTERNATIONAL COOPERATION-CIVIL SOCIETY/COMMUNITY ORGANIZATIONS

Implement actions **t**hat engthen organizations and local governance.

